

GLENDALE SMARTBEATS IS NEW SECRET WEAPON IN FIGHT AGAINST CRIME

ARTIFICIAL INTELLIGENCE MATCHES POLICE RESOURCES TO SAFETY NEEDS

(Glendale, AZ - October 15, 2021) Today, the City of Glendale, Arizona launched SmartBeats. Smart Beats is a new, public safety software solution that uses artificial intelligence to guide the Police Department Shift Schedulers in designing and managing optimal patrol areas and resource allocations to meet the public safety needs of the community.

The City of Glendale has over 175 patrol officers who respond to an increasing number of service calls each year. Developing patrol areas or “beats”, creating shift schedules, aligning staffing levels to activity and operating and managing staffing on a daily basis is a time intensive process. Today, scheduling police shifts requires the constant management of changing variables, including the number of available officers, officer skills, special events, seasonal activity and service call levels. All while using outdated processes and incomplete data from various sources. Ideally, the police try to achieve the nationally adopted metric for officers to spend 20 minutes of each hour responding to calls, 20 minutes per hour doing administrative work and 20 minutes per hour being engaged in proactive enforcement.

SmartBeats is a software application that supports three functions: the development and adjustment of deployment areas, the annual shift bidding process and daily shift scheduling. SmartBeats is managed by the Patrol Scheduler and administrative staff. SmartBeats uses an algorithm to generate optimal service areas in real time. SmartBeats also analyzes historical and real time services call levels and response times to predict required staffing levels to meet standards. SmartBeats dashboards display the real time “health” of the force so commanders can deploy resources strategically based on conditions in the field and schedulers can automate tasks and use enhanced analytics capabilities for tactical decision making.

“The Glendale Police Department remains committed to providing the highest levels of service to our community in the most efficient and cost-effective way,” said Glendale Police Chief Jay Ochoa. “As technology continues to advance exponentially, we are excited to announce a new data-driven approach to creating service areas for our department that ensure citizens’ needs are met with an immediate response. The safety and security of the public remains our focus as we leverage technologies to better serve the community based on what’s going on in the community.”

To use SmartBeats, the Patrol Scheduler logs into the application on a computer. The home screen is a map of the City of Glendale with the boundaries of the patrol areas and a data dashboard. The patrol areas are color coded green, yellow or red to depict compliance with standards. Users can open a “Design” tab and run a reconfiguration of the beats to see multiple scenarios for adjusting the boundaries based on current or historical trends over the desired period of time. Under the “data” tab, users can see the health of the underlying data used in the algorithm and confirm that data is updated. Users can also adjust the algorithm to add new data and change the weight of the data values.

“Since COVID, our neighborhood has changed so much with lots of new people moving in. I worried about our community's safety,” said Rosie Resident from South Glendale. “With this new SmartBeats solution, I’ve seen Glendale PD around town a lot more and even gotten to know some of the officers. It makes me feel safer and also I know the police are out there helping our community.”

For information on SmartBeats please visit www.glendaleaz.com/SmartBeats.

FREQUENTLY ASKED QUESTIONS

1. What are we building and why?

The City of Glendale PD is building a software application for developing and managing police schedules and service areas. SmartBeats uses artificial intelligence and predictive analytics to design service areas and staffing levels that match available police resources to likely activity levels to improve response time, increase visibility and ideally deter crimes from happening in the first place.

2. What does it do?

SmartBeats is a software application that uses historical police service call data, city demographic data and police patrol officer staffing data to custom design service areas or “beats” and squad assignments to maximize the effectiveness and responsiveness of the force while maintaining squad integrity.

For example, Smart Beats might recommend increasing the size of one beat and decreasing the size of another to balance service levels and keep patrol officers as close to the 20-20-20 level as possible.

3. Who should use it?

Shift staffing officers and police department leadership use SmartBeats to effectively manage resources and reduce the amount of administrative effort to assign officers.

Officers can also use it when researching and preparing to bid on the shifts they want to work.

4. Why should I use it?

Today, staffing is a labor intensive process based largely on the instincts and experience of the shift staffing officer. By using AI and analytics, the PD can reduce the amount of time and stress involved with deploying available resources to best meet demand.

5. What is this replacing, combined with or creating new?

Today, the Glendale PD scheduling team does most of the work by top of mind learned behavior using historical knowledge and experience. What SmartBeats does is take all of this personal knowledge and digitize it to reduce the administration time and allow the police scheduler and leadership to focus on using the data to best deploy resources.

6. What data sets does this require and where will they come from?

SmartBeats uses a combination of data sets, including police, other city departments and external sources. Data sets can include:

- roster of patrol officers

- officer skills

- historical response times

- existing service areas or beats

- historical incidents - call for service and report data

arrest data - type, location

resources and time needed to clear different types of service call categories

time-off data - vacation, holidays, training, injury, court (count on x officers off on anyone day)

events - patrol resources not used for special events. how do they impact calls for service

seasonal data - winter v. summer - impact on activity and location

7. What is the primary benefit of the initial version?

The primary benefit is automatically designed service areas that ensure the ability to meet service requirements in a safe and timely way.

8. What laws, regulations, procedures does this need to be compliant with?

SmartBeats adheres to all laws and regulations. The City of Glendale human relations, union and service standards are one set of requirements SmartBeats is compliant with.

9. Who will own, operate and maintain this solution?

The City of Glendale owns SmartBeats. The official sponsor is the City Police Department with the Information Technology Department providing expertise and guidance to develop, deploy and maintain.

10. Who will pay for and manage the marketing activities of the Smart Beats solution?

All marketing and outreach efforts will be paid for and managed by the GPD Public Affairs Unit.

11. Who will maintain the solution?

The City Police Department is the responsible party and will be responsible for maintaining SmartBeats with the support of the Information Technology Department.

12. What applications does SmartBeats need to be interoperable with?

SmartBeats is interoperable with numerous other applications, including Telestaff (fire) and schedulexpress.

13. What training does this require and how will it be developed and provided?

SmartBeats requires training to both operate and use. Operating requirements includes the maintenance of the software and updating of the data. Training will be provided on how to maintain and improve on the algorithm by reconfiguring values and adding to data used to power SmartBeats. Training will also be provided on how to use SmartBeats suggestions for both service areas and routes.

14. How much does it cost to build and maintain?

The initial prototype is developed complimentary by the ASU CIC. The cost to take the prototype to scale is to be determined.

15. How will we measure and evaluate success? What are the KPI's?

The two primary metrics will be improved ability to design and implement patrol areas and the ability to provide a safe and timely response to service calls. Metrics will likely include the following:

meet safe and timely response for first and second responding units

meet minimum staffing levels

meet training, vacation and other requests

16. What are the technical requirements and resources needed to use the tool?

The primary need is data and APIs to the data sources. Additional requirements include the ability to use and communicate decisions to the field.

Specific requirements to be determined.

17. How will this work with the City PD annual shift bid process?

SmartBeats is a game changer for modernizing the shift process. SmartBeats creates equity so no matter what happens the City can adjust on the fly to ensure the safety and well being of both citizens and the police.

18. What crime reporting data does the program use or analyze to accomplish this?

SmartBeats uses both historical data on the types, locations and outcomes of service calls and real-time service call data.

19. Will residents notice a difference in day-to-day Police services?

Engaged residents might notice an increased visibility of patrols, especially in areas that are more likely to experience crimes. Ideally, what residents will notice is that crimes are not happening.

20. How will this system be updated as the City continues to grow?

There are three components to the system updates - operating updates, data updates and algorithm updates. SmartBeats is based on a portfolio of data sets. These data sets are updated monthly to ensure the system is based on the most current data. The SmartBeats software is regularly updated

21. Will there be public input into the system or deployment of Police officers?

Yes. The PD will conduct initial outreach for input and socialization and then ongoing community discussions with the public.

22. How will this help with compliance with the 5 min response time to 80% of priority calls standard for - International Association of Chiefs of Police (IACP)?

SmartBeats is able to calculate the real-time 5 minute response radius of available unit positions, identify potential gaps in service and suggest changes to service areas and tour routes to improve compliance.

However, the SmartBeats standard will be a safe and timely response.

23. How will this support the response time of the 2nd unit and the development and maintenance of standards?

SmartBeats supports the response time of 2nd Unit through the design of both service areas and shift tour routes taking into consideration multiple data variables. By orchestrating not just the service area, but also the location of resources within the area, across all areas of the City, SmartBeats produces a shift plan that adheres to standards, squad integrity, response times and service levels.

24. Can this support the trading of shifts under the Memorandum of Understanding?

No. However, information in SmartBeats can be helpful to officers by providing a better understanding of the different patrol areas to help inform their decisions.

25. Will this use all the standard definitions as defined by HR policy?

Yes. Smart Beat's taxonomy is based on the City of Glendale standard definitions and has been submitted and reviewed by the HR Department for accuracy.

26. What is the relationship between types of call, required resources and time to clear and how does that impact staffing levels - how to balance?

27. What is the optimal resource response to clear time for service calls?

For the purposes of SmartBeats the standard is a safe and timely response to all service calls.

28. How do you reconcile the staffing impacts of high arrest beats that pull officers out of service? Time at detention?

SmartBeats is able to assess staffing requirements in real-time based on the type of service calls, arrest and booking levels and adjust service areas accordingly. For example, if there is an incident in one beat, Smart Beats will offer a temporary change in services area if service call activity requires. SmartBeats will identify the areas with lower activity levels and increase their service area while reducing high activity service areas.

29. How will the City and Police Department drive adoption of SmartBeats?

The Police Department will start by using SmartBeats as a proof of concept and match the proposed patrol areas to the current areas and new areas designed with the traditional process.

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