

# Chula Vista Police Department (CA)

## Voiceover

00:00

Welcome to *The Beat*—a podcast series from the COPS Office at the Department of Justice. Featuring interviews with experts from a varied field of disciplines, *The Beat* provides law enforcement with the latest developments and trending topics in community policing.

Today's interview is on-location at the COPS Office sponsored PERF-hosted Forum on Unmanned Aircraft Systems.

## Jennifer Donelan

00:23

Hello, I'm your host, Jennifer Donelan. Today with us is Captain Vern Sallee heads the Patrol Operations Division of the Chula Vista Police Department in California. He led the planning and implementation of their Unmanned Aerial Vehicle, or UAV, program, typically known as drones. Welcome Captain Sallee to *The Beat*.

## Captain Vern Sallee

00:43

Thank you.

## Donelan

00:44

Tell me about your time in law enforcement and how it has led you to heading up within the Chula Vista Police Department its Unmanned Aerial Vehicle unit and introducing drones to your police operations?

## Sallee

00:56

Sure. So I've been in law enforcement for 23 years, all of which with the Chula Vista Police Department. And really the nexus to drones came through the connection to technology. That started when I was a lieutenant back in 2009. I led our Body Worn Camera Program, a fairly significant mobile command post program as well as an upgrade to our computer-aided dispatch system. So within our organization, which is about 230 sworn, I was probably one of the leading subject matter experts in anything technologically innovative.

In about 2014–2015, you know, I started looking at drones in the law enforcement space but realized that really, for our agency and the technology in law enforcement in general, it wasn't quite ready for primetime. But we wanted to start researching it so that when it was ready, that we were ready to leap at that time. So we started researching the technology governing policies and procedures, what the

federal aviation laws were, but as well we started looking at what the concerns of the public might be especially in the civil right space.

The biggest issue with drones especially in the American psyche is that of surveillance, a concern of police surveillance, the chilling of free speech rights, government overreach and just more of a concern in the public that maybe that we would not use the technology for good but use it in a way that would not be beneficial to the community.

So we started talking to stakeholders like the ACLU. We have a Citizens' Advisory Committee that we started discussing with. We were very open with our elected officials. We held public forums about it. Before we ever bought the first drone, we really were looking at best practices in policies as well as outreach for it.

Because we laid that groundwork on the front end, we really never had any significant public pushback when we started to actually launch the drone program, because we were very transparent. Everybody knew our interest in it, the purpose for it. We were very clear on our policy that it would not be used for surveillance. It would not be used for just randomized patrol. That it is a tool to support public safety and officer safety in response to exigent circumstances. From that point, we basically used drones in a very traditional model.

For instance, on a pre-planned search warrant, we would use a drone to help the S.W.A.T. team make sure that they have aerial support. This might be a good time to mention that Chula Vista is a mid-sized city in Southern, South San Diego County. We do not have a manned air support unit. We rely on our public safety partners—the San Diego Police Department and San Diego Sheriff Department—for manned aerial support. But those are really in emergencies.

Those are their assets and we're very cautious when we request those. So having our own air support available for these pre-planned events was really beneficial to us. We did use them on some searching of canyons and assisting the fire department in evaluating fire scenes afterwards, but really again those were reactive ways that we used the technology.

Starting early last year the FAA started what's called the Integration Pilot Program in which they solicited basically proposals from sites throughout the country to partner with the FAA to pilot how to integrate drones into the national airspace. The Chula Vista Police Department partnered with the San Diego Consortium that is led by the city of San Diego Department of Homeland Security along with several other public and private partnerships. So for instance San Diego Fire Department is within the consortium, Uber Eats, Google. Several different companies are within the San Diego IPP.

In May of 2018, the FAA selected ten sites throughout the nation, and the San Diego Consortium was one of these ten select FAA-IPP partners. And that essentially gave us a direct link of communication to the FAA to start working through some of the regulations that inhibit drone use in public safety. So we were able to get a certificate of authorization through the FAA to start up our program to expand it to the concept of drone as a first responder, which is really the part that Chula Vista I think has been groundbreaking in.

## Donelan

06:06

Help me out really quick because you have given us a lot of good information. You mentioned citizen and public engagement around this issue. This is usually an issue that departments have to grapple with when considering a drone program. What were some of the biggest issues brought forward based on public concerns in the civil rights and privacy space?

## Sallee

06:25

Sure. So the traditional concerns I think that anybody would be worried about with the police department, a lot of people ask are you going to be looking into my backyard, are you going to be looking through my windows? If you do look in backyard and you see a marijuana plant, are you know, are you going to send the S.W.A.T. team the next day?

Things like that. And so we made sure that we covered those questions through the public forums. We also opened up a web email address so that people can email us questions. We created an FAQ on our website, as well as started a dedicated UAS website so the public can see what those responses were.

We also met with the local ACLU representatives and read the ACLU whitepaper about their concerns about drones and police surveillance. So we understood what their concerns were. We took their input into our policy where we thought it was reasonable. We of course did not take all of their input, but we thought there were some areas that certainly we were able to compromise on. And I think that helped build that spirit of transparency and trust. I think you're not ever going to win over everybody. There are some—still a lot of people that say, no matter what, I don't trust the police and you don't—you should not have drones. But I would say in our community, because of our outreach and our prior existing relationship of just building trust, that we really came through it fairly unscathed and have the general support of the majority of our citizenry.

## Donelan

08:00

"You should not have drones." Interesting perspective. One of the things I've learned that since the inception of the Chula Vista PD's UAV program, you've had so far around 250 flights in support of calls for service, and at least 24 arrests attributable to drones. That sounds like a success. What would you want those people to know, now that after you've started your program, about some of the issues that were brought up in the first place. Things that led to the perspective that police departments shouldn't have drones.

## Sallee

08:30

Certainly. So I think that it's important to roll back just a little bit and explain how our drone as a first responder concept even came about.

And so it really came out from some of the tragedies we've seen in the national news media where police officers responding to a scene with unknown circumstances and really dynamic tactics, they're going in blind. And a lot of them don't have any kind of other air support. And they're getting their information from lay people, people that call 911 that are very excited and they don't have all the facts and we're getting really limited information.

And so this was really one of those synergies between technology and policing philosophy. And we thought wouldn't it be great to have a scout that got there before the cops got there. And we actually physically did that with plainclothes officers for a time. We had an experiment where for about six months we would send an officer to especially calls that had people in mental health crisis. And we'd send the officer in plain clothes in a plain car first and give us more information before we commit our uniformed officers that sometimes can, you know, seem to escalate a situation. So, obviously that, our officers loved it.

We had pretty good outcomes in terms of being able to handle things with the best tactics and coming out with least force used. But it's not very sustainable having a fulltime police officer in a, in a car, and they're constrained by traffic as well. So when the opportunity came, we reimagined the use of drones instead of a responsive tool, to be a proactive tool, more as our scout to priority 1 and 2 calls. So we imagined what would it be like if we could get a drone overhead dispatched concurrently with officers that likely will get there before most officers will and we start feeding them live video. But not just to our responding units. The live video goes to the watch commander's office. It goes to the sergeants and it goes in fact to those of us who are on command staff. And that's also a game changer.

You know, like many police departments, our least experienced people are the frontline officers. And so, you know, many of our folks have one, two, or three years on and they haven't seen all the dynamic situations that we have over 20 or 30 years. So by feeding this live video we are giving situational awareness not just to our police officers who are responding to give them the best tactics to get out of the situation safely, but we're also giving supervisors and managers live information so they can assess. And also, if they had to, a supervisor can intervene and share information or tactics that they would like the officers to use rather than, for lack of a better term, diving into the situation.

So in some cases, if somebody is for example going through a mental health crisis and we're getting a call about that, unknown if they have a weapon. We don't know all the situation in terms of what's happening but they're frightening people. They might be pounding on cars or whatever. Before we rush into that, if we get a drone there, we could see, okay, now this person is not necessarily in the middle of the road. Or they don't appear to have anything in their hands.

Nobody is near at that moment for instance. We could slow down and come up with a better plan as to how to deal with that person. Perhaps get a—in our county we have a psychological emergency response team. We have a number of other ways we might deal with that critical situation before we have police officers, you know, with Tasers and guns and things start to get involved with somebody who's in crisis. So that's just one example of how that situational awareness changes how our response might be.

It also just gives our officers better situational awareness of where they should approach, the tactics that they might decide to use as they respond. And another benefit that we found is sometimes we can actually clear calls for service, for instance disturbance calls, without ever sending a ground unit. And that's something we never really anticipated.

So for instance we send officers to priority 1—I'm sorry, drones to priority 1 and 2 calls. Sometimes a priority 2 call might just simply be a disturbance call with perhaps a transient or homeless person outside of the business or in an area that's causing a disturbance. It is a lower priority call in terms of sending our ground units, but we can send a drone and we can see if this person is still there if the call has been pending a little while. And if they're not there, we can call the reporting person, ask them a few questions. And they always tend to be amazed when we say, "Hey, this is the Chula Vista Police Department. I'm overhead in a drone. I could see your business in the corner, you know, of Broadway and F Street and I don't see the persons there. Have they left?"

They can have that conversation. A business owner walks out. They look up in the air and they see the drone. And they're amazed that, you know, we did in fact respond to the call. It has been handled effectively because this person is gone, but we also give them advice as to what happened. So we saved our ground units to respond to the highest priority calls that way and we also increased our level of service because we did in fact respond to the call. We had a police officer speak with the reporting party and it was resolved to their satisfaction.

## **Donelan**

*14:10*

So, help me out. In that example you just gave, is the 911 caller speaking to the drone operator or talking to an officer after the response?

## **Sallee**

*14:19*

So that what will happen is when the—once that operator is off the call with the, the reporting party, the—as soon as we dispatch a drone and the drone is overhead and we have situational awareness, we will actually call back. The drone pilot will call back to the RP and talk to the RP. Because my pilot is a Part 107 pilot, and so he's—you know, the great benefit to this is, you know, we're putting experienced police officers piloting these drones and they know how to resolve these situations per our policies, procedures, and laws. So they can oftentimes just kind of talk the person through what the issue was. If it's something like a disturbance where somebody's already left, what to do if they return, ways to increase security or lighting or things like that that would help prevent this situation in the future.

## **Donelan**

*15:12*

For those listeners not familiar with Part 107, can you give us a quick snapshot of Part 107?

## **Sallee**

15:18

Sure. It's essentially a FAA license to be an unmanned vehicle pilot. And so it essentially allows—it's kind of a ground school for a non-manned, a non-manned aircraft. So teachers are officers, the legal parameters of what the FAA requires through the regulations in terms of maintaining a safe national airspace. But it doesn't really teach them how to be drone pilots per se. So the Part 107 test is essentially something you can study for, anybody could study for. It's about \$150 to study and take the test, and then you're a FAA Part 107 pilot. It doesn't make you a great drone pilot. We obviously have to have a kind of a physical ground school in-house as well as a piloting school in-house to be able to actually have our drone pilots up to a certain standard. But that Part 107 licensing under our certificate of authorization allows us to have confidence that our pilots know what they're doing in terms of having a drone in the national airspace which the FAA controls.

## **Donelan**

16:34

We are speaking with Captain Vern Sallee of the Chula Vista Police Department in California, and he heads their Police Operations Department which includes its drone program.

There are a couple of things you have said that resonate with me. You've talked about drones being used to clear calls for surface so that officers can focus on priority 1 and 2 calls, and drones being used to scout areas for officers to give better situational awareness, thereby increasing officer safety. Would you say these are the primary things that drove your vision for your drone program, or were there other reasons?

## **Sallee**

17:07

You know, I don't think that we had that vision as much as I wish we could claim it. I think it really started out as—in the traditional model. As a reactive model, you know, after a crime scene, after a collision perhaps in search of a missing person. That was our first, those were our first motivations in getting into researching drones. But really what changed the model is we had one of my peer captains who had since retired named Fritz Reber. He's really the one that came up with the concept of flipping how drones are used in law enforcement from being reactive to being proactive. And, and it was based on this, this kind of—we call it the SARA model after the SARA concept, because scout we thought probably wouldn't have the right connotation in the community. So we talked—we talked it through and we realized this, you know, it's a problem solving tool.

So we use the SARA model and essentially we decided that if we send the drone proactively to give our officers the right situational awareness, we not only increase officer safety, we increase community safety. But then we also increase the suspect's safety in terms of if we have the right tactics going in, then we increase the chances for everybody coming out with the least level of force possible. That really

motivated us and we've seen it in several different occasions where our officers are given more awareness on how to approach.

Sometimes the camera literally, when we have the 30x zoom camera on the drone, we can see what's in their hand and identify it as a phone. Not just a phone but we could say it's a Samsung phone.

Sometimes the footage is that good. And so that could be a really real game changer in these situations where an officer does not know what is in somebody's hand.

And so we are able to feed them more information and hopefully impact the outcomes toward the good versus the bad.

## **Donelan**

*19:19*

With the focus on real time and information sharing, how do you deploy your drone units? Are they with certain officers? Are they in a central location?

## **Sallee**

*19:29*

Sure. So, again, a really unique use-case scenario test. Partly because we're in the IPP, we've partnered with a private company with pretty amazing technology. Their name is Cape and they call it Aerial Telepresence. What that is is it is a system whereby anybody can fly a drone anywhere in the world from a standard desktop computer. And they set up geofences so that the drone can't fly past certain areas. In our case, it's about a mile radius around the station. It also can geofence out obstacles like tall buildings or trees and things like that, set minimum altitudes and maximum altitudes. And so it really makes the drone very simple to fly just with a keyboard and a mouse. So we'll have a police officer who otherwise has relatively little training in aviation be able to get on a computer and literally fly a drone anywhere in this geofence very safely.

Of course, you know a lot of these are now millennials, right? It's kind of the gaming generation, and so they're more used to flying things that way. But I would wager that just about anybody with a little bit of training could fly it. That being said, under current FAA regulations and very rightfully so, there has to be somebody with a constant visual eye, human eye unaided on the airspace where the drone is. They have to keep the drone within sight.

## **Donelan**

*21:09*

Line of sight.

## **Sallee**

*21:10*

Line of sight. So within our current model because, remember, this is a pilot program, this isn't the end stage. We're in a proof of concept. We have not just our teleoperator, we call them, down in the watch commander's office flying the mission but we have a pilot on the roof who has a backup remote. They can take charge of the drone on a mission if there's any interference or any trouble or if another aircraft enters the airspace, in which case that visual observer would take control of the aircraft and take it down to a lower altitude and return it back to the station. So under current regulations and rules, we have to have that person. They're called the pilot in charge with the ability visual, direct visual line of sight of the drone. So essentially we have two people in control of every mission.

Through this pilot program we're feeding data to the FAA about all the flight parameters, the equipment we're using, any of the issues that we've encountered be it magnetic interference or if we had any type of signal lost, things like that. We report this information to the FAA and they're using that data to evaluate how they can change regulations or if technology is ready for them to change regulations to allow beyond visual line of sight. That's kind of the next step in the drone world of being able to safely fly a drone beyond that direct visual line of sight of the pilot in charge.

## **Donelan**

*22:46*

Alright, so I need you to make sure I have this clear for our listeners. You have someone on the ground in touch with the situation that's piloting the drone. The drone is housed and deployed from the roof of police headquarters and it has a one-mile perimeter or radius? Here there is a pilot in charge that can override and take control as needed from the other operator?

## **Sallee**

*23:06*

Almost. So really you have the teleoperator who will call that person down into the building, right in the watch commander's office, and there's a pilot in charge that's on the roof that just is watching the drone. The people in the car don't have to do anything. We're blessed in our agency that we're in an urban environment and we have really great cellphone coverage. And so we actually have issued smartphones to all of our police officers for a variety of uses in their daily jobs.

But one of the great outcomes of this is that we can send, there's an app that Cape makes that we can send live video to—up to 50 different users of every flight. And so every time we fly, there's a flight notification that pops up on my phone. And if I log in, it will show me the flight that we're currently on and as it will do for the responding officers that are, that are going there or any of the supervisors and managers that are around. So really it's two people. It's a teleoperator and a pilot in charge at—in this current system.

Eventually, if we get to BVLOS, beyond visual line of sight regulatory changes through the FAA—and that will only occur through better technology. It might be radar. It could be some other systems that help. The FAA have confidence that, you know, our drone is not going to crash into a manned aircraft somewhere. Once we get BVLOS, then we'll be down to just the teleoperator with a lot of technological support flying these missions in support of patrol. Eventually we would envision that that teleoperator might even eventually be replaced by automation within a CAD system as soon as a call address is verified. You know, sometime in the distant future there may be a drone in the box of a roof and it basically launches autonomously and starts flying to the location and starts the video feed automatically so that we don't even have to have a human touch it, right. And it flies in the national airspace safely and completely autonomously.

Under that concept, within our city we've got nine fire stations currently. We will have 11 within the next few years. First stations are always located in a geographical area because of their response times. So in this hypothetical world of drone in a box and automation, if we have a drone in a box on every fire station roof within our city, we would have the capability to respond to any call for service within two minutes and start feeding live information to not just police officers but to the fire department as to a traffic collision or a fire or something like that. So it really has a tremendous, the potential to be a tremendous public safety tool for both the police and fire not just now but even more so in the future.

## Donelan

26:13

So, in the future, we may get to this state that you called BVLOS—beyond visual line of support. In addition to that, what do you think the future holds in the deployment of drones?

## Sallee

26:24

So as I mentioned, it's part of IPP as a lot of other partners. So Uber Eats wants to deliver food with drones. There are medical entities within this IPP that wanted to deliver specimens between hospitals and labs and things. So this IPP just not just serve law enforcement, but it serves anybody who wants to use part of the national airspace and drones. So the potential for it to be congested and for who that—who has priority can be a question in the future. It will be the long distant future, probably past my career by the time this all comes to fruition.

But from what we've seen in terms of our experience, I think the use-case in Chula Vista has validated the concept as—of a drone as a first responder being a game changer in the future. I think that we're one of the most compelling use-cases to the FAA when you talk about the ability for a law enforcement agency to directly impact public safety, save the lives of citizens, of officers, and to de-escalate situations. It's incredibly compelling when you see the actual footage.

We had a couple of, of recent cases, one in fact two weeks ago. There was a very innocuous call that came out as a priority 2. That was a domestic violence argument. Man on a motorcycle and a woman in a car. And she basically kind of pinned him in with the car, blocked him from leaving in the motorcycle.

And all of our officers were all tied up and we didn't have anybody to send, but it didn't sound like it was a really priority call compared to what else we had going on. But the drone was available and it was probably three or four blocks away from our station. So we sent the drone up and we got on the scene. We could see that the motorcyclist was really trying to get away from this person. And he in fact bumped the car with the motorcycle, maneuvered to get onto the sidewalk, sped away for a block on the sidewalk. She actually tried to hit him on the motorcycle while he was riding on the sidewalk. So we had an assault with a deadly weapon. They got on to one of the main thoroughfares of the city running red lights, speeding through traffic with her chasing him on the motorcycle. And the drone, just like a manned helicopter, was able to keep up with this and feel, feel—I'm sorry, feed real-time information to the watch commander who then reprioritized what our units were doing because we had a crime now in progress with somebody's life in danger. That being of the motorcyclist or the public as these folks sped through traffic dangerously.

This kind of mini pursuit with her chasing him ended in a back alley probably about a mile away where she again kind of pinned him and, long story short, ended actually ramming the motorcycle and knocking him off the motorcycle about 30 seconds before our first units arrived.

All of this captured on video. And not only did we end up arresting her for multiple counts of assault with a deadly weapon, the motorcycle ended up being stolen.

So here was this low priority call that we may have never gotten officers to. By the time we got there, they would have been gone and we don't know if anybody would have ever seen this other kind of secondary crime that was going on. Yet, because the drone was there, we have all the evidence that we need to successfully prosecute folks on a call that, otherwise, there's a great question as to whether we would have ever really had anything to document because we didn't have officers available.

## **Donelan**

*30:14*

And all of this situation occurred within the one mile perimeter of your police headquarters and the electronic fence range of your drone?

## **Sallee**

*30:25*

Yes. So, this all occurred within the one-mile geofenced area. Since this was about two blocks away from the station, it was easily within the range of the drone. And this kind of little terminated pursued area was within the one-mile radius. Also even though the geofencing of the drone itself is one mile, we've found with the 30x zoom camera we can see almost another mile depending on obstacles and things like that. So even if we can't physically get the drone directly overhead, a lot of times we might be able to get a camera view of something. Not the optimal view but have some level of awareness on some situations just with the camera even a mile away.

## **Donelan**

*31:06*

They things that you are doing in Chula Vista are truly impressive and I would say ahead of the curve regarding drones and policing. What three pieces of advice would you give to departments that are thinking about implementing a drone program.

## **Sallee**

*31:19*

The absolute most important is just transparency and outreach to your community. You have to do that on the frontend or you risk a lot of wasted time. And once the public mood has soured, it's very difficult to ever get that back. So invest on the frontend, in goodwill in your community before you ever spend the first dollar on technology. You need to understand the space that you're getting into, understand your community and their concerns.

That's the first portion of it.

The second part is it's okay to go slow. You don't have to be the, you know, on the bleeding edge of this. And we, as I think I mentioned, we didn't get into the—this space thinking that we were going to be doing drone as a first responder. We had just been really diligent in doing our homework, dragging our feet letting others making, make some mistakes. I'm sure there's some watching us right now making mistakes, spending our tax dollars instead of their jurisdiction's tax dollars. But it's okay to go slow and do it the right way. Make sure that you have the community support, that you have the right people in place with the right training in order to do it, and then finally invest in the people.

The technology is going to be ever evolving, ever changing, but really we've got some great people. I, as a senior manager, get to, to really sing their praises. Because while I've kind of empowered them and my chief, Chief Roxana Kennedy, has given me tremendous leeway to kind of run with this program it really is the imagination, the hard work and dedication of those that are on the ground level of this through my manager, Lieutenant Chris Kelley and his pilots really figuring the stuff out. And so give them the right training, give them the right support and they'll do wonders for you. I think I would wager that every agency has the exact same capability that we have to do it, the same talent in-house. And, you know, hopefully they would see the same public goodwill and successes that we've been blessed with so far.

## **Donelan**

*33:30*

Captain Vern Sallee, thank you for taking the time to speak with us about Chula Vista Police Department's unmanned aerial vehicle program.

## Sallee

33:37

Thank you so much.

## Donelan

33:38

One last question. How may our listeners get in touch with you if they have questions about your program?

## Sallee

33:45

Sure. It's [vsallee@chulavistapd.org](mailto:vsallee@chulavistapd.org). That would V like Victor, S like Sam, A-L-L-E-E-at-C-H-U-L-A-V-I-S-T-A-P-D-dot-O-R-G.

## Donelan

34:02

Captain, can you tell our listeners how they may reach out to your partner in your drone program, CAPE?

## Sallee

34:08

Sure. And CAPE is C-A-P-E-DOT-com. It's their website. We work with Kabe Termes, T-E-R-M-E-S, who's one of their vice presidents who's given us really tremendous service on this.

## Donelan

34:23

Thank you very much and thank you for listening to *The Beat*.

## Voiceover: *The Beat* Exit

34:27

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## **Voiceover: Disclaimer**

*35:26*

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