

Kevin Armstrong - Cartography is Cool

Mindy: [00:00:00] Welcome to Analyst Talk with Jason Elder. It's like coffee with an analyst, or it could be whiskey with an analyst reading a spreadsheet, linking crime events, identifying a series, and getting the latest scoop on association news and training. So please don't be that analyst and join us as we define the law enforcement analysis profession one episode at a time.

Jason: Thank you for joining me. I hope many aspects of your life are progressing. My name is Jason Elder, and today our guest has 22 years of law enforcement analysis experience. He spent time with the Washington Baltimore HIDTA as a Crime Mapping Program Manager, and he is now the Senior Solutions Engineer with Esri.

He's here to talk about GIS. And security operations. Please welcome one of my oldest and dearest friends, Kevin Armstrong. Kevin, how are we doing? Hey,

Kevin: I'm good. Long time. No, see.

Jason: Yeah. Too long actually. As I was preparing for this interview, there's. When that first job that you have when you're 20s is [00:01:00] almost comparable to your high school years, once you get a little older.

And so I was, I was thinking about some of the dumb stuff and conversations that we had during those 20s. It makes me laugh because those are a little bit like our, our high school days. You know that we didn't have together, but we had our twenties together. Yeah,

Kevin: those those lunches were kind of remind me of like high school cafeteria Times good good times.

Jason: Oh, yeah. All right So I do I am gonna cut out a little part of this show with talking a little bit about that But we'll we'll save that towards the end. Let's let's start from the beginning then How did you discover their law enforcement analysis profession?

Kevin: Oh have to Really hold down the rewind button.

That's probably I say 1998, I was still a student at, at University of Maryland Baltimore County, UMBC. And I was in the geography program and took a GIS class. [00:02:00] And I also worked in the GIS lab there and we actually did a

project for Baltimore County Police Department. And we were basically kind of recreating all of their police districts and beats, all the geography they had.

And I met Phil Cantor, who was, it was kind of ran their, their their unit up there at Baltimore County. And just through work with Phil and actually going up to Towson and touring their office and seeing what they did was was my introduction. So the GIS side of it was, was. Pretty boring, like we were just digitizing.

Actually, we were in ArcInfo on a digitizing table, but yeah, but just seeing actually how that data was used and some of the work they were doing was really opened my eyes to what was possible.

Jason: So when you first go to UMBC, what was your plan or what was your dream to do once you got out of

Kevin: college?

I, I didn't, I didn't even know what GIS was going into UMBC and. I was originally a biology major, but[00:03:00] and as you progress through that, you start getting into more and more microbiology and, and some chemistry classes. I just that was not for me. And and I had a friend, I, I played ice hockey at UMBC and a friend on the, the hockey team said, Hey, I'm taking this cartography class.

I was like, Oh, really? And, and I looked at his book and I was like, Oh, this looks pretty cool. I love maps. I'm going to do I'm going to check this out. And I think that was probably somewhere in fall of 97. I was like, Oh, I'm gonna take this car drivery class. And from there, I was just like, Yep, this is my major.

This is what I want to do. And yeah, the rest is history. So

Jason: then how did you get introduced to Haida?

Kevin: Same place UMBC Geography program another, a fellow student of mine by the name of Joe Ryan, who we were friends. We knew each other through the, through geography and hung out and Joe graduated ahead of me.

I think it was a year ahead of me and he had worked at the Washington [00:04:00] Baltimore Heide. That's where he Started out and they had an opening and I had, I had just graduated and was looking for a job. And I think Joe posted something to either through the program or something.

I forget how exactly I found that or just personally talking with Joe, but he said, Hey, we got this opening for someone in, at the height of do some GIS work and analysis. And I was like, Oh, awesome. Let me, yeah. Apply for it. And yeah, I think January 2001, I started it at Hydra.

Jason: It always makes me laugh when I think about this time just the technology, .

It was probably what ArcGIS. Three, I can't

Kevin: remember when arc view three was probably still the primary that's what everybody had on their, their computer at the time, I think arc map was released, but still at it's very early adoption stages eight, I think eight, one, eight, Oh, eight, one one of the first few releases.

So yeah, our, our P three [00:05:00] was by far still the. Main software everyone was using. Yeah,

Jason: but we also had MapInfo. Who, who did we, who did you always debate with about the difference? With Kyle, yeah Kyle

Kevin: Beardsley. He was our intern from College Park. Yeah, he, we, because they, I think they used , they were using MapInfo if I'm not mistaken.

Oh. At the height of when I got there and So I, I was kind of I had used ArcGIS products ArcGIS all through college and that's what, that's what I knew. But I'll try this out and I was like, Oh my goodness, this, there's, I just, I remember always saying to Kyle, I was like, dude, there's such an easier way to do this.

Let me show you this and eventually I, I think I, I I taught, we actually talked to, I think our, yeah. Hey could we get a evaluation copy or something and just kind of actually it was Wayne Sweeney who actually I work with to this day. He was, he was my, our Ezra. And yeah, we, we got a copy of our view in [00:06:00] there.

And then, yeah, Kyle and I just, we're always back and forth. Like who could do it better? It was, it was fun though. It was, it was a great Kind of little competition for us. Yeah.

Jason: Do you remember the nickname that you gave map

Kevin: info crap info?

Jason: And then he it was arc view at the time. So he called it ass view.

Kevin: Yeah, it was oh, it was good times.

Jason: Oh man. So, so when you get this job and you're doing this work and it's it's the high intention of drug trafficking areas, what Ida stands for. So they're dealing with multi jurisdictional obviously,

dealing with drugs. So what kind of tasks are you are you doing when you first start at Haida?

Kevin: Oh, it's just it was it was a lot of a lot of work because there were so many I forget how many jurisdictions were Within the Haida region I mean, probably 20 to [00:07:00] 25 at least initially the height of kind of expanded as well, I was there to down into Northern Virginia.

And I think that supporting the initiatives that were run out of the Haida was the big thing, right back then it was. It was getting cell tower very today things just so much easier today, but back then it was getting a spreadsheet of, of cell phone tower locations, making, making a poster, right?

And mapping out the locations and, and labeling maps. Okay, here's ping one and, and a lot of work for court cases, right? So where's the, the. The home address of the victim, home address of the perpetrator, and here's the towers they hit, so a lot of that kind of work. And but also much larger scope stuff.

Like, we did a lot of work with Baltimore City Police mapping out drug calls for service hotspots, repeat address mapping finding what are the top ten addresses or, or street blocks within the, each district that had the most drug calls for service, things [00:08:00] like that was, I mean, that, that kind of work to me was, was really, really cool.

I love kind of doing that stuff and trying to find new ways to, to visualize data for that made sense to the police, but also was, was kind of meaningful. Yeah, it was,

Jason: it's fascinating how much work goes into it. Back then that just doesn't get, I mean, you just don't have to do it. Oh my goodness.

Is this like, you talk about bringing in the data and geocoding it and getting the shape files and getting the right layers of information and everything was so

manual, you literally had to click on the layer to bring it up. And it's just, it doesn't seem. It's, it was to me when I think back about it, it was so antiquated.

It's hard for me to believe it was 20 years ago. It seems like it should be like, so, so much longer given like where we are today. Well,

Kevin: yeah, I think that the biggest geocoding, even today, if you get bad data, geocoding is going to take. [00:09:00] Thank you time, but back then, yeah, the, the hours and hours spent basically rematching bad day bad addresses trying to figure out.

Okay. There's no North or South on this. It's it's North Charles streeters and South Charles street. I you kind of had to. Look at other other crimes and other look, hints within the data, like, hey, here this is what happened or, or find a cross street reference than a description that, oh, okay.

Yeah. So, like, yeah, that stuff was mind numbing. I, I think that. The other really difficult part was just data. I, I just, reaching out to each jurisdiction because it online, there was some sort of the, the beginnings of, of kind of web mapping and you could maybe connect to some, some online sources.

But, I mean, I just had CDs and CDs and CDs of shapefiles of, of center lines and I got to get the center lines for this county and the center lines for that county. I need to get their police districts. And I mean, it was [00:10:00] just and it was more an imagery, right? And we get imagery because I need that for For a court case or something, and it was way more data than we could store on our our personal computers.

And I, so I just, I just remember having 80 hours of, of data and just constantly have to go to it to, okay, I need, I need to do a map of. Montgomery County, Maryland, and I need to pull just the street center lines. I need to find the police geography. It was just that file management. Like, even once we got network storage, which was great just the management, this time spent managing folder structures and making sure you could find things.

It was just that is, that is something I realized that it was so antiquated. Yeah, I just take for granted search now I can find anything with just a simple text search. And back then it was like, no, you, you if this project was going to be successful, you had to have a good

Jason: folder structure.

Yeah, well, I mean, I just think [00:11:00] of that. You go to you Google an address that you can bring up aerial photos and all of that. And. We had that 20 years ago, but it had to be a layer we had to have it loaded and ready to go and you're clicking on it and it's rendering and, oh, man, it was, it was just one, it was just one time there was no updates for it.

So it could that aerial photo could be 3 or 4 years old. It wasn't like now where it's, it seems like they're updating it multiple times a year, but, Yeah, even,

Kevin: even simple things like geocoding, like you had to build your own you had to grab street center lines, merge them together, build a build your own geocoder.

And then when they updated the data the next year, you had to get the new data. It was, yeah,

Jason: it was cleaning, cleaning data was a big task that

Kevin: we had to do. Oh my goodness. Yeah. Right. Yep, man. Yeah, for sure. Oh geez.

Jason: So, so what [00:12:00] was that one? You, you mentioned the plotter. And the plotter is something else that I've talked about on this show from time to time.

And I, I don't believe the newer generation will appreciate the plotter, like, well, I have no idea , but I just remember the time that you got a new plotter and it was basically looked like the front end of a car. I mean, it was just. Massive and the fact that it was, I think we were impressed because it could take like 10 megs or something.

I can't remember the specs of it, but I remember at the time thinking like, Whoa, that's a lot of data that it can take. I'm sure they do still make plotters, but they probably are in gigs and terabytes now that they can accept Oh, my goodness.

Yeah, that detail.

Kevin: We, that was the main. Method of distributing maps, right? I mean, it was all the work we did essentially came out through that plotter. And I mean, [00:13:00] you might email a PDF or something small every once in a while. But yeah, that was an you. You became an expert at troubleshooting plotters

and undoing paper jams and and just yeah, reloading paper and record time and just Oh my goodness.

Jason: And , then you had like the, what do you call that? The clear film or whatever it is. So you could do just an

Kevin: overlay, right? Yep. We had multiple different paper types. Yeah, man. Back then I remember the one special ink we got that it . Wouldn't wear out in sunlight because I remember we used to have that problem.

We used to have that problem with some of the maps we would print out. They would just fade and some of them come back a year later. Like you printed out, I remember that. I don't remember that Washington DC gang map that we did. Like probably one of the most popular maps that we printed and sent to people, like I would reprint that for people after a while because they would hang it in their office if you buy a window and it would just completely fade out and they'd [00:14:00] bring it back and you're like, Oh my goodness, what happened to that

Jason: thing?

Was that the one with the, with the density colors?

Kevin: That was the, so we did kind of, that was probably the shootings map. The gang map was when we actually sat down with, I remember Frank Morgan and I'm trying to think of who else it was, where we sat down with a couple of folks from MPD their gang investigators and actually we did.

Went through, okay, what are the known gang areas within the district and and they, we just kind of over course of a few weeks. We kind of work with them here and there to come up with. Okay. Here's 13 there in this area in this area. And it was, i, I bet you I still have a . I probably still have a JPEG of that Some.

Some somewhere in a thumb drive. Oh yeah. If you

Jason: find it, I'll put it in the, I'll put it in the show

Kevin: notes. Yeah. , I'll find that. .

Jason: You had the plot, or you had access to the plotter, then people were coming to you to print stuff out all the time. What was that one program that the

[00:15:00] Washington Baltimore, Haida led where they had to go to all the different.

Other height us and come up with the strategic plan. Oh, right. I

Kevin: remember that was that would PMP like performance management process or something. Yeah, the height of since it's a it's a federally funded initiative. And, and it's, it's obviously very politically charged in some areas, right?

Hey, I want to, I want a Haida in my district and things like that. So Because it was always a political, funding was a political thing, you people were always asking the HIDA, like, what is it really are we really getting our money's worth, like, they're all constantly having to defend the budget and the initiatives and the work, and so that, I think that PMP was kind of like the first formalized thing, HIDA wide, to say, look, this is, these are the goals you want to set, And at each HIDA, and this is the work we're going to do, and we're going to measure it.

But part of that was, it was [00:16:00] this giant spreadsheet. And I remember printing it. Like, E sized sheet with all these different, because some HIDAs are very big. Like, ours was probably one of the largest, I think, because we had not just law enforcement, there's also prevention and, and a bunch of other things.

So it just a lot of different units and then setting goals for each unit. But yeah, e size sheet of, of a spreadsheet. To this

Jason: day, it's the, it was the largest spreadsheet that I've ever seen printed out. Yes. Yep. I mean, it was just the, the sheets came in 36 inch rolls, three feet, and that it would be three feet, sometimes three feet by three feet or three feet by four feet.

Three by four feet. Yeah. Yeah. And that would be, and it, there might be 50 plus rows, 50 plus columns or whatever.

Kevin: Oh, way more. Yeah. I remember having like. Eight or 10 point font on this, some of those cells, like [00:17:00] it was, you printed, it was a poster you printed out, but you like put it on the table and you had to lean into like the text.

Yeah.

Jason: Oh man. And was just so much work cause you, they'd make a change. You need a printout, make a change, need a new printout.

Kevin: Yeah, I used to hate that, like in the morning, it's like, can I get a printout of whatever the sheet for this Haida and you're like, I know today I'm going to print that out at least five more times.

And it was like, okay, here's the printout. You give it to them. And 30 minutes later, everybody's sitting around it at a table and they're making edits and I'm like, okay, you make these changes and print this out again. I don't know how much paper we, I would love. Love, love, love to know how many feet of paper went through that plotter in the six years I was there.

Jason: , that was something else, so. Alright, well I do want to move away from Haida, but before I do, in 2001 I was, an intern with you and Joe. [00:18:00] And I just wanted to tell this story real quick. There was another intern at the same time as me and we called her intern Holly, because your wife's name was also Holly.

So we had to differentiate between the two Hollies. So we had intern Holly. So we were both doing our GIS work and, , helping you guys out. And the story I wanna tell is, so she comes to your cubicle and sees that you have a picture of a sheriff. And she goes to you and says, Oh, how do you know the sheriff?

Who is this sheriff? And your reaction was like, you don't know who that is. And I, by that point I had looked over the thing. I was like, Oh my gosh. And so it was Roscoe Biko train.

Kevin: From the Dukes of Hazzard,

Jason: and she did not know who it was. Now, , today, I would not fault you if you don't know who Roscoe Picotrain is.

But at the [00:19:00] time, at the time, I was like, how do you not know who that, who that is? And I remember we made such a, such a big deal. Like we were like, how do you not know who that is?

Kevin: Hey, here's a, here's a trivia for you. What, what does the P stand for? I do

Jason: not know.

Kevin: That's it. That's a good good, good trivia question.

It stands for a purpose. You are V I S that's Roscoe's middle name. There you go. You learned something valuable today.

Jason: Everybody's going to be Googling Dukes of Hazzard. Like what is it? So let's move on then. Cause you leave Haida and you move down to the Carolinas and you take an analyst job with Gastonia.

So what are you doing with Gastonia? Is it a new program? Are you the sole analyst?

. Yes.

Kevin: I think it was 2007 mm-Hmm. We, we [00:20:00] moved down the Charlotte and yeah, I took a job as an analyst at, at Gastonia Police Department, city of Gastonia.

It's a suburb of Charlotte. It's just, just west of Charlotte. And I was an analyst. One of, we had two, two full time and one, one part time analyst, if I remember correctly. And, yeah city police department. So it was crime analysis. It was you know. And in all requests from within the department from public and mainly doing GIS work supporting all the different things going on within the police department there.

Jason: So , it's a lot of data. So this is, I mean, this is late aughts. So, I mean, it's still a lot of data management, a lot of data pulling, right?

Kevin: Yeah, absolutely. It was still everything was file based. We had some, some good data management already. I mean, they had scripts running each night that pulled the previous days incidents and, and calls for service and things like that.

So data was, was [00:21:00] available so if I'm we got a ton of public requests, we used to get those every, every week it was Hey, we got an email from this person. They. Their, their daughter's moving to getting her first place, right? Getting her first apartment. Hey, what's the crime like in here like the police department.

So yeah, it was So I'd get an address and basically create a map. Hey, you know within a mile or so what are what are summary of all the different types of crimes, going on around there and I used to I had a little kind of model builder thing that I built and kind of Try to automate some of that stuff.

And that was where I think I first kind of got, got the idea. I was like, I, I know we could do this, like make, make some sort of self service kind of mapping. I was like, cause I was, I was going to wear out doing the same thing over and over and over again. I was like, I, there's gotta be a way we can do this.

And that's where I think I really. I actually contacted the local Esri office. I was like, I think we could do this with ArcIMS. [00:22:00] And that was that was the technology back then. And, um, I remember just, I talked to one of the sales reps. We had a call or two, and I think we could do this. And we could have a public website where people could just type in their address and we could they can just get this information at their leisure.

Now, back then it's obviously not like the technology we have today. So which just it was just so, so simple today, but back then it was, it was much more involved. We ended up not, not actually purchasing the software and but that kind of exposed me a little bit too, like the local Esri office.

And, and I actually met a few of. That year I went to the, the user conference in San Diego and actually met a bunch of people from the local office because we're I was talking to some of the solution engineers there and, and they were just describing what they, what they do. Like, man, that sounds amazing.

Like, you don't have to make maps for when someone calls and says, Hey I'm thinking of buying a [00:23:00] rental property. Can you tell me how many? It's like. Oh, man, this looks great. And yeah, so I, I actually ended up applying and they had, oddly enough somebody had, they just had an opening for a solution engineer and yeah, I applied and went through the rigorous kind of onboard hiring process and, and yeah.

And I got the job and it's, it's been what, 16 years now.

Jason: , that's the other thing I think about too. You talked about the public request stuff. I mean, there was whole, , what is it? Is it crime maps, crime mapping? What, what is that company

Kevin: crime mapping. com crime mapping.

Jason: com. I mean, that's that now you just go there. It's a website. It's all self service, but we had this a lot, in Cincinnati, because Ohio has pretty open sunshine laws that we were just, man, people were just one after the other, after the other, try given asking for, for data.

And it, [00:24:00] it just became like, could really bog down analyst units. Because they were the ones, they were the ones that were most likely to receive that. I remember one, I remember the first time I heard of CrimeMapping. com. And this is like, I would call somebody looking for information and on their outgoing message that like, if you're looking for data, visit CrimeMapping.

com slash the police department. Yeah. And that. That was the 1st time I ever heard that and I thought, oh, that's that's kind of convenient. They don't even have to take the call. They just point you in the right direction and don't even have to talk to you

Kevin: but the 2, the 2 things that I that really do take up at least In my experience, all the time was the public records requests like that and, and like preparation for Comstead.

Oh, yeah. Like I remember deal working with several departments, even at the Haida where the analysts are like, We spend three to four days a week getting ready for Friday [00:25:00] Comstead. And if we can do any sort of proactive work in between then we do it, but you also have records requests and things like that.

It's, it really is obviously it comes to that we've data driven decisions are, are obviously what we, what the goal is and all, but man, I tell you, depending on the, the the, the amount of work you have to do comes that can eat up an analyst's time for sure. Yeah, no, I

Jason: remember at Baltimore when I was there.

That was five or six. People's job was geocoding the data, getting the, the three, the big three ring binders printed out for all the executives, getting the maps and charts ready to display on the projector. And , one Monday through Wednesday was all prepped for the Thursday com stat.

And then Thursday afternoon into Friday would be some catch up time, but that's, and that was just. Rinse and repeat, like that's [00:26:00] what those, those folks who did their full time job was just preparing for CompStat. Yeah,

Kevin: and I've worked, I had the opportunity to work with a lot of different police departments just through through ESRI.

I've seen that kind of process just become so much easier now. And, and CompStat isn't a PowerPoint anymore. It's not a three ring binder, right? It's, it's

a It's a web app, right? It's a dashboard. It's interactive. You can say, hey, let's let's apply this filter for this district and see what it looks like.

It's, it's amazingly easier now. And, and, and which is a great thing because it's still absolutely necessary. But you also have the ability to now spend some time on other things besides. Printing out a 200 page props that booklet.

Jason: It is, I mean, it is interesting though, in a, in a way, I think you could make the argument that it's not necessary.

And what I mean by that is I think e it was Eric Piza that brought this to my attention when I had him [00:27:00] on the, my show here is that when Comstat was created most. People didn't have access to the data so they needed to come to this meeting to actually see what the data is and today you're not waiting for a meeting to get data i mean you got data at your fingertips all the time and so in a way.

I think what what's always happens at almost any meeting that I've ever been a part of especially at police departments, is these types of meetings start out really good. They're new, you're, you're learning different stuff about maybe different departments or different problems, but they eventually get stale.

Eventually, it's the same thing week after week, or maybe it's so repetitive and it just loses its steam and it just isn't helpful anymore. And I think that's the. I think the big challenge is keeping those [00:28:00] meetings productive and I think once police departments are so much about routine and so much about standard operating procedure and doing things maybe this the same way it's hard to fight that.

Tendency to keep to keep it changed, keep it, keep it interesting and useful for everybody.

Kevin: One of the most dangerous statements you hear is we've always done it that way.

Jason: Oh, yeah. And I mean, and that's really usually what it takes to get something really changed at a police department is you get an either a new captain or new chief, and then everybody starts questioning stuff and, and why you're doing that. And that's all this other stuff. And it just, it's not until then that you really, really see change. And you, you, you do stuff until someone tells you not to

Kevin: basically. Right. Hi,[00:29:00]

Matt: this is Matthew Smith. I have a public service announcement. When you're walking in a building and somebody is coming behind you, please hold the door for them, give them that common courtesy. And at the same time, if somebody is holding the door for you, just say thank you. It just drives me crazy when people don't say thanks.

It's one of my pet peeves. And I think if we all just got along and said please and thank you, we would get a lot further in the society. Thank you very much.

Jamie: Hi, I'm Jamie Roush and I have a really important public service announcement for you. No one wants to hear your conversation on speakerphone in a public restroom.

It's awkward for you and for anyone else who comes in. No conversation is that important.

Jason: Before we go on to Esri , do you feel that when you're seeing these police departments and you're [00:30:00] talking with these executives , is what you were seeing at Gastonia still occurring today, or do you think that's something in the past?

Kevin: . Being able to visit a lot of different police departments and just kind of see how things work. Yeah, there are absolutely still many places where it's it's an analyst with even, even ArcMath, like an old older software who is just cranking out maps and because that's the way we've always done it, right.

And, and it's still see, see that quite a bit. And it's, I mean, it's, it's how technology is there, right? A lot of folks are, are slower to adopt new technology, new workflows. And it's, yeah, it's, it's kind of painful to see like you, because our job at, at least my job is to always obviously promote the newest workflows and the newest software, right?

You and new ways of doing things, but Yeah, there are plenty of times where you realize you're like, you know what, the things are probably going to [00:31:00] stay here until there's new leadership or something like that. They're just not going to change. And it's, it's tough because when you see somebody doing something and you know that there's a way to do that, that's way easier.

And, but that's the way they've always done it. It's you're like, well, I we tried, we've tried, we've said that I've come out of a lot of different meetings with,

with some folks in our staff that I, I work with a sales rep, right. And we go out and I just say, you know all we can do is try it's, it's, it's tough to change habits that are very ingrained.

Right. And but at the same time, we also see plenty of police departments that are. Doing amazing jobs and, and and really using the most out of the technology and, and getting the most out of, out of it and making really sound decisions based on good analysis. I mean, there's, it's a whole spectrum of, of from one end to the other of, of departments in there, but I'd love to see the tail end of [00:32:00] that catch up and be fewer and fewer, but it's it's it just isn't in some ways.

Jason: Yeah. So what, what do you think should be ideal, right? I mean, certainly there's so many different departments out there, different sizes, different budgets, but I guess from your perspective, giving your GIS background and what you, what you've seen, what should be ideal?,

Kevin: in an ideal world, you have budget, right?

To me, that's the constant fight, right? It's, it's very difficult to do a lot on a small budget if you only have one analyst, and you only have budget for a limited amount of software, you really, you can't expect miracles out of that. But, you but what I will say is, is as an analyst, right?

You're obviously your, your job, you have a wide range of responsibilities and you're doing a lot of different work. But the most successful units, even smaller units that I see are ones that are constantly advertising their work. Right? And [00:33:00] because You can't sit there and wait for projects to come to you or, or people who aren't familiar, fully familiar with what GIS can do to come with you.

It's like, hey, I had this idea you think we could do this with, with GIS. You have to be very proactive and get out to the department and sell what you can do because there is just so much we can do these days. With GIS, I mean, the technology has gone from just a simple desktop kind of software to a complete you've got desktop, you've got web software, mobile software that police departments can use and get a lot out of, so but if you're not out there selling that when it comes around budget time, they're like, oh, yeah, that's the person that makes maps, right?

Even at Hyde, I remember doing that. I remember because we had our, our main building in, in Greenbelt down just outside D. C., but we had initiatives up

at like up at Dorsey Road by, near Baltimore and and a couple other places, and even different floors of the building, right?

I, I was on the, I think, third floor. A lot of initiatives were on the fourth floor. [00:34:00] So you, you would never see these people, but I would, I would make, this almost like billboards. I remember the one it's like back when the got milk commercials were big, I put got maps, like, and I just had all these like a, here's a, an example where like we would do things like they do a drug buy and it, and we'd say, okay, isn't it within a thousand feet of a school parcel or something like that.

Right. And so I'd put like a example of that, an example of a. Some cell phone mapping and other things. And I just post those up at multiple buildings on different floors with all my contact info on them because I'm not seeing these people regularly, but we, we want to get out and sell the idea of GIS to, to all these people.

And And that was actually pretty successful. I had a lot of people come up from different initiatives, like, Oh, I didn't know you guys did this stuff. And and then we would just expand the amount of work we were, we were able to do. Yeah, but we were fortunate because our director at the time, like Tom [00:35:00] Carr he, he's, he knew the value of GIS, I think from the beginning.

So he was always, you know. Our advocate, I think, which is great. But not every police chief is going to be that way. Not every sergeant or captain is going to be that way. So yeah, you really have to sell your abilities and throughout the

Jason: department.

Yeah. It's interesting.

I, when I had Christopher Bruce on he said at one point in time, he was worried that law enforcement analysts were spending too much time. Mapping like that was too much of their job and he feels in some regards. It's almost gone 180 degrees because so many things are automated.

They're not hardly spending any time mapping. So it's it's interesting that you don't necessarily have a lot of people talking About mapping per se, I mean, he's always a staple at the conferences, right? And they're always teaching the product, but it is [00:36:00] interesting that you don't necessarily hear people talking.

As much about mapping is as we did 1520 years ago. Do you agree with

Kevin: that? Yeah. Yes. I mean, I think it depends on the type of mapping, right? I think because mapping technology is so ubiquitous now. I mean, you can embed a map in anything. I mean, you buy an ad system or an RMS system. They can have a mapping module within a writer.

So the idea of just, Hey, I just want to see a map with some dots on it. Yeah, that is absolutely everywhere and easy to do. And it can be done. Whether you're using Esri technology or not, it's everybody's able to make a simple map. But I think that's where I think as an analyst, you expand

beyond just putting the dots on the map, right, or making a kernel density map or something, it's, it's understanding hot spots and cold spots and, and doing more advanced analytics and that really, I think, is what analysts should be[00:37:00] striving to do is, is more more analytical work than just back when I was, we were doing a lot of this at Haida and all, just putting the dots on the map was, was not something everybody was, know, our they just didn't see that.

So it was, the bar was pretty low to impress people, I think, and, and really give them meaningful information. But now I think it's gotten higher because you see maps everywhere. But is, is the map meaningful? Yeah.

Jason: And I think it also is interesting to. With Esri and police departments is usually the city normally has some kind of G.

I. S. R. component to to it because of planning . When I had Chris Delaney on also co worker of yours there at Esri, he says it's. I forget exactly what do you want to say? Maybe every other conference he talks with analysts and the police department probably could just tap into the cities.

License and it's going to be at [00:38:00] a lot lower cost to you. It's probably our product isn't probably nearly as expensive as people think it is.

Kevin: Yeah, for sure. Yeah, it's it's a many, especially the larger cities have enterprise agreements, which basically allows all departments of the city or county or to.

To use the software, right? So it's, it's an unlimited use license agreement. So yeah, absolutely. That's what, when I worked at Gastonia, that was how, how we got software was the city had an enterprise agreement so we could get

desktop and server and all that technology without without having to go through procurement.

And eventually some, some cities or counties might have like a cost share, like, hey, you had a few of these licenses you contribute a little bit of money to to the pot to pay for the enterprise agreement, but. Yeah, in general most medium to large size cities and counties , have some sort of enterprise agreement.

Jason: Good deal. Let's move on to Esri then as I mentioned in the beginning of the show, we were, we want to talk a little bit about [00:39:00] GIS and, security operations. What are some cool things you've been doing in the last 16 years?

Kevin: I'll tell you that a lot of work, obviously spending time with police departments, doing your kind of standard.

Crime analysis workflows, but a lot recently has I've been spending a lot of time doing special events. So think just your like here in Charlotte, we have the Carolina Panthers who have eight to nine home games a year. You have a college bowl game. At the stadium, you have a marathon every year countless festivals and things like that, that the police department obviously is, is supporting from a manpower perspective and, and also kind of command and control.

And we've been doing a ton of work helping. With that kind of GIS support. So tracking where all your officers in the field real in real time, live updates of weather traffic and accidents and things like that. So building out GIS capabilities around these kinds of special events.

We did a lot of work at the Republican national [00:40:00] convention was here in Charlotte in 2020. And so the president's here and, and , we were tracking. All of CMPD, not all, but a good chunk of CMPD and Charlotte Fire folks that they had out on the working security out and around the convention center.

All the civil unrest too, things like that, tracking bike patrols and, and things like like that, where we've been doing a lot of work around, around those sorts of things. And that's not necessarily a crime analyst typical workflow, but definitely something that. You can enable in a police department.

That's not necessarily a a typical kind of desktop analysis thing, but but absolutely needed.

Jason: When it comes to the planned events that you described, That are large in nature, whether it was the the Republican National Convention or a Superbowl or something that date and time, it's very specific.

You have your boundaries per se of what you're responsible [00:41:00] for. While it's nice to know your boundaries, there's still a lot going on in a very small area. So I would imagine that that's a pretty big challenge for

Kevin: you., yeah what's the saying?

No, no plan survives first contact, right? It's, it's , always interesting. I remember during the, I think it was during the RNC. So there were protests going on around the convention center, obviously while the president was there. And we were tracking the bike patrol. So they had a bunch of officers on bikes and they had a, a meeting area, they, they, they had for anybody who wants to protest you can meet here, you can march, we, we, they set aside actually, I think, a kind of a route for them to take if they wanted to if they wanted to protest, which I think is actually great.

You're, at least you're allowing it, but you're kind of in, in some way, shape or form controlling it. But during, I remember at night during one of those protests, somebody stole one of the police bikes. Like, it just, things didn't really get out of hand, but I think. It was an officer was [00:42:00] off the bike, maybe, I don't know if they're doing a field interview or whatever, but somebody essentially just took the bike and ran and pedaled it off, but in the back pouch of the bike.

They had the mobile device that we were tracking. So in very short order, they were able to find the bike and the person still on it and deal with it. So it was it was really, it was the old

Jason: bike anymore without getting away with it anymore. I tell you what, geez. Yup.

Kevin: Yup. Yeah, it was, it was a really cool anecdote to that just proves the technology and, and the the, the workflow.

But really, really, really funny story.

Jason: In these same areas, though, with some of these events you got different levels, right? So it's not just a two dimensional area that you're studying.

You have the various levels, especially at stadiums, for instance, is a good example there, of different activity going on in different levels and, and, Obviously trying to maintain [00:43:00] and understand

Kevin: that. Yeah, that's so a lot of a lot of what the RNC and all these other events are a lot of it is primarily outdoors.

But, yes, that's one area that is to me is very exciting is indoor tracking. We've actually done done a few kind of test cases around that exact workflow. We actually, one was in an NFL stadium without naming the stadium and the workflow, cause it was some of it was still kind of very early on and, and really just test phase, but we did work with one NFL stadium where the police department was primarily in charge of, of outdoor security or road closures, things like that.

But they also had A fairly large number of people inside the stadium and down into obviously on the side of the field. And so they wanted to be able to track everyone as they move from outside the stadium to inside the stadium. And of course, there's multiple floors. And so we actually we we tested out some [00:44:00] indoor tracking technology.

So basically using the phone and there's there's a couple different ways of doing it. But calibrating the phone once you get inside, turning on tracking and then following that device as it moves around inside. The stadium and we had some, I mean, mixed results. Some, some were, some devices were, were very good, some not so good.

It really kind of depended on the device and, and the calibration, but really, I think, promising technology in the same way that GPS enabled so many different workflows, right? You catch an Uber or something, right? It's, it's all GPS based, but this indoor technology, I think is, that next step and will unlock a ton of new workflows, especially in the security space.

So if you think about knowing where all your guards are and being able to, okay, we have an incident and at this entrance to the stadium and I see that, oh, I've got I've got three people on the inside right by that door and just [00:45:00] knowing everyone's real time location within the building is, Yes.

Is absolutely powerful. Same thing with school resource officers. You think of like a school shooting situation or barricaded suspect and just knowing where all of your people are inside the building in real time is is absolutely powerful. And we're doing a lot of work with, with that now, and it's really exciting to see.

We did this at, at the San Diego Users Conference last year. Because Esri, , we hire security guards to work the exhibit hall doors, right? Make sure everybody has a badge and all that kind of stuff. But we, we handed out iPhones and enabled indoor positioning using the Wi Fi signal.

Of the convention center. And so in the morning, the guards would show up, we'd hand out, we had about 30 phones with field maps on them, turn on tracking, put in their pocket, and then our security director had a real time feed of where all the guards were, because we're paying them to be at. All a door checking badges and all [00:46:00] be, and really, really, really neat.

And

Jason: it's interesting from your vantage point and what you're describing here, you're just referencing employees, right? But there's all other kinds of people walking around with phones in these areas as well. And it just makes, it just makes me wonder if the in some of these big events, you're talking about like the, the president and the national convention and everything else.

If the NFA doesn't have everything turned on, do they know where everybody that has, that has a device, do they know where

Kevin: they are? Yeah, that's for the record, we are not tracking any attendees at the user's conference. Yeah, I don't want to get you in trouble. Yeah, any way, shape, or form. No, we don't track that.

But yeah that, it really is an interesting technology. And it's, it's kind of, it's, it's really maturing fast. I mean, even to the [00:47:00] point of. We have a company's working on kind of next gen 911 stuff. So if I'm in a, in a 30 story building and I call 911 and how I can tell you that we want the dispatcher to be able to get that 3D location from that device, right?

So this is this is technology that is, is here today, but still obviously not all the kinks are worked out, not nearly as accurate as Probably we want it to be, but , it is there and we're kind of on the cusp of it. It's, it's probably going to be much more mainstream and five years I could see that kind of capability being much more widespread.

Jason: Yeah. , need more than just lat long, right? Right. Yeah.

Kevin: X, Y, and Z. Yeah. Z value. Huh.

Jason: Alright, well, good deal. Let's let's go on then to talk about some advice for our listeners. It's a given your GIS background. What's your advice for somebody? Maybe that are is looking to get into the field or maybe at an [00:48:00] analyst?

What would you suggest to them on what they can learn more about?

Kevin: Oh, I would say that obviously. Yeah, absolutely. To me, when you're, when you're kind of going into this field, and I mean the GIS field there's, there's kind of two paths, right? You can, you can be a GIS professional, which, which is really what I am.

I focus on the software, learning how to use it, building up skills for, for, Applying that to all the different workloads that I have in whatever agency I'm in, but your main focus is on software and technology, so you're, you're kind of that GIS pathway, or you can be sort of a professional who uses GIS, right?

GIS is one of the tools. You use like you might want to be more of an Intel analyst and GIS is one of the tools you use in your daily job, but it's not what you do every day. Right? So I think that's, that's kind of the first path you [00:49:00] probably decide on. , do I really love GIS? And I love the software and, and, and New technology and all that stuff, and I want to do that every day, or is it really powerful?

I understand it, but there's also other things that I want to do and focus on, and I will use GIS, but it's not the thing I do every day, right? I have a, it's just one of the tools in my toolbox, so that's kind of the, to me, the first path you, you really decide on is, is which way do I want to go?

Jason: for our listeners, especially those that are looking, they maybe get into the field or still undecided about what they want to do the, the mapping portion of it is probably one of the most stable.

Right. I mean, you're going to have records management systems. You're going to have different law enforcement analyst software come and go. And whether it's link charting or, or social media analysis, they're, they're going to come and go, but because of the, [00:50:00] the mapping software being tied to city planning is probably one of the more stable.

Software's to learn that you can be pretty confident that it's still going to be around in 30 plus years. Oh, absolutely.

Kevin: I, I remember , my intro to GIS class. I don't know if it was the first day, but it was very early on. My professor is saying he wrote GIS on the board and he said this stands for Guaranteed Income Source.

If you learn, if you learn this technology, it will be a Guaranteed Income Source there because it's applicable to so many different. Fields, right? Not just law enforcement, but all, all the way across like you just said the planning department uses that even in government, private sector, so military, there's, there's so much use of GIS software that it really is hard to not find a job in, in the, in the

Jason: industry.

Yeah, [00:51:00] well, it's always going to answer the question where, right? One of the key questions.

So, this other piece of advice I want to talk about is based on a lunch bunch conversation that we had 20 years ago, and it was a little bit of a debate between you and Joe Ryan about, The importance of what you wear during a presentation.

And it's, I don't know why I thought about that this week, but I did. And I thought, man, I'm going to see if Kevin's views on what you should wear during a presentation have changed over the last 20 years.

Kevin: I think I will say it has, but it's not in the way you think, right?

It has, but it's gone even farther. And it absolutely doesn't matter at all, because we all work from home for however And did countless presentations with my pajamas on and just a [00:52:00] nice shirt, right? But I 100 percent yes, Joe and I used to, and I think this stemmed from my interview at Haida. So I, I think I came to my interview, I, and it was, it was colder.

So I had like, I had my big UMBC ice hockey jacket on, like, cause it was cold outside. And I think I just, I don't, I don't know if I had a shirt and tie or not. I think I maybe just had like a button up and a pair of khakis or something. And it was, it was sort of an informal interview, but I remember after the process and, and we started having this conversation, Joe was telling me, yeah, we had, I don't know how many candidates for that position, but like, they were all dressed, dressed up so nice.

Like he said, it matters and we would just go back and forth. He's like. Joe is all about I want somebody in a suit and tie. Like I, I respect them and all this stuff. And I was like, Joe, who got the job, dude? I was the least dressed the least dressed up [00:53:00] person of all the candidates.

Jason: Yeah. Well, I, and I remember the debate is like the. What are the words coming out of my mouth, right? And am I credible when I talk? Is the facts, am I explaining it? Well, do you, do you understand what I am saying and whether I'm in flip flops or thousand dollar shoes, it's the same message, right?

So if I think that way, I remember that being your point is like, do I know what I'm talking about or not? Then if I do, then what difference does it make what clothes I have on? Hey,

Kevin: one of the, one of the greatest salesmen ever Steve jobs, right? He wore jeans and tennis shoes on all his presentations.

Here's the iPhone. It was, it wasn't what he was wearing. Right. If he had a suit and tie, I think it would have been awkward. Right. I just don't think people just be weird. And I mean, some of the I look at [00:54:00] politicians, right? Some of the best dressed people in suits and ties. And I'm not listening to a word they're saying, right?

It's absolutely. I, yeah, I would love to get Joe's take on that now 20 years later, but I, I will stand by my opinion that no, it does not matter. Obviously barring extremes, right? You're not in a tank top and presenting a concept meeting

Jason: I've thought this for a long time when when I, it was an awesome opportunity for me to work with you and Joe when I was an intern and I always thought that this concept of.

There's art and science behind everything that you do, there's going to be some things when you can talk very technical. And then there's maybe the salesman portion of what you're discussing. And I I always thought. That you were the, science and Joe was the art and not that you guys couldn't do the other.

I'm not saying that you couldn't do [00:55:00] the art or that Joe couldn't do the science, but I always thought that you guys were really good tandem because. , Joe can sell and, and you had that science of like that grounded nature of like, okay, we can either do it or not do it, or we, this is the timeline and whatnot.

And I, I always thought that Joe was the, definitely the salesman. And it's, it's interesting that that's your two point of views on dress because that also feeds into that conversation.

Kevin: Yeah. It's. It's. It's funny because you say art and science like that's exactly what cartography is. I remember learning that day one of class like cartography is an art and a science, right?

It's the science behind having accurate data, but it's also the art of presenting it in a way that people understand it. And I think that's. gOing back to law enforcement analysis and things like that I remember that was always the struggle. I remember with, with, at the Haida, we [00:56:00] were, we were producing maps for from very small police departments to very large ones and, and a really wide audience was doing some really good analysis.

But, but then taking that and presenting it in a way that someone's going to understand it. And that was always the. Tough part. I remember going at you'd make it just a simple like hotspot map, right? Running the peril density tool. And, and of course, the output in the legend is it's incidents per square mile or it's just crazy kind of decimal.

And I remember always going in and And converting that to graphics, deleting all the numbers and saying low, low crime, high crime, just make it, make it simple. Right. I, and I, and I've seen this throughout my time at Esri and everywhere else, like simple, almost always wins, if you can make something simple, even if.

Behind the scenes is very complex. If you can make it seem simple and [00:57:00] make it easy to use it, it will it will get used. I mean, I, I phone same way, extremely complex hardware and software behind the scenes, but just a very simple product, right. T T to use. So Yeah, it's the same way in GIS.

Very

Jason: good. All right, let's finish up with personal interest then. And you got your pilot's license a couple years

Kevin: back. Well, yes, technically I did get my UAS pilot license. But yeah, I'm officially part 107 certified drone operator. So I can which essentially means you can, you can be paid to fly.

A drone, whether you're doing mapping or just streaming live video or things like that taking photos of houses to real estate agents or anything that you essentially get paid for requires a part one of

Jason: seven license. Okay. So that, that, those drone shows, it reminds me of the early.

Pixel days, right? I [00:58:00] don't know if you've seen any of those drone shows that they have in the house, like it, to me, it's, when I think about that, I was like, oh, it's just pixels and someday, 20 years from now, it's going to be like 4k up there. Yeah, it's going to be, it's going to be ridiculous. I mean, now you just have like 60, so you got like 60 pixels in there that you're trying to make a pattern with, but eventually you're going to have thousands up there.

Yeah.

Kevin: I saw one that was in, I think it was in Dubai. They had like a giant dragon that they were simulating that was circling around the Burj Khalifa, the tallest building there. And it was just. Unreal to see yeah, it's also another technology, definitely much more mature these days than it was 10 years ago, but and also being used by law enforcement it's, it's amazing the, the different all the different technologies that, that have some sort of spatial component, right, that [00:59:00] are, that are out there now that, that can be

Jason: used.

. All right. Hey, I just wanted to take some time to go back to down memory lane a little bit. I don't know if you have a story that you want to share, but I actually have one that I'd like to share. And it's the oil changing story. Do you remember that? I don't know how you could not

forget that. Right? So, so far listeners yeah. This is, I can't remember, maybe, maybe your daughter was just born. I can't remember. I don't think, I don't, I can't remember if it was before your daughter was born or not. But anyway, I was my sister had asked me to change the oil and in her Saturn and I had never changed the oil in the Saturn before, but she said, Hey , it wasn't normal motor oil.

It was the synthetic. He said, it's all synthetic. And I was like, okay, I had, I had, again, I had never changed a synthetic oil before. So I had no idea in my head what that is. So I go, Hey, I got your cab. I said, Hey, can I come over? Cause I

used your your ramps. And so he said, [01:00:00] he said, yeah, but you said, Hey, but can you be done by a certain time?

Because Holly and I have a date night. And I said, Oh yeah. I was like, it's only getting, it's not going to take me long to change the oil at all. Right. It's the, I'll be, I'll be in and out half hour. So he's like, okay, so I get there. I put the ramps up and I go to drain the oil. And I was like, Oh man, this oil.

Really looks weird. It's red. I was like, all right, well, hey, maybe that's what how it comes out. Right? And so I changed the oil and get all done and I'm ready to go. And I go to back the car off the ramps and the car won't move. And that is because. I drained the transmission fluid and so that meant that I had an empty transmission fluid and now twice as much oil in the engine as [01:01:00] needed because it had both old and new in it so right so now i'm like all right now

Kevin: we're like 30 into this.

Now I got

Jason: to go get everything new and I had spilled a little bit of it. And, oh my

Kevin: gosh, you had oil in your hair. You

Jason: have to take me to Walmart. Cause now I need to go get all this stuff. So I got oil in my hair at Walmart, which probably didn't face them at all, but it was, I was a mess. And I remember the icing on the cake for this is you were obviously out there helping me and everything else and I had spilled oil and somebody was going door to door in your neighborhood, asking you to sign a petition about like keeping.

Keeping the water clean or something like that. It was some environmental like thing. And when you signed [01:02:00] it, you actually got some oil on the, on the, on the sign. We had oil everywhere. And we were on the street, mind you. I forgot to say that. We were on the street, right?

Kevin: And we had spilled all this stuff.

And of

Jason: course, and of course, I'm doing the PG version because I did a lot of swearing when I was doing all this. Stuff and mind you, the, the 30, the 30, 30

minute tasks that I was hoping for was more like a hundred dollars and three hours. And I had totally ruined the, your date night and you guys were really understanding with me but I think about that story from time to time and it makes me chuckle.

Kevin: Yeah. I just, I'm, I'm at that point where. My, my kids are my daughter just, just started college, but my, my middle son is, is now driving. And each one, every time they once they get their license or actually a little bit before, I'm like, all right, this is how you change the oil.

You got to take care of the car. Yeah. Every [01:03:00] once in a while, I think back to the day we walked in the Walmart covered in

Jason: oil, what a

Kevin: great time. Oh, man. Oh,

Jason: geez.

Yeah, , did you have a, did you have a story that you want

Kevin: to share? It's okay. I have a story that I wasn't part of, at least the initial one. And, and it was, I forget, I don't know where I was that day, but you and Joe were having a debate about something and Joe was and I don't know what it was like a playground thing Well, i'm faster than you are No, no way.

You can't beat me in a race And you guys literally stopped lunch Went downstairs, lined up next to each other in the parking lot, and had like a 40 yard dash. In full work clothes. In full work clothes. And , Joe

Jason: to his credit did beat me. I want to say he beat me by about 4 or 5 feet if memory serves me [01:04:00] correctly.

He'll, he'll probably tell you it was like 4 or 5 lengths, but I think it was 5. But yes, yes, that's what we did. We did that. I don't know how that came up, but

Kevin: yeah, that's what we did. I would have loved to been a part of that conversation, but I just remember the disbelief in my mind when I heard the story the next day at work.

I was like, you did what in the parking lot?

Jason: Oh yes, well as I said, it was our 20s and we talked about a lot of things. We thought we had all the answers. Oh, watched a lot of ridiculous videos during lunch. Oh my gosh. Played paper football or we had a football tournament at lunch. Yeah. I remember that.

Oh my goodness. All right. So our last segment of the show, Kevin, is words to the world, and this is where I give you the last word. You can promote any idea that you wish. What are your words to the world? I

Kevin: would like [01:05:00] to just reiterate that all the great work that we do as analysts.

And all the great analysis and everything is, is really just one part of of the puzzle is communicating that work effectively to leadership to fellow colleagues is, is the second part and, and to be truly successful and really kind of drive change in your organization and all that you, you have to be understood.

And so I think probably one of the most important things is, is communicating with others. In in sometimes complex topics, right? Being able to boil those down to very understandable parts and and have others who aren't analysts who who aren't technical to be able to understand the work you've done so that so that can be implemented and can really be a force for change and in your agency.

Jason: Very good. Well, I leave every guest with you've given me just enough to talk bad about you later.

Kevin: But I

Jason: do [01:06:00] appreciate you being on the show, Cap. Thank you so much and you be safe. Alright, you too.

Mindy: Thank you for making it to the end of another episode of Analyst Talk with Jason Elder. You can show your support by sharing this and other episodes found on our website at www.leapodcasts.com.

Kevin: leapodcasts. com If you have a topic you would like us to cover or have a suggestion for our next guest, Please send us an email at le8podcasts@gmail.com. Till next time analysts, keep talking.