

The Concerns of Young Land Surveyors

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When you get bit by the surveying bug, it's safe to say that you're bit for good.

Those with a passion for the profession look at the world in a whole new light. Every job site you walk, every vacation you take - whether you're on the clock or not, your surveyor's brain is working on overdrive.

Surveying today is marked by a generation of experts who are close to retirement.

But there are younger surveyors in the ranks. Some of them are concerned about the profession. Some are optimistic. Most are a little bit of both.



On a recent episode of [The Geoholics](#), host Kent Groh and Ryan Kelly hosted three young surveyors: Farrah, Zach, and Adam, to chat about what's on their minds.

Farrah Etcheverry is the co-owner of Etcheverry Land Surveying. Founded by her father, Farrah joined the firm when she started helping out six years ago and was soon sold on the profession hook, line, and sinker.

Zach Hogan has been surveying for three years. When a friend mentioned a job opportunity and asked Zach to sign some paperwork and start at 6:00 a.m. the following day, he jumped at the chance. He quickly gravitated to the boundary side of surveying and fell in love with the sense of history.

Adam Marmoljo started his career in civil engineering before switching to surveying after speaking with several professional surveyors. After thoroughly researching job opportunities, pay, and licensure requirements, he decided to take the plunge and hasn't looked back.

The problems facing surveying:

It may seem uninteresting to state that a generation of surveyors is close to retirement. In any other profession, it might not matter. But in surveying, it does.

The average age of a licensed surveyor in the United States is roughly 59 years old.

In every state in the country, the number of licensed surveyors is on the decline.

While it's clear there is a shortage of surveyors, the question of the hour is, why?

A few things stand out as potential factors in the surveying puzzle.

- Land surveying is not a visible profession
- Education requirements are not standardized
- A mentor system is critical
- Digital resources are scarce

This article will not provide all the answers. But it will dive deeper into each of these problems, pulling together a bigger picture of the surveying puzzle.

Make the profession visible

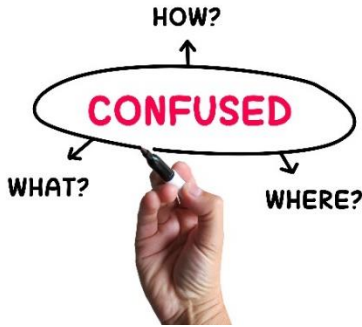
For better or worse, surveyors often fade into the background.

Not as high-profile as most engineers or architects, surveyors often work behind the scenes.

Many surveyors do not loudly advertise what they do or engage in heavy marketing campaigns for their businesses.

The truth is, in the past, it often was not necessary. Members of the public knew when they needed a land surveyor, and they knew how to find one.

But that convenience is not as helpful now that most young people have no clue what a surveyor does.



Kent Groh recalled visiting a school to conduct a recent presentation. He asked the roomful of 600 kids if they knew what a land surveyor did. Only one girl raised her hand.

Talk up surveying every chance you get

Farrah landed in the surveying profession thanks to her father, a surveyor with a firm of his own. If she had not had her dad to look up to, Farrah doubts that she would have been aware of surveying as a career path. That is why she thinks one key is for current surveyors to speak up about what they do to friends, acquaintances, and youths.

"If you don't have a parent or somebody really close to you who's good at what they do in surveying and who likes it, you just won't find out about it," Farrah said.

Most surveyors have limited time on their hands, so the first key becomes making time.

"There has to be enough people that have been doing it long enough that are willing even to go in and talk to the kids about it. And we are even having a hard time finding seasoned professionals that are willing to go and take the time to try and talk to young people. So, it's a struggle for sure," said Farrah.



Focus on the fun!

When getting in front of a younger audience, Farrah, Zach, and Adam agreed that the important thing was to make it as engaging as possible.

This applies whether you are talking to young children, such as a Boy Scout or Girl Scout troop, or older kids such as high school students ready to think about their careers.

"I think it definitely takes a special type of person. So, for myself, I love puzzles. And I feel very fulfilled with physical labor," Zach said. "So, I think you need a special type of student or a younger person that enjoys going on

adventures every day. If you look at it at least from the boundary side, you look at it as treasure hunting in a way. And when you are going out and finding some really cool stuff, like rebar that were set by some guy back in the eighties," said Zach.

In order to instill excitement and interest in surveying, you need people who are excited by surveying to talk about it. That way, the passion will come through, and you can pass on exactly how exciting and fulfilling surveying can be.

Adam agreed that he wishes he heard about surveying sooner - if he had, he would have looked into it much earlier in life.



"I think reaching younger people through high schools, you know, I think that's a perfect age to go and recruit in that way. Because if that would have been presented to me, I would have definitely taken an opportunity to join a surveying firm," said Adam.

Suppose you cannot physically get into classrooms to make a presentation. In that case, the answer might lie in something like social media - because right now, surveying isn't much more visible online than it is offline.

"I did a lot of research before I went in surveying. There is not a lot of articles or even social media coverage, you know, surveying. You know, if you compare it to civil engineering, it's quite the opposite," Adam said.

Farrah drove home the point that creativity is critical.

"It's pretty tough to come up with creative and unique and effective ways to reach people with something that you really can't express in a classroom setting. The exciting parts of it, you know, 11, 12, 13-year-olds through high school, they don't want to sit and listen to somebody tell them how much math they're going to need to learn, or how many years of college they have to go through," she said.

Instead, it is all about making things exciting and planting a seed that can grow with time.

Standardize education requirements

It may not be a popular idea. It may not even be possible. But one issue that is throwing off young surveyors is the noticeable lack of standardized licensing requirements across the United States.

Farrah described an acquaintance who recently moved from Kentucky to Ohio. A licensed surveyor in Kentucky, he struggled to get re-licensed after he moved to Ohio.

"It's just funny because he was already licensed in another state, and yet he had so much trouble. Different states have different requirements that make it quite difficult," Farrah said.



Adam agreed that he almost did not consider surveying as a career for this very reason - and he knows other young professionals who feel the same way.

"I think that has turned a lot of people off," Adam said. "My friend, he was going to go into surveying. He loved the field. But when he found out there was inconsistency with Arizona having a degree, and Texas having just a two-year requirement plus experience, New Mexico having a four-year requirement - all of this inconsistency kind of worried him, you know."

Ultimately, Adam's friend decided to pursue civil engineering instead of surveying. Since he was paying for school out of pocket, a standard four-year engineering degree seemed like a safer return on his investment.

The case for education

Just because the varying education requirements throw off some young surveyors does not mean they don't value it.

Adam made a strong case for requiring education, comparing it again to the civil engineering track for contrast.

"Civil Engineers, at least where I worked at, are really well respected. They earn the title, you know?" he said.

"They're both licensed individuals that are protecting the public. So in that aspect, I think they should be equal."



In addition to public perception, there's an ever-changing technology landscape to consider.

"The way technology is going, you have to understand what's going on," Adam said. "GIS, you know, how coordinates are being made, what coordinates system are they using, you know, stuff like that. That's the science behind it. I think it's only going to become harder."

While Adam fully supports the degree requirement, the challenge he's faced personally is the fact that he is entering the surveying profession later in life.

It's trickier to dive into the degree track when you already have a family than when you are just launching your career - yet another reason he wishes he had been exposed to surveying at a younger age.

"Now I feel like I'm kind of playing catch up. So I'm learning things, and I'm trying to learn things as quickly as I can," he said.

The perk is that in the modern world, there are more options than ever to earn a degree in flexible ways.

"With online schooling and with everything with COVID, everything has been restructured. So I think it's definitely more attainable. It's just putting your efforts and your time towards those things," said Adam.

Setting surveying apart as a profession rather than a trade is important to Adam at the end of the day.

"In my opinion, we are not a trade. It's a special profession," he said. "In today's world, everything is school. Everything is based on the school. So, I think that's number one to me. I think that's key to making this a profession."

It's a strong argument - if surveyors want to be held in the same regard as architects and engineers, requiring a four-year bachelor's degree makes sense.

The case for hands-on experience



While it is true that book smarts set a solid foundation and add an aura of professionalism, it's also true that surveying is a "boots on the ground" profession, where it is possible to learn exclusively by doing - if you have the proper support.

Farrah's opinion is that the hands-on track is valuable in its own right.

"Everybody's college, college, college, you got to go to college," she said. But the truth is that there aren't a lot of dedicated surveying programs and colleges out there.

"I think that imposing a four-year degree is what's part of what's killing the young people from coming in. Unlike engineering, surveying is so much outside, so much exploration, just like all of you guys have said. And so we like to capitalize on that part," she said.

Rather than compare a surveyor to a civil engineer, she sees no shame in comparing a surveyor to a tradesperson like an electrician or a plumber.

"Kids are graduating with massive amounts of debt, and they can't find a job. So part of the appeal of the trades is to say, listen. You do not have to go that route. We have something better for you, and you can finish it under somebody who knows what they're doing in a shorter amount of time and get right into the workplace, making good money, supporting your family, living out the dream," she said.

Most surveyors that Farrah knows in her home state of Arizona got into surveying because they already had families and did not want to go back to college. But they still wanted to find a fulfilling career where they could make a great living and enjoy being at work.

Farrah's own experience is a testament to that path.

She had been joining her father on a couple of surveying jobs for his firm, basically operating as a pack mule, carrying around supplies.

"I was kind of getting tired of just carrying this stuff. And finally, I said to him, can I just do that? I wanted to find where the point needed to go. I wanted to stake it out. I wanted to pound the hub. I wanted to store the data."

It sounds simple, but Farrah's father was taken by surprise. It turns out that not every potential surveyor takes that level of initiative.

"He told me, nobody has ever just said, let me do it. You know, they sit back, and they watch, and they observe, but so many people get nervous or too shy actually to have a hand at it," she said.

For those with both a high level of initiative and zero desire to pay or return to the classroom, the answer is that they can simply move to another state with no formal degree requirement and pursue a surveying career that way. It may not be ideal, but it is an option.

At the end of the day, it comes down to passing an exam. Farrah doesn't think it matters how you learn the material that helps you pass it.

"I think that there is definitely a place for higher education, but of course, probably out of everybody on the panel, I am the most pro mentor route. If it were up to me, there would be no four-year requirement."

Create a mentor system



Regardless of whether the bulk of learning takes place in a classroom or in the field, a mentorship relationship is something that many young surveyors crave.

Zach particularly felt the desire to find an excellent mentor to get his surveying career off the ground.

"I don't even know some of the questions to ask because I'm really new at this. So it's like, you know, in a way, it's my responsibility to learn, but it's also the person that I'm working with or under; it's up to them. If they want me to progress, you got to help show me the way. I don't need you to hold my hand necessarily, but like here's a little nudge," said Zach.

If a more experienced surveyor doesn't make the first overture, it's up to the younger surveyor to take the initiative.

"You can't be afraid to ask questions. That's the biggest thing. You cannot swallow your pride. Even if you think it's the dumbest question, ask it. You cannot meet the door. I can't make any assumptions. Because as soon as you start making assumptions, it's going to come around to bite you in the butt," Zach said.

One of the first surveyors that Zach worked under was really good about protecting monuments, going the extra mile to preserve the mount stones and treat them like a piece of history.

For Zach, moments like watching that surveyor in action made the classroom experience and the field experience start to harmonize in a really nice way.

As valuable as mentor-mentee relationships are, they can be hard to come by.

One reason is that most experienced surveyors are so busy with their actual jobs that it's hard to find time to give away to the younger generation.

But "mentoring" doesn't always have to mean formal, time-intensive teaching.

Farrah recalls that when her father started his career, his boss would stick around for an extra hour at the end of most days and let him watch and learn one-on-one. It wasn't formal teaching, but it was still valuable.

"You have to find the right person that is willing to really invest the time. And on the days where they don't have as much time, to at least be willing to let you kind of hover and watch. And then maybe on the drive back, explain why they had to do what they did," Farrah said.

Another growing issue is the increasing trend of one-person field crews. When you're the only person on the job, it quickly becomes impossible to train the next generation side-by-side.

Zach recently took his growing desire for a mentor into his own hands and reached out to Kent Groh on Facebook regarding a mentorship opportunity. They ended up meeting up for beers to kick off the conversation.

Ultimately, if you rely on hands-on experience to solidify your survey skills, that experience is only as valuable as the mentor that is helping you along the way.

Embrace the digital community

It's clear that time and resources are limited when it comes to meeting, educating, and mentoring young surveyors.

That's why it's perhaps more critical than ever to meet those young or prospective surveyors where they are.

Today, the place that most young professionals are hanging out is online - and this was true even before the onset of the global pandemic.

Case in point: Zach reached out to Kent about mentorship opportunities on Facebook.



Meanwhile, Farrah gets hundreds of likes on her surveying-inspired Instagram account, [@lady_land_surveyoraz](#).

Adam agreed that social media is a natural area to focus on when it comes to both education and outreach.

"I think social media right now is the best way. I mean, I'm telling you, I did a lot of research. Since I am paying for school out of pocket, I had to do a lot of research before I made the decision to go into surveying. And I'm telling you, I didn't find a lot of info," said Adam.

Farrah suspects there may be an unconscious battle going on between educational content that's deemed acceptable - such as in the classroom, and content that's not, such as social media.

"I think there is a little group of people that have tried to create content that is survey related, but I feel like it all kind of funnels back into this idea of education," she said.

"For instance, a company reached out to me and was like, hey, what do you think about doing a couple of video courses on sort of the fundamentals, or how you begin being a surveyor? And so I put this up on my LinkedIn, and you can go and read the comments, and there was a good mix. But a lot of what I get and messages and comments is, well, you know, basically how assertive are you going to be?"

Comments were along the lines of: "you can't just teach people how to survey!" or "How dare you to think that you could create a video giving somebody the basics or the fundamentals!"

In a way, it's the mindset of an older generation. Across many professions, there used to be an aura of secrecy, with the instinct that company information and practices should be kept internal versus sharing them with the broader community.

But across industries, that's changing.

"Sometimes we do ourselves such a disservice by making it sound like it's some very deep and mystical thing that we do. And we have a magic walking stick that we carry around, and nobody else can possibly know how to do it without, you know, all these things being in place first. So we kind of shoot ourselves in the foot that way," Farrah said.

In the end, the more walls that come down and the more content that is circulated, the better.



That content doesn't have to be solely online on a social media page or podcast. And it doesn't have to be exclusively offline between student and teacher or mentor and mentee.

Education is powerful in all forms. And the more resources there are to learn about surveying, the better off the surveying professional will be.