

# The Role of Mentoring in Land Surveying

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In any industry, there is perhaps nothing so formative and influential as a great mentor.

This is particularly true in the land surveying profession, where unique laws govern each state and various project sites lie around every corner.

We gathered several veteran surveyors to share their thoughts on the role of mentoring and how it can be best facilitated in the modern world.

## How do you define mentoring?



Some people define mentorship as a professional coach.

But a deeper meaning of mentorship is an expert guide who is actively seeking to give back to the next generation.

That's how Trent Keenan, Rob McMillan, and Brandon Montero conceptualize it.

Trent is the owner of Diamondback Land Surveying and the founder of the popular Mentoring Mondays program.

"For me, mentoring is basically giving back to the profession and honestly expecting nothing in return, except for creating another generation of surveyors that will continue what we're doing and the legacy that we're

doing," he says.

Rob works for the California Department of Transportation and is the president-elect for the California Land Surveyors Association. As far as he's concerned, a mentor role isn't a teacher; it's in a special league of its own.

"It's a different niche. I've benefited from a long list of mentors. Some who I didn't realize were mentoring me at the time, and then later I get faced with some kind of situation and my response was what I learned from my mentor five years earlier," Rob said.

Now that he has been a surveyor for over 35 years, Rob's finding a clear passion in seeing his mentees achieve success.

"Mentoring is critical, absolutely critical to land surveying. Historically our profession is described as the art and science and technique of location. And that art portion is really difficult to master in a classroom. And it's not much easier to master in the field in today's work environment. There's a lot of information for people to learn, and subtle nuances are the keys to success," said Rob.

Brandon Montero is a senior survey manager at Oakland Construction in Arizona and a training consultant for Elevate Construction.

He added that mentoring goes beyond expertise; it's also mastering the daily reality of surveying over the theoretical.

"Sometimes over the course of our career, we develop that secret sauce for the way that we do things or why we do things. And so passing those things, on versus just the book-smart knowledge. And then really understanding how the tasks that we're doing support the overall craft. We're not just doing tasks for the sheer force of completing that task and checking it off a list," Brandon said.

Brandon likened mentoring to the factor that helps fellow professionals truly thrive versus just getting by.

"We could picture a plant just coming up in a patch of dry dirt, all by itself. On its own, maybe it'll thrive. Maybe it's going to make it, depending on the conditions. Or, could we add water regularly? Could we add nutrients regularly? Sure it could grow on its own, but could it really thrive? Could it shoot up at a faster pace? Could it out bloom the competition?" Brandon said.

The bottom line is that the more we invest in mentorship, the more we equip the next generation of surveyors for lasting success.

## ***Mentorship bridges the classroom with the real world***

There's no question that classroom education plays a valuable role in preparing individuals to think critically and to introduce budding surveyors to new concepts and innovative technology.

But the gap between theoretical book knowledge and boots-on-the-ground knowledge must be bridged.

Mentoring can be the glue that allows that to happen.

Trent, whose daughter is studying surveying in college, has seen firsthand just how quickly curriculum is taught in school today.

For instance, she spent three to four weeks learning about bearings and distances, and then it was quickly time to move on to the next topic.

"There are certain things on the academic side of things where I see that the mentoring world really needs to be on the back end because they're having to go through school so fast and learn the subject matter so quickly that they don't fully understand it. They're just getting the most basic understanding of the data," Trent said.

That's not even factoring in the reality that sometimes, the surveying technology is changing faster than schools can update their curriculum to match.

This means that mentoring and real-world experience takes on an even greater role and is ideally something that occurs during formal schooling as well as afterward.

Brandon is currently teaching Construction 201 at Arizona State University as part of the construction management degree.

"We're teaching survey math; we're teaching Traverse Computation, the principles of precision and accuracy. I would say that the fundamentals are being taught. But we all know that there's a difference between something that's conveyed to us theoretically," Brandon said.

"Getting your hands on a piece of equipment and maybe leveling it up for the first time in your life once is not equal to the amount of experience that you can gain when you're out in the field."

The realm of the classroom can be thought of as teaching you the building blocks: math, specific concepts, and the history of the profession.

But breaking away from the confines of the syllabus and learning how to put it all together requires experience—preferably with a mentor to help shepherd you along the way.

"I would even think about robotic total stations or GPS, whatever is the most current, the newest, the flashiest. Someone coming up in their career might see that as *the* tool, the most precise tool. But somebody that has the experience and has done things, the old methods, conventional methods, et cetera, they might look at that as one of the tools that they have in their toolbox," Brandon said.

Mentors can help young surveyors understand their toolbox, both figuratively and literally, in order to know what tools they need when confronted with a real-life task.



## ***Technical expertise is not the same as mentoring***



Despite the element of technology in modern surveying, the value of mentoring transcends the need to be up-to-date on the latest innovations.

Yes, a new surveyor coming out of college may have more knowledge about a specific new technology than you do. But the veteran surveyor has a mastery of the broader principles that make surveying tick.

"Technical expertise is not the same as professional mentoring, helping someone grow to be a professional, to help them integrate with clients, to help them communicate with a project team, versus technical expertise, totally different. But the sum of both of those things is what makes someone an amazing employee, an amazing professional," Brandon said.

Professional mentoring means helping your mentee navigate the professional side of the surveying world, which means bigger-picture thinking beyond helping them succeed in day-to-day jobs.

"Are you teaching them how to move ahead in the company, as far as the way they integrate with the project team? That professional mentoring is a big thing. Directing them to resources or books like *How to Win Friends and Influence People*? Some of those ground-up things, the building blocks of being a professional, is a totally separate world from technical skills," said Brandon.

No surveyor is going to be an expert at every single facet of surveying, and that's certainly not a requirement to be a good mentor.

"Before, it was the traditional boundary, Topo and staking. We're long past those," Trent said.

But while you may not be an expert in LIDAR or UAV, but as a professional, you learn to focus on what you're best at and navigate the other silos within surveying, subcontracting out work as necessary.

### ***3 steps to building a good mentor-mentee relationship***

A rewarding mentorship is a two-sided affair.

It takes a mentee who is eager to learn and dedicated to growing and improving to further their career.

And it takes a mentor who is willing to learn their mentee's career objectives, figure out how their mentee learns and absorbs information best, and put in the time necessary to help them move the needle on those goals.



#### ***#1: Learn your mentee's goals***

First off, being a mentor doesn't necessarily mean dragging your mentee down the exact same career path you took.

Your mentee may have a specific vision for what they want out of their professional career, or they may need your help imagining the options available to them.

Not all mentees will have the goal of becoming a licensed land surveyor. Some may be setting their sights on being a survey technician. That's why the first step is to have an explicit conversation in which you ask what their goals are.

"A good mentor is definitely just coming up with a plan understanding the mentee's goals, and really pushing the mentee to be able to ask the questions or want to be able to go after this profession," said Trent.

#### ***#2: Learn how your mentee communicates and learns***

The next step is to get to know your mentee in terms of how their brain operates to help them thrive professionally.

"Understanding how your mentee communicates or learns is huge. Are they a person who learns by listening? Are they a person who learns best by looking at diagrams and seeing things explained and pictures? Do they need to put their hands on something for it to get down into their memory?" asked Brandon.

We all have ways that we communicate that come naturally to us, that's part of the mentor's role is to figure that out.

This isn't rocket science and doesn't require a teaching degree. It simply means paying attention to how your mentee absorbs and retains information.

This step is also important because, just like some romantic relationships, some personality styles just aren't compatible.

It's better to recognize that clash earlier rather than later. If your type A personality doesn't mesh well with your mentee's personality, it's to your benefit to connect them with another professional you may know who would be a better fit for them.

#### ***#3: Check in with your mentee regularly***

Once you establish a relationship and know a bit about where your mentee wants to go professionally, the final step is just to be there for them.

Again, a mentor is not a teacher. You don't need formal lessons plans and quizzes to feel like you're making progress. You just need to be there for your mentee when they need you.

"The mentor-mentee relationship isn't so much about what the mentor can teach that mentee, but how the mentor can help guide that mentee to their ultimate destination," Rob said.

The most important ingredient to a successful mentor-mentee relationship is time.

"It's going to take tons of time and devotion. Hourlies or weeklies face-to-face, lots of time and dedication," said Trent.

At the beginning, your relationship might be more time-intensive as you get them on their feet.

As time goes on, it will be less structured, but communication should still be regular, even if it's just an hour per month spent on more high-level questions and topics.

"If you've got staff that you train, you don't spend every day looking over their shoulder. You put them on a task, and then you check in periodically. And it's the same thing with mentees," Rob said.

### ***The impact of one-man surveying crews***



One major impediment to the ability to create mentor relationships is the sharp rise in one-man survey crews.

Due to cost, personnel shortages, new technology, or all of the above, one-man crews are becoming the new norm. This means limited time for new and veteran surveyors to work side-by-side.

"Every time there's a major leap in technology, the number of people in the survey party has declined. This has reduced the opportunity for new staff to learn from others as a part of the day-to-day work," Rob said.

"Because of that, we're losing the opportunity for daily transfer of the tacit knowledge, as a matter of course. I guess the fancy way to say that is the

training hierarchy has been decimated."

If one-man crews are the new normal at your company, it means that mentoring cannot be as casual and organic as in decades past. It needs to become part of your business plan.

"We have weekly meetings where we go over how we are doing as a department, but also root cause analysis. Being really honest about the mistakes that we've made. Training moments where we go over let's reassess some of this math that maybe we haven't talked about in a while," Brandon said.

As an organization, you need to consider how you are going to counter-balance the isolation of the one-man crew setup and allow your crew to develop as professionals in other settings, whether that's weekly meetings like Brandon described above or something else.

### ***Online mentoring opportunities***

Thankfully, as one-man crews have risen, so have online mentoring forums.

Today, you can mentor on Zoom. You can mentor on a phone call. You can join a surveying Facebook Group. Or you can join formal networking events such as Trent's weekly Mentoring Mondays sessions.

Mentoring Mondays takes place every Monday on Zoom and features a live presentation and PowerPoint led by a surveying professional, followed by a Q&A.



Several meetings have lasted over two hours, thanks to the discussion afterward, which is a clear sign that many surveyors out there have an appetite for the community, dialogue, and informal continuing education led by their peers.

The Mentoring Mondays discussion portion often brings rise to new questions and topics, which then become featured topics for the meetings that follow.

Online platforms also lead to an exciting diversity of geographic locations and backgrounds. If you get creative with technology, you can also do things like draw on the screen, do math problems, and show photographs and boundaries.

Brandon's company, Oakland Construction, hosts events like week-long boot camps that focus on technical training and professional development.

"They do one-day technical trainings on the use of a builder's level, use of a total station, things like that," Brandon said.

When companies build professional training into the business model and into the workweek, it sets the tone that professional development and keeping skills sharp is valued.

"It's really easy to expect our guys sometimes to go and do self-help or professional development on the weekends, or, Hey, maybe we can get together on a Saturday. But when you don't pay somebody to do something, you might as well just tell them it's not that important," Brandon said.

Being a mentor can seem intimidating or too time intensive. But the truth is that there's almost nothing more important than sharing your hard-won expertise in whatever ways you can.

Sometimes, it's as simple as getting out of the way and letting other surveyors do the work you're best at, letting them fail, and then taking the time to explain what they should do differently next time.

You need to make a conscious choice to become a mentor. But it's a choice worth making.

Mentorship can go both ways, and you're learning as you go.

For mentor and mentee alike, the relationship is always a win-win.

***Mentors:***

***We make a living by what we get, we make a life by what we give – Winston Churchill***