ALLIANCE FOR DECISION EDUCATION

IN THE FIELD

Fighting FIRE

How improved decision-making is saving lives

By Alliance Content Team

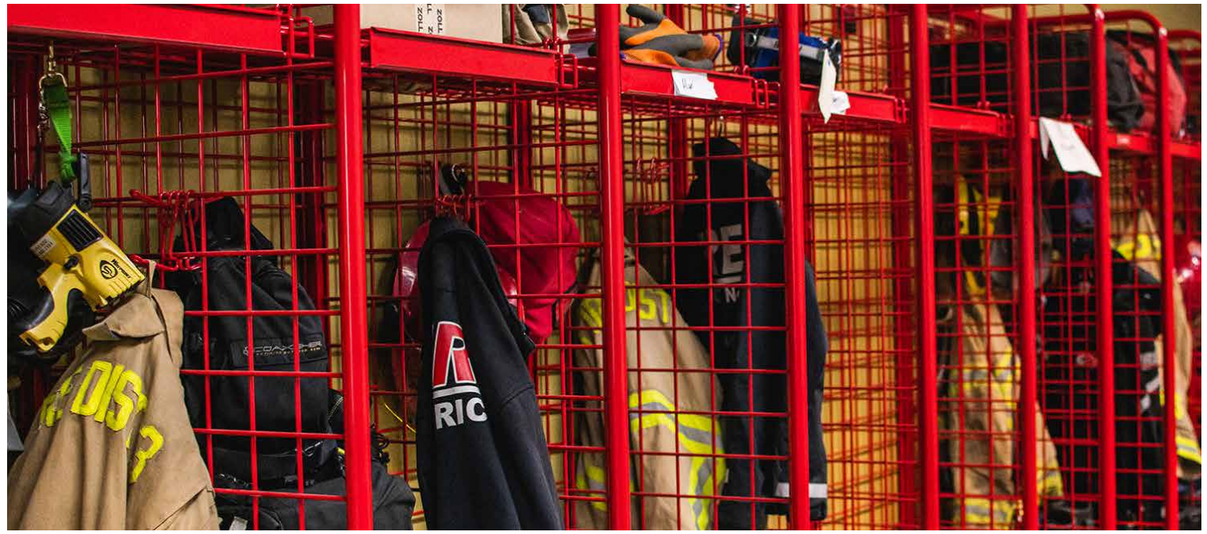
MEDOFORD MAIL TRIBUNE

AS A FIRE CHIEF, Bob Horton understands that the right decisions can mean the difference between life and death. That's why he has become an avid student of and advocate for decision-making studies. Today, he uses his improved skills to protect his community and his firefighters.

Bob oversees District 3 in Jackson County, which includes three municipalities and serves a collective population of about 221,000 in southern Oregon. His district encompasses 167 square miles in a largely rural, largely forested area in the heart of the spectacularly scenic Cascade and Siskiyou Mountain ranges. The greatest fire risk in his part of the country is from wildfires—with some 80% human-caused, the great majority of them unintentional.

The risk of fires has heightened dramatically in recent years as lower-than-normal precipitation has caused the densely timbered foothills and mountainsides to dry out. In 2020, Jackson County was swept by the now infamous Almeda Fire that within hours destroyed more than 2,600 homes and scorched more than 1 million acres. This is where Bob works and lives.

He has made it his personal mission to share what he has learned about decision-making through national trainings for both fire officers and firefighters, and through his podcast, Assuming Command. He also is seeking to influence policy decisions that focus on identifying community risk through applied behavioral insights, and thus reduce fires and increase wildfire preparedness.



How and when did your journey with the discipline of decision-making begin?

Horton: I took an executive education course titled Leadership Decision-Making at the Harvard Kennedy School in 2016—Jennifer Lerner (listen to Jennifer on our podcast) and Todd Rogers taught it. The program exposed me to the idea of cognitive biases in decision-making, which got me reflecting on how we think and how we arrive at decisions.

I was immediately hooked on the idea that there are all these psychological components in our minds that I wasn't aware of and that impact our decisions. I was hungry to learn more.

I heard about a class on *Behavioral Insights in Public Policy*, also at the Harvard Kennedy School. The course looked more deeply at how we, as public policy leaders, can develop programs to serve our communities in ways that make them better off by being deliberate about the architecture of choice. The book, *Nudge,* provides the framework for that ideology. (*Nudge: Improving Decisions about Health, Wealth and Happiness* was written by Nobel Laureate and Alliance Advisory Council Member Richard Thaler and Cass R. Sunstein.)

What was your takeaway as it applied to firefighting?

What was immediately intriguing to me was the dichotomy of the decision environments firefighters find themselves in. When you're managing a large wildfire, you have to make decisions rapidly with limited information regarding life and property. Life-and-death stuff.

Then, there's an executive side to decision-making. It's connected more to, say, where we might want to locate a fire station in the future. Here, you have time to look at the big picture and take many more factors into account.

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As fire officials, we find ourselves in both of these spaces at any given time. A lot of fire officials, unless they've really thought about the cognitive process of decision-making, don't realize how different the two environments are.

Do the two environments require different decision-making skills?

I'm talking in particular about the battalion chief, the highest commander in the field running the fire. They often don't switch in their minds between the different decision environments, I think, because they've built their careers on making quick decisions that had positive outcomes, even if they didn't learn from the experience about how those outcomes could have been more positive.

But in this other space, where you do have time to plan, they don't intuitively do so. Their whole career has been built on making quick decisions—which I'd argue is not the best strategy for the day-to-day or long-term administration of a fire department.

My goal is to get leaders to think more intentionally and recognize the differences between the two decision environments, between being command officers in the field and administrative officers.

On a personal level, I apply this awareness I now have every day. Not that I see myself as the lead decision-maker for my organization, my role is more about creating an optimal overall environment where decisions can be made. That's a belief directly cultivated by diving into the Decision Education space.

In the firehouse culture, how well is your "two environments" mindset accepted?

Our influence is mostly in the early adopter stage, and most of that in the western U.S. It's about getting a lot of people to rethink how they think. I understand: You can't function in any setting if you don't see yourself, generally, as making the right decisions.

Growing up, I was taught to be confident in my decision, whatever it is, and stand by it.

Now, I think my confidence in a decision is much more calibrated on the notion of probabilistic thinking.

Left to our own devices, we tend to learn in terms of something being right or wrong. Now I think in terms of how confident I am in a decision I'm making because we're making decisions in uncertain environments, where it's more about shades of gray instead of black versus white.

For instance, the life of a fire station is typically 50 years. In the environment I described earlier, I'm trying to make a 50-year prediction based on information I have in the here and now. Sure, there's a probability I'll be wrong or somewhat wrong. But that's not intuitive to a binary decision where you're either flat out right or wrong.

How does improved decision-making help when you are in the field, actually fighting a fire?

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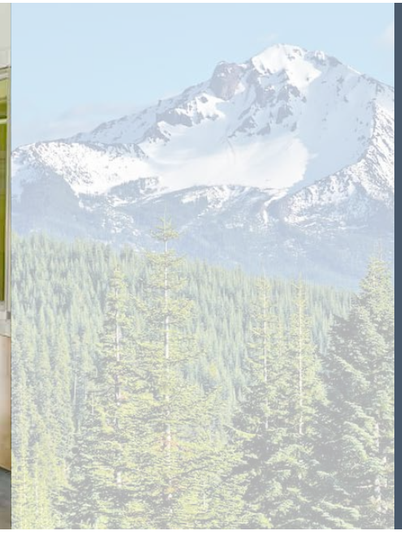
In the past, firefighters made decisions regarding strategies and tactics to fight the fire once the first fire engine arrived on scene. Sure, they took into account influencing factors like the weather, time of day and so on. But they might not have a clear idea of how big or fast-spreading the fire might be until they arrived on the scene. Those factors—the size and spread of the fire—would influence how much water or how many firefighters they may need to extinguish the fire.

Today, through the use of technology, firefighters can narrow down the uncertainty. They can see a video at the time of the incident, model the projected spread of the fire with the types of materials commonly found in a particular building, know what year the building was built, and the related building standards of that era. Then they can couple that information with the expected arrival of firefighting resources.



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This modeling can help determine the appropriate strategy and tactics well before the first fire engine arrives. In many cases, this additional information will allow the battalion chief to decide whether more or fewer fire-fighters are needed to fight the fire.

Prior to the integration of this information, firefighters were using default response programming, such as a certain number of firefighters for all reports of a building on fire. Now, they can make more appropriate resource allocation decisions. Of course, fire engines are a common-pool resource. Once an engine is assigned to a fire incident, it's no longer available for other emergencies. In my fire district, when one unit is assigned to an emergency, there's a 60% probability of a second emergency occurring at the same time.

This means that, as fire officials, we need to make the most accurate decision on how and where to allocate our resources to minimize response time and maximize outcome potential.

Can you talk more about other tools and processes you are using to help reduce uncertainty in the field, ensuring firefighters can make the best decisions when lives are on the line?

We have what we call the Tactical Advantage Initiative, which leverages technology to improve the quality of real-time information our incident commanders receive at a fire. It lets us pull information from various data-bases—among them, the county assessor's office. For example, if we're headed to a strip mall—it has gone through multiple layers of planning. You might have a restaurant next to a barber shop next to something else, where each has a different level of vulnerability or potential hazards. Having that information helps the teams make better decisions in the field.

We also have a *Community Connect Portal* that allows business owners and home-owners to input data they want us to have. They might share a gate code or a photo highlighting potential hazards. Maybe they

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have three dogs. Or maybe they load their own ammunition and want us to know about the quantity of gunpowder in the garage.

We also now have the ability to gather information to prioritize evacuation routes. We know the location in our community of our vulnerable folks, in terms of mobility or disabilities. So, we can identify areas where people will need extra time, and we can dedicate resources to help them get out of harm's way.

Also, we now have software that models what the best evacuation routes look like. We can monitor traffic patterns, identify what's the smartest way to go—as opposed to, in the old days, when we just had walkie talkies and tried our best to go away from the smoke. Overall, smart decision-making processes have put us in a much better position to make proactive decisions as opposed to reactive decisions.

Then it's not overstating it to say, in your category and for the other so-called essential workers, the stakes are as high as it gets in terms of making the right decision at the right time?

Absolutely. In my job, the right decision at the right time can make all the difference between life and death. That's why I so strongly advocate for improved decision-making skills.

We're pushing the edges of various technologies to optimize the decision-making process. We're talking now about technology that will model various dynamics of a wildfire, to where we can predict where a fire will move next.

That's important because in wildfire arenas, there's a real expense to evacuating areas of the community unnecessarily. For example, when you evacuate an area, law enforcement has to protect those homes from looting. Also, you have to put those folks somewhere else, and you have to manage their livestock. The key to all of it is, when we're making decisions in the fast-moving scenario of a wildfire, how do we maximize information to stay to the point where we can actually stay ahead of it?"

What would you say to the idea of teaching these decision-making skills to students in traditional K-12 settings?

It would be an awesome step forward. We're better off learning at a younger age to embrace the uncertain world. I think we learn more when we are not overconfident in what we know, and instead are curious about the things we don't know. By keeping an open mind and being willing to rethink things that we thought were true, we're stronger for it."

Bob Horton serves on the board of the Western Fire Chiefs Association and the Oregon Fire Chiefs Association, and is an instructor for the National Fire Academy. He is working on his Ph.D., in Public Admin & Policy, Research at Old Dominion University. His many other certifications and degrees include a Master's in Public Policy from Oregon State University and a Master's in Public Administration from Oregon University.

The Alliance for Decision Education is a non-profit education organization leading the growing call to have decision-making skills, or Decision Education, taught in schools across the country. We believe that equipping students with skills proven to drive better decisions will enable them to perform better in school and in life, improving health, finances, family outcomes and their communities. Our work is backed by a growing number of teachers, parents, researchers, and business leaders who have seen Decision Education improve students' lives and the lives of those around them. Our mission is to improve lives by empowering students with essential decision skills. **AllianceForDecisionEducation.org**