

# Rebuilding homes and lives with an automaker's advice

*Toyota methods helped New Orleans relief agency streamline its operations*

By Keith Albertson

**N**ews coverage in the aftermath of Hurricane Katrina's devastation of New Orleans in September 2005 beamed unforgettable images of horror around the globe.

Desperate residents were trapped on the roofs of their homes by rising flood waters. Thousands more were jammed into the stifling hot Louisiana Superdome with limited access to water, food or sanitation. Bodies were seen floating through the streets of an American city. Those images soon sparked worldwide relief efforts and donations of materials and money from people eager to ease the city's suffering.

Liz McCartney and Zack Rosenberg saw the same scenes and also were inspired to help. But their efforts changed their lives, and in doing so, improved the lives of hundreds affected by Katrina and many storms that followed.

McCartney, a middle school teacher, and Rosenberg, a public defense attorney, were living in Washington when Katrina struck the U.S. Gulf Coast. Six months later, they headed to New Orleans to volunteer and found a city still in shambles, with destroyed houses overcome by mold and residents desperate for government assistance that was slow to arrive. More than 1,500 people had died while survivors still were trying to recover from floods that had left 80% of the city underwater.

After volunteering where they could, McCartney and Rosenberg took the next giant step: Moving to New Orleans to coordinate efforts to rebuild houses and help residents apply for federal aid. That became the St. Bernard Project, now SBP, a nonprofit that over time expanded to provide relief for victims of other natural disasters in the U.S. and Caribbean.

"As soon as it's safe, and it's the right fit for us, we're going to get in there and get in on the ground," Rosenberg said of his group's mission in a recent interview with *ISE*.

To work more effectively, they learned how to streamline their operations from Toyota Production System professionals who brought to SBP the concepts of industrial and systems engineering, lean and continuous improvement. Those processes showed SBP leaders how to rebuild homes faster and more efficiently and make full use of the resources available through grants, insurance and fundraising. They turned a workforce of volunteers into a trained team of achievers able to pass on their newfound knowledge to those who followed. And they remain willing to share their best practices with other agencies to bring



Photo courtesy of SBP

Liz McCartney and Zack Rosenberg were living in Washington, D.C., when Hurricane Katrina struck the Gulf Coast in 2005. A year later, they had moved to New Orleans to set up the nonprofit St. Bernard Project, now known as SBP, an effort that continues to grow in size and scope.

relief to disaster victims more effectively.

McCartney and Rosenberg chronicled their journey in a book, *Getting Home*, released in 2019, which takes readers through their early days in New Orleans, their work with Toyota engineers and SBP's growth into the large-scale relief agency it has become.

## Learning their way in the 'hippie tent'

That journey began when McCartney and Rosenberg first arrived in New Orleans to find a ragtag relief effort of volunteers with little coordination or leadership. In the city's St. Bernard Parish, 25,000 homes, or 95%, were severely damaged.

They settled in with an eclectic group of free spirits called the Rainbow Family – as recounted in the book, "A teacher and a lawyer walk into a hippie tent" – serving meals to displaced residents. They listened to stories of anguish and felt victims' frustration as the wheels of bureaucracy turned slowly.

In the book and in an episode of *Problem Solved: The IISE Podcast*, McCartney talked about one resident, an octogenarian military veteran they called "Mr. Andre," who was living day to day and sleeping in his car while awaiting federal aid.

"This gentleman was so proud, had various pins on his cap from civic and veterans' organizations he was part of," McCartney recalled. "We would sit at meals and he would talk about why he cared so much about moving back to the community that had been devastated. It wasn't until about the end

## Learn more, find ways to help

### Read the book

Liz McCartney's and Zack Rosenberg's book, *Getting Home: How One Question Started Our Journey of Continuous Improvement*, tells of the origins of the St. Bernard Project and how adopting methods from the Toyota Production System helped improve their operations. It is on sale through retail outlets and at the Lean Enterprise Institute, [lean.org](http://lean.org), for \$30.



### Hear the podcast



Listen to Liz McCartney's interview with Brion Hurley of IISE's Sustainable Development Division at [podcast.iise.org](http://podcast.iise.org).

### Donate or volunteer

**SBP:** To learn more about the organization, along with instructions on how to volunteer or donate, visit [sbpusa.org](http://sbpusa.org). The agency is continuing to accept relief donations for Hurricane Dorian victims.

**AmeriCorps:** Founded in 1993 as a voluntary civil society program supported by the U.S. federal government, foundations, corporations and other donors engaging adults in public service work. For more, visit [www.nationalservice.gov/programs/ameriicorps](http://www.nationalservice.gov/programs/ameriicorps).



**Marsh Harbor in the Bahamas suffered some of the worst devastation from Category 5 Hurricane Dorian when it struck in September 2019.**

**IISE:** Attendees of the IISE Annual Conference & Expo 2020 in New Orleans can sign up for the Sustainable Development Division's annual volunteer project, set for from 9 a.m. to 1 p.m. May 29. Visit [https://link.iise.org/sustainable\\_annual2020](https://link.iise.org/sustainable_annual2020) to sign up before May 15.

of the second week that he sat down, just started bawling and said, 'Liz, I don't understand why no one will help me.' I didn't know what he was talking about."

She discovered he had been trying to secure a trailer from the Federal Emergency Management Agency as a temporary residence but was unable to, though thousands of trailers sat unused on a lot several miles away.

"He said, 'I served my country and I feel people have just walked away from us,'" McCartney said. "The hopelessness this man was feeling. ... He was so proud to have been able to buy a home, raise his family there and be successful, and was at this stage in his life when he should have been enjoying his golden years but instead, he felt like no one was paying any attention to him.

"I wish I could tell you the story of Mr. Andre was unique but the reality is that we see people reaching their breaking point every day in disaster-impacted communities."

It was then Rosenberg saw their mission clearly, as stated in the book: "We have to come back and do something. We can't just leave."

The couple moved to New Orleans in 2006 and began to meet with residents and governmental agencies to discover why reconstruction was occurring so slowly. They learned that the gutting and construction of damaged homes was conducted in a sweeping effort rather than a systematic approach, delaying the turnaround time for rebuilding. "This was our first introduction to the human toll and systematic inefficiency that occur when fidelity to process outweighs measuring what matters," they wrote.

They started with a business plan to rebuild 20 houses with \$50,000 funded by the United Way of Southeast Louisiana and got to work. They recruited staff and workers and contracted professional electricians, plumbers, roofers and others. Boosted by volunteers from AmeriCorps, a federally supported volunteer program in a partnership that continues today, they were able to return 88 families to their homes by October 2007.

By 2011, SBP had rebuilt 100 homes per year and more than 400 in all, with a staff of 41 and managed by a board of directors. But coordinating construction needs, volunteer and skilled labor and fundraising efforts became a mounting challenge, to the point that a building consultant said after touring SBP's facility, "You're a mess."

SBP crews at the time were working on 15 to 30 houses at a time and taking an average of 116 days to complete a renovation. McCartney and Rosenberg knew they could do better. "We had lots of optimism and enthusiasm," they wrote. "What we did not have was a clear, workable path to improve our 'mess.'"

"I wish we had had more business and process training before we started SBP; it would have helped us those first few years," McCartney said on the podcast. "A lot of it was trial by fire, a lot of learning as we go, trying to bring people into the



Photos courtesy of SBP

Liz McCartney briefs volunteers before a home rebuilding project in New Orleans. Five years after Hurricane Katrina struck in 2005, the agency had helped more than 400 residents return to their homes by 2011.



Liz McCartney joins volunteers working on the interior of a home rebuilding project.

organization who can help us understand how to be effective and efficient as possible."

Rosenburg agreed.

"We had plateaued, and we were not getting better," he said. "We had been doing it for a number of years, but improvements were marginal rather than steep. I guess we subconsciously understood – Liz more than I did – that we just had too many jobs going out at once and we had too much rework. ... We needed to balance the amount of jobs we had with an ideal flow as opposed to a max amount of jobs, period. In reality, we had a really clunky flow."

## Enter The Toyota Way: Facing problems

In the book, McCartney tells how she met Patricia Pineda, the head of Toyota USA Foundation, at dinner one night after a public presentation. Pineda heard of SBP's frustrations and put McCartney in touch with the Toyota Production System Support Center, a not-for-profit organization begun by the Japanese automaker to share its lean expertise with businesses and nonprofits.



SBP planners work to coordinate relief efforts in the Bahamas following Hurricane Dorian in September 2019.

TSSC's general manager, Mark Reich, met with the board at SBP headquarters to observe the group's operations. He found that its planners lacked firm schedules to determine the status of a given home project.

"It was difficult to see where they were in the progress of building a given home," Reich told *ISE*. "It was totally invisible. You couldn't see if they were what we could call ahead or behind or the progress of trying to build homes they had on their schedule."

After reviewing the group's successes and seeking to identify its weak points, he asked point blank: "Do you talk about problems?"

The team did not have an easy answer.

"There's Zack nodding his head, saying 'Yeah, yeah' and the rest of us were standing behind him saying 'No, no, we don't talk about problems,'" McCartney said.

"He said, 'Do you talk about problems?' and I assumed we did," Rosenberg said. "And the answer was we didn't because we were so proud of our results, and compared to others, it was good. So that was an important mindset change.

"Then he asked Liz, 'Are you ahead or behind?' and she said, 'Of what?' We weren't measuring every task or goal, every step, every day, so we couldn't possibly know. That was extremely helpful to us."

From that point, McCartney and Rosenberg knew they needed a critical analysis of their operations to yield better results.

"From the very beginning of that relationship, we got that strong sense that this was going to be an uncomfortable process, but that in order to change and get better and really meet the needs of our communities and be a good social service provider, we had to be willing to get uncomfortable," McCartney said. "I had never experienced this level of discomfort, but I recognized this was going to be part of the journey. I'm so glad we were coached to embrace the discomfort."

Toyota engineer Brian Bichey became SBP's chief TSSC

adviser and helped set up a whiteboard to track the progress of each rebuilding project. Morning meetings were held to update work done on each home and what tasks remained. Bichey suggested managers prioritize work by having skilled tradespeople like electricians and plumbers finish their portions first, then allow less-skilled volunteers to finish simpler tasks and trim work.

Another Toyota engineer, Sylvester DuPree, showed SBP construction workers how to standardize work into repeatable segments and component elements. He helped SBP organize its warehouse operations, adding safety as a sixth "S" to lean's 5S theory of sort, straighten, shine, standardize and sustain. Tools and equipment were organized and labeled clearly for use and supply request forms created. As a result, the lead time on a home rebuilding project eventually was cut from 116 days to 61.

"We got all kinds of reaction and response from our team, everything from 'I'm totally open because I'm frustrated with my workflow' to some people who said, 'What's a car company going to teach us about building houses?'" McCartney recalled.

Yet Reich credits McCartney and Rosenberg for being open to change and guiding their staff to accept critique.

"My impression from the very first meeting was that both Zack and Liz were very open to feedback and learning, and that's always a good start," Reich said. "Because they were at the top and were very aligned, it all moved pretty quickly. That's the kind of people they are. It's pretty clear those two leaders are invested in their corporate culture and way of thinking."

"Part of the benefit of being husband and wife and business partners is that we can have that yin and yang, so it was probably easier and painless," Rosenberg said. "We listened to each other."

Reich, who is now a senior coach with the Lean Enterprise Institute, also believes SBP benefited from being a young organization that wasn't locked into a corporate mindset.

"Many organizations see TPS and lean and think about what they have to do, not the way they should have to operate," Reich said. "Because of the nature of that organization, the fact they were a nonprofit startup, it helps they were fully engaged and that became their culture. They invested in real problem-solving. They didn't just delegate but they got involved in the details of how it was to be used in organization."

"Sometimes you have to have those pain points to really appreciate the guidance and support," McCartney said. "We had so many of those pain points by the time we met with Toyota about five years into the organization's history. We were really ready for change, ready to learn from people who knew a lot more than us about how to improve our efficiency and serve our clients better."



SBP staff unload supplies as relief efforts begin in the Bahamas after Category 5 Hurricane Dorian devastated the islands in September 2019.



Photos courtesy of SBP

## Expanding the mission

SBP's relief efforts weren't limited to New Orleans. Its managers and crews deployed to help tornado victims in Joplin, Missouri, in May 2011 and after Superstorm Sandy struck the northeastern U.S. seaboard in 2012. SBP received funding and hands-on support from the Greater Houston Community Foundation and J.J. Watt, star player with the NFL's Houston Texans, to help flood victims along Texas' Gulf Coast following Hurricane Harvey in 2017.

As the scope of SBP's mission grew, so did its logistic challenges. To streamline the process, it developed an integrated model prioritizing each step in a rebuilding effort, most to be completed before the first nail was driven.

Construction proceeded along a set timeline: foundation work, then framing, roofs, windows, rough-in, inspections, wall finishing, floors, finish work and final inspection. Standardizing processes made for a more orderly workflow and allowed SBP to deploy both skilled and volunteer labor efficiently in each phase of rebuilding.

When weather, seasonal limitations or other disruptions halted work, a prebuilt section of wall, called panelized construction, could be assembled in advance at the warehouse, then later transferred to the site and installed quickly.

Another streamlining method was the creation of ready-made toolkits with all the items needed for a specific task and the number of workers taking part, from major components down to masks and gloves. The kits are packaged in advance and dropped off at a job site with everything needed for installation, drywall, painting, flooring or interior trim work.

"If you're hanging sheetrock, for example, you include the right number of drills and gloves, screws and other tools people need to do sheetrock," McCartney said. "It prevents having to go back and forth to the warehouse or the store to get this little widget or that little widget.

"Some of these things are really pretty simple, but it was so helpful to have all these ideas introduced into our process that really helped to eliminate a lot of waste, eliminate a lot of

rework or having to go back out and get different supplies for a different piece of the construction process."

## Managing and training volunteers

A major challenge SBP faced was how to guide a growing but inconsistent workforce. At times, the agency would have more volunteers than needed for the number of home projects underway; other times, enough hands weren't available.

In addition to a permanent staff of about 90, many SBP workers are AmeriCorps volunteers. Because most are students, their ranks swell over the summer when classes are out and drop off later in the year, creating a workforce turnover rate of 140% every 10 months.

"To embrace our model, we had to see AmeriCorps members as an asset and to turn the fact they are there for a few months at a time into an asset and not a liability, and we've done that," Rosenberg said.

SBP managers decided to shape work schedules to ensure that the right mix of jobs was available for less-skilled hands with enough work to ensure no one was left idling at a job site. That included coordinating work to sync with the permitting process required by government inspectors.

McCartney attended a TSSC conference where she learned the Toyota practice of *heijunka*, an effort to standardize the flow of production.

"Because we use a lot of volunteer labor, we try to make sure we are establishing a capacity for volunteers, sort of a minimum and maximum number of volunteers we want on any given day," she said. "If we have too few, it can slow down work at houses. If we have too many, it can become an unsafe work-site and people can be standing around wasting their time. ... Through work with Toyota, we set up a system to make sure we were in that min/max every day, to make sure we have the right number at every house for the phase of construction that's going on."

Another key step was training staff to pass along best practices to a new group of volunteer recruits. Unlike most jobs where employees are taught as they come on board, SBP has

to repeat the process with each batch of short-term workers. Staff was trained to become TPS coaches, manuals were created to standardize and explain processes and regular meetings were held to bring each fresh crew up to speed. That common set of goals and procedures then is passed down the line to all workers.

By stressing continuous improvement at all levels, SBP leaders seek to create a dynamic workforce where problems are discussed openly and tackled head-on.

“That’s what it takes to change behavior, not just with nonprofits but in human beings in general,” McCartney said. “You’ve got to be patient. You’ve got to build trust.”

“People have to make it themselves. You can’t make anyone get there,” Rosenberg said. “That’s why we talk about our values a lot. You have to create a safe space for people to talk about problems so they don’t feel they have to be perfect, and it wouldn’t have to be punitive. You’ve got to create an environment where people can talk about what’s not working and people can intellectually understand, ‘Hey, to get better, we got to talk about what’s not working.’”

“You have to reinforce and reinforce and reinforce and reinforce.”

## Improving while growing

The couple lists in the book what they call five interventions aimed at finding root causes to challenges on a path toward continuous improvement:

- Rebuild houses in an innovative way
- Share: Train others in their methods
- Prepare: Individualized resilience and recovery training
- Advise: Work with government agencies to lay a better foundation for recovery
- Advocate: Measure what matters

As they wrote in the book: “To become an organization of problem solvers, talking about problems couldn’t be merely something that we did. It had to be part of who we are; it had to be our identity.”

“In order to change an organization and change the way you do business, even the most basic, simple processes, you’ve got to change the culture,” McCartney said. “We realized early on that we had to become an organization that was willing to talk about problems. Today, one of our core values is constructive discontent, which means that we want our team to never be satisfied, to always be talking about what the problems are we’re facing and do it in a way that is constructive so we can get to solutions quickly.”

“We have the core belief of, if you’re happy with results, the only one ethical thing to do is to do the same thing,” Rosenberg said. “But if you’re dissatisfied, you have to be willing to do things differently.”

By applying Toyota methods, including the “5 Whys” tool of root cause analysis, they were able to seek countermeasures to fix what wasn’t working. They also ensured everything pointed toward a client-focused outcome: Getting people back into their homes as quickly as possible.

“We operated under the assumption that our customer wanted us to build their house faster, but what our customer really wanted was to never have to come to us in the first place,” Rosenberg said. “We’re successful if we can prevent people from needing our rebuilding work.”

With a friend’s advice, Rosenberg began to see improvement as a lifelong process, not a destination.

“If he hadn’t forced me to embrace this understanding that you never get there, it’s never over, I don’t think it would have worked,” he said. “He taught me it’s never over, you simply never get there.”

To adapt to changing needs, SBP has opened sites at the scene of each new disaster. It currently operates in New York, New Jersey, North Carolina, South Carolina, Puerto Rico, Florida, Houston and Brazoria County, Texas, and the Bahamas.

Meanwhile SBP continue to share its methods with fellow nonprofits, government and businesses that can benefit from what it has learned, a concept known in Japanese as *yokoten*, the sharing of ideas within a company. Unlike a competitive business eager to keep its methods secret, SBP willingly passes on its best practices to the agencies it works alongside, all with the same goal: Bringing comfort to those ravaged by disasters.

“I tell them we take it up to ‘yoko 11’ or crank it up to ‘yoko 20,’” Rosenberg joked.

That concept is stated in SBP’s core values: “We believe all problems are solvable; we do work the way we would want it done for our grandparents and loved ones; we share what we learn, both inside and outside the organization.”

They do this by helping train other nonprofit leaders, including those from Habitat groups and faith-based agencies. They document their ideas in manuals that include details on everything from construction planning to applying for government grants and permits.

“This can be replicated,” McCartney said. “There are so many people out there who have these amazing skillsets and can help a lot of organizations, who can then turn around and help people who need their services.”

McCartney and Rosenberg would prefer a world where SBP’s work is not needed. But as long as the storms keep coming, their work continues.

“We get to celebrate a lot of success. I get to see people, develop and grow and challenge themselves and we serve a lot of communities that really need help,” McCartney said.

“In some ways I feel really grateful to do this work, and in other ways I wish I never had to do this work. I wish disasters weren’t happening, but the reality is they are and they’re happening more frequently.” ❖