

GARAGE DOOR “STORM APPEAL” ON THE RISE

New data reveals the increasing importance of doors for home resilience

By Vicki Jones, Editor



For decades, there has been an emphasis on the importance (and value) that garage doors have on a home's curb appeal. Now, based on new research, it's time to recognize garage doors' "storm appeal."

On Jan. 21, 2025, President and CEO of the Federal Alliance for Safe Homes (FLASH) Leslie Chapman-Henderson provided DASMA Annual Meeting attendees with an eye-opening presentation, saying, "A storm-ready garage door is your best and strongest defense."

Her keynote address, "Garage doors on the rise: How the policy, marketplace, and technical landscape are redefining their critical role in resilience," highlighted the increasing awareness of how garage door performance plays a pivotal role in protecting homes during high- and even extreme-wind events.

D+AS interviewed Leslie Chapman-Henderson to better understand why research on garage doors in extreme wind events and homeowner awareness is so vital for door professionals.

What does the Federal Alliance for Safe Homes (FLASH) do?

FLASH, founded in 1998, is a nonprofit coalition of more than 100 academic, corporate, nonprofit, and government partners consisting of volunteer emergency managers, insurers, risk communicators, and organizations dedicated to strengthening homes.

Our mission is to promote life safety, property protection, and resiliency by empowering the community with knowledge and resources for strengthening homes and safeguarding families from natural and manmade disasters.

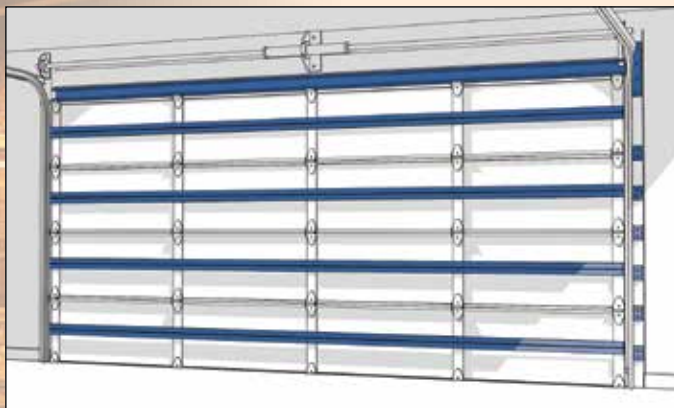


Why is FLASH important to the garage door industry?

We take the best building science from the lab to the street and onto the kitchen table. Helping families understand the home-strengthening power of a wind-resistant or impact-resistant garage door is the information we want to share. The message meets our standards for information that is both empowering and achievable.

In your keynote introduction, you said a "storm-ready garage door is your best and strongest defense." Can you elaborate on that?

In the past, we emphasized that garage doors represent the largest and weakest opening in a home – a true vulnerability in high winds. However, we are flipping that message from caution to prevention thanks to new analysis and fresh insights. We can show that garage doors often serve as a home's strongest defense based on a recent correlation analysis that proves the case.



This is one of the most successful messages we've shared over the years because while many home features are critical for resilience – e.g., roofs and continuous load path/structural connections – those features can be difficult and expensive to change. Not so with garage doors.

In 2005, D+AS published the story, "First ever study praises garage doors in hurricanes." How did that story influence future research?

Jeff Burton of the Institute of Building Home & Safety (IBHS) evaluated garage door performance in severe wind situations. Statistical evidence from the study revealed that the newer [code-compliant] garage door performed exceptionally well in a Category 4 hurricane.

This initial study sparked additional research, including a post-storm study in 2018 that indicated that the risk of structural damage increases significantly when garage doors fail.

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All of the studies showed that less than 10% of damaged homes with intact garage doors suffered structural damage to the roof.

Can you elaborate on Dr. Marc Levitan’s critical findings on garage doors in storms?

Dr. Marc Levitan, National Institute of Standards and Technology (NIST) research engineer and lead researcher for the National Windstorm Impact Reduction Program, examined the building performance in tornadic winds ranging from 100 to 140 mph.

He and his team looked at 3,000 homes impacted by the 2011 Joplin, Mo., tornado and found a steady correlation between intact garage doors, intact roofs, and intact adjacent side walls, even in windspeeds of up to 135 mph. This analysis validated longstanding post-hurricane findings that

no, and 40% said yes. This highlights the importance of informing the homeowner about the efficacy, value, and affordability of bracing and strengthening their garage doors to prevent more catastrophic roof and wall failure.

What did the research reveal about how much homeowners are willing to spend on an upgraded door?

We provided survey respondents with research findings about the importance of garage doors in extreme wind events. Then we asked, “Bearing in mind that strong garage doors can prevent roof or wall damage *in most tornadoes*, how much would you be willing to spend to upgrade your garage door?”

27% of survey respondents indicated they would be willing to spend up to \$500 on an upgraded door. 34% reported that they

What did you learn from these consumer surveys?

Three themes emerged. First, 60% of respondents were unaware of affordable yet highly effective damage protection techniques for garage door strengthening. Next, most respondents were willing to budget slightly more to make home and family preparations. Finally, those who reported “no or low intention to prepare” cited their belief that they would not be affected by a hurricane area.

Why are these survey insights important to the door industry?

They present a powerful opportunity for professionals in the door industry. First, they can help customers learn about the positive role that garage doors can play in hurricanes, tornadoes, and severe thunderstorms. Additionally, the findings indicate that many customers are willing to pay for the safety and prevention upgrade and peace of mind afforded by a stronger door. Lastly, they reveal that those disinterested in garage door upgrades may be generally disinterested in prevention.

How has Levitan’s research helped shape messaging on high-wind mitigation at FLASH?

Dr. Levitan shared these profound insights during our 2023 National Disaster Resilience Conference, creating a groundswell of excitement for us and our resilience partners as it revealed garage doors as a powerful player for safety and loss prevention. Since that time, the information has helped shape outreach messaging on high-wind mitigation at FLASH due to the certainty his research introduced.

In the past, post-storm investigations revealed a steady pattern where garage door failure allowed for pressurization inside the garage like a balloon blowing up. The pressure would lead to the garage imploding from the inside out – often taking down the side walls too. Those findings were accurate but observational and anecdotal.

Dr. Levitan’s correlation provided validated analysis from one of the most credible wind research institutions in the United States. That made it a game-changer. The findings have proven persuasive for many audiences, from broadcast meteorologists and consumers to the building trades and code officials.

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“ 34% OF SURVEY RESPONDENTS INDICATED THAT THEY WOULD BE WILLING TO SPEND \$500 TO \$1,000 ON AN UPGRADED DOOR. ”

strong, reinforced garage doors are vital and protective against severe winds. They concluded that homes with intact garage doors were 90% likelier to retain their roofs and the wall adjacent to the garage.

Are most folks aware of the correlation between intact garage doors and intact roofs and adjacent walls?

In light of Dr. Levitan’s research, we added questions regarding public awareness levels of garage doors and their importance to our 2024 “Is America #TornadoStrong?” and “Is America Hurricane Strong?” topline consumer surveys. We conduct these surveys annually in February to measure consumer knowledge and awareness of tornado weather, safety, and protection and in April, to measure consumer knowledge and understanding of hurricane preparedness options.

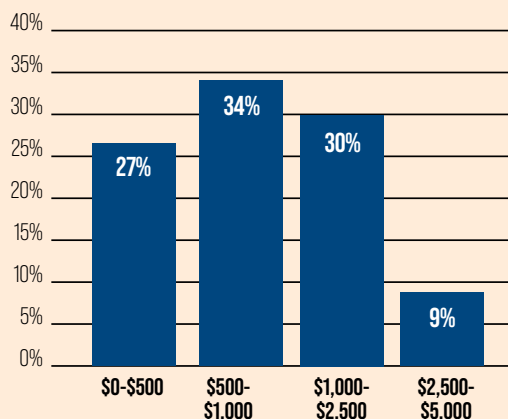
We surveyed 500 respondents from 12 tornado-prone states: Ala., Ga., Kan., Ky., La., Miss., Mo., N.C., Ohio, Okla., Tenn., and Texas. We asked, “Did you know that keeping your garage door intact during a 110 mph or lower windspeed tornado can prevent roof and/or wall damage?”

The majority of our survey respondents were not aware of the correlation; 60% said

would be willing to spend between \$500 and \$1,000. 30% said they would be willing to pay between \$1,000 and \$2,500, and 9% reported between \$2,500 and \$5,000.

They were also asked, “Bearing in mind that strong garage doors can prevent roof or wall damage *in high wind events*, how much would you be willing to spend to upgrade your garage door?”

39% of survey respondents indicated



they would be willing to spend up to \$500 on an upgraded door. 34% reported that they would be willing to spend \$500 to \$1,000. 22% said they would be willing to spend \$1,000 to \$2,500, and 5% reported they would be willing to pay \$2,500 to \$5,000.

You said we should understand how to “serve broccoli” to our target audience. What did you mean by this?

Messaging about building science is complex because it is technical — or can be, for lack of a better word, boring. Moreover, we compete with thousands of messages from other sources that people receive daily. We have learned that we must capture our audience's attention with an “ice cream” message before we deliver the building science “broccoli” message, or we can't compete.

In this instance, we first tell them, “You can protect your home from most tornadoes and hurricanes.” This is a positive statement that surprises them and gets their attention. Next, we explain how and why we can do that. We share that, on average, 95% of all U.S. tornadoes are 135 mph and below, and then we describe the correlation research linking intact doors and intact roofs and walls even in windspeeds of up to 135 mph. That's the building science ice cream/broccoli messaging formula that breaks through and works for us. In this instance, it can open consumers' minds and inspire them to choose a stronger door.

The “StormStruck: A Tale of Two Homes” project had a major influence on your messaging. How so?

We joined forces with the Disney Imagineering team and our generous partners (RenaissanceRe, Simpson Strong-Tie, and State Farm) to create and host “StormStruck: A Tale of Two Homes,” a novel “edutainment” experience inside INNOVENTIONS at Epcot at Walt Disney World. The project aimed to help guests understand resilient building practices' safety and prevention power.

The experience covered 3,000 square feet and included a preshow featuring Jim Cantore of The Weather Channel, a 3D theater and interactive gaming experience, and a play area

that offered disaster resilience information for flood, hail, hurricanes, lightning, tornadoes, and winter storms.

From 2008 to 2016, the award-winning project used fun and storytelling to help guests learn about building science in an empowering and exciting way. In the words of our lead Imagineer Joe Tankersley, “We're making people the heroes of their own storm story.”

What were the results of the Disney marketing project?

“StormStruck” was initially intended as a two-year project but lasted eight years due to its popularity and relevance. High attendance proved its popularity, but we wanted to understand more, so we conducted a behavior-focused study to measure the project's messaging effectiveness.

We established a baseline through guest surveys. After one year, we resurveyed the same guests to gauge message retention and actions taken. We discovered that more than half of the homeowners (55.4%) completed the protection/preparatory actions we proposed in the campaign.

75% of the respondents reported recalling the message, and 35% reported that they had started preparedness/mitigation planning for other disasters beyond wind events, representing multiperil behavior change.

We were very proud to be the most popular attraction at Disney's INNOVENTIONS exhibit with 5.8 million visitors, and even more so to show that people turned our engaging messaging into safety and prevention actions. We are certain we helped save lives and homes along the way.

Why was empowering people critical to the project's success?

Providing homeowners with achievable steps to help protect their families and homes gives them a sense of power, control, and peace of mind whether or not a disaster strikes.

How should door dealers utilize the research results to build sales, educate homeowners, etc..?

We have had tremendous success generating interest and excitement about garage doors' powerful and beneficial role in high-wind events using the above-described ice cream/broccoli approach. We secured several national media stories and placement in major publications across the U.S. about this news because millions of Americans have garage doors. This information meets the ideal test for resilience messaging success as it is empowering, achievable, and affordable. We look forward to continuing to spread this message far and wide.

What is the goal of the FEMA Ready Business Program? How can this help door dealers in the industry?

Ready Business assists businesses and organizations of all sizes by helping them plan for and survive natural disasters, including earthquakes, hurricanes, inland flooding, power



outages, and tornadoes. We offer free one-day workshops across the U.S. and free online toolkits to help create a preparedness, business continuity, and mitigation plan. The protocol walks the business owner through checklists assessing steps focused on Staff, Space, Systems, Structure, Surroundings, and Service.

We can help door dealers focused on commercial businesses connect the dots for our Ready Business audiences and understand options for superior, high-performing products. We feature both products and practices as part of the workshop agenda.

Do most regions have building codes in place for the potential weather events that could affect their area?

No. Unfortunately, only 2/3 of U.S. jurisdictions have the hazard-resistant codes necessary for severe weather or events like earthquakes.

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What outreach opportunities are FLASH participating in to increase awareness?

Individuals can visit Inspect2Protect.org to look up a comparison between the building code used initially to build their home as well as the current code requirements for their area. We provide them with a list and illustrations of the renovations, retrofits, and upgrades they can make to bring their home to modern code standards for safety and strength.

The site offers a risk index based on the national database and the community's disaster history. This tool helps homeowners understand the risks they face, as our surveys indicate that they often lack awareness of past events.

Which states offer (or are planning for) storm mitigation retrofit/upgrade funding programs? How are these programs affecting the residential construction market?

More and more insurance commissioners in states across the U.S. are standing up and leading mitigation matching grant programs

to help homeowners upgrade their homes to meet disaster risks. The commissioners are taking this action to enhance safety and resilience and as a solution to insurance market disruption where availability and affordability are constricted.

Homeowners who upgrade and update their homes for the risks they face find they have more property insurance options at more affordable rates and increased real estate values. Garage door replacement is typically included as a qualifying retrofit.

Today, the popular programs are live in Ala., Fla., La., Miss., and S.C.; with more coming online in the Midwest, Northeast, and West Coast. While the program dollars can often be "sold out" or "fully committed" as soon as they announce additional funds, the programs' existence drives awareness and homebuilder take-up of the resilience upgrades. The numbers show that they are catalyzing residential construction behavior change.

For example, Alabama has provided approximately 6,800 retrofit grants since its program started, yet they have 48,000 upgraded homes along the Alabama coastline. This means 41,000-plus homeowners paid for

their upgrades without waiting for a grant. Clearly, the culture of resilience is setting in as homeowners learn the safety and insurance benefits of the upgraded home. You can learn more about the resilience movement as a market force and insurance solution in our Resilience Playbook, copublished with the National Association of Insurance Commissioners.

What is the Strong Homes Scale? What additional information does it provide homeowners?

The new Strong Homes Scale (Scale) rates homes from "Vulnerable" (below current code standards) to "Good" (meets minimum model codes) to "Best" (meets highest resiliency standards) and helps answer a key consumer question: "How well will my home hold up in a disaster?"



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The Scale is a powerful enhancement to the popular Inspect2Protect.org website that allows homeowners to understand how well their homes will stand up to six perils – earthquakes, floods, hurricanes, tornadoes, wildfires, and winter storms – by providing detailed building code comparisons between the house as built and the construction features that create a disaster-resistant home.

FLASH developed the new Scale and website features with insights derived from a year-long behavior-focused study with homebuilders and homeowners. The study combined qualitative and quantitative research methodologies and shed light on a growing consumer interest in disaster-resistant housing. It also exposed a significant gap in public knowledge regarding building codes and how to implement retrofit options confidently.

What other features do the Strong Home Scale and website provide?

The new site includes 60+ illustrations and six 3D homes to help users recognize and understand the latest code provisions, additional relevant structural features, and potential retrofits. You can view suggested upgrades based on the year your home was built. Examples include installing pressure-rated and impact-rated garage doors and/or windows, strengthening roof-to-wall connections, installing a safe room, and more.

Why are you so excited about the Strong Homes Scale resource/tool?

The Strong Homes Scale gives consumers and homebuilders precisely what they asked for through the behavior-focused study: custom insights about their home and reliable information about meaningful, engineering-validated retrofits that make homes stronger and more insurable.

Is there anything else FLASH is working on to increase awareness, assist in code development, etc.?

We will continue incorporating garage door messaging into our many outreach opportunities, which include stakeholder briefings, webinars, keynote speeches, and consumer awareness campaigns, including Tornado-Strong.org and HurricaneStrong.org. At the same time, we are developing solutions inspired by additional behavior-focused study findings.

For example, consumers expressed a strong desire for referrals for specific products as well as referrals to professional trades. These solutions present new partnership opportunities we are excited to create.

Any closing thoughts/recommendations?

Homebuilder and homeowner interest in disaster resilience is rising swiftly to unprecedented levels, creating a rare and standout opportunity for garage door manufacturers, dealers, and affiliated product suppliers. Last year, we said, “If it’s 2024, it’s all about garage doors.” This year and beyond, our message is, “Garage doors may be your best and strongest defense in a storm.” And after nearly 27 years of award-winning disaster safety and resilience messaging success, we know a winner when we see one. Strong garage doors can save lives and homes and often do. ■