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2017

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HOME AND
COMMUNITY

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BEACHFRONT NEW URBANISM

MAXIMIZING MOMENTS

INDOORS OUT/OUTDOORS IN

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ON THE COVER:

A 3D rendering of the rooftop at Gables Cherry Creek in Denver provides designers and builders with remarkable detail about the space.



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Maximizing Moments

By David Brown

Study shows home buyers attach warm feelings to certain spaces and design features

Home is where we raise our families, celebrate holidays and rest our head at the end of a long day. This can be easy to forget when your job is looking at blueprints and spreadsheets, but it's important for building professionals to remember. When it comes to home buyers, what's really for sale is the anticipation of memorable moments.

The question then becomes how you create a home that focuses on maximizing those moments. The key is to better understand the emotional

connections home buyers have with various areas of the home, and then to understand how the design of those areas can increase a home's appeal.

This was the goal when fireplace, grill and HVAC equipment manufacturer Napoleon embarked on the Hot Spots Research Study in January 2016. The company commissioned Hoffman York, a home-category marketing and research firm, to conduct the research. At the time the study had yet to be named, but it

Research participants were asked where they currently have fireplaces in their home, and where they'd like to have them in their next home. The largest discrepancy was found in the bedroom and outdoor space, revealing an opportunity to impress home buyers by adding a fireplace to these spaces.



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Features such as fireplaces, high ceilings and built-ins evoke positive emotions. By incorporating these features, you can increase the appeal of any room.



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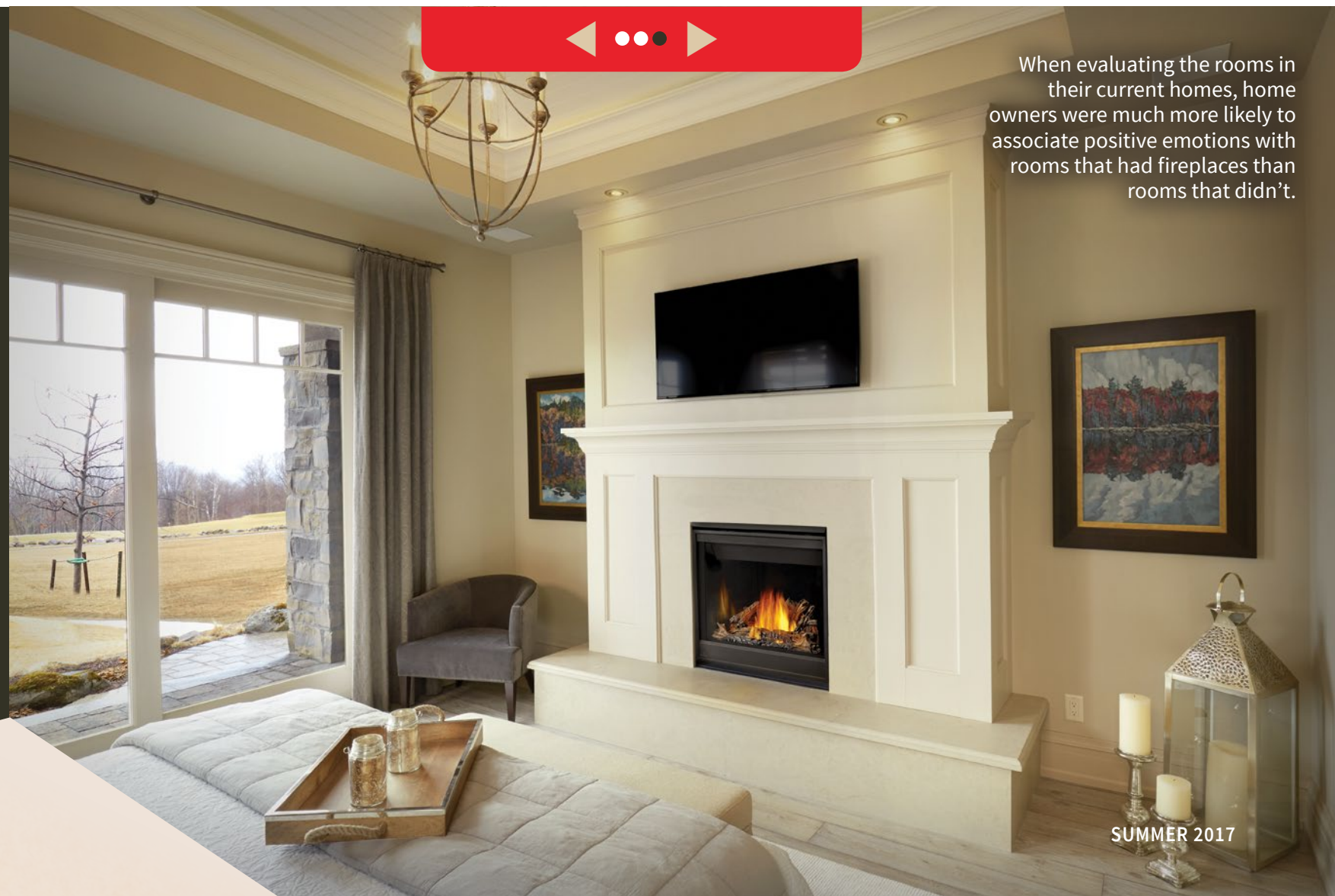
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When evaluating the rooms in their current homes, home owners were much more likely to associate positive emotions with rooms that had fireplaces than rooms that didn't.



didn't take long to appreciate the collective "warmth" research participants had for specific rooms and design features in the home. After days of interviews and about 900 surveys, the study presented three distinct takeaways.

1 IDENTIFYING HOT SPOTS: Participants were asked which rooms they considered the most important, and which rooms were their favorites. They were also asked to rank the emotions they associated with the different rooms in their home. For example, rooms qualified as a "hot spot" when at least 50 percent of research respondents checked at least two emotional categories—social, relaxation or functionality—to describe that room. The more the emotional categories overlapped, the hotter the hot spot.

Based on that criteria, the living room, bedroom and kitchen rose to the top. Each of these rooms had the highest percentage of positive emotions tied to them; this confirmed they should be a focus in home design, as they have great potential to boost the appeal of a home.

RELAXATION

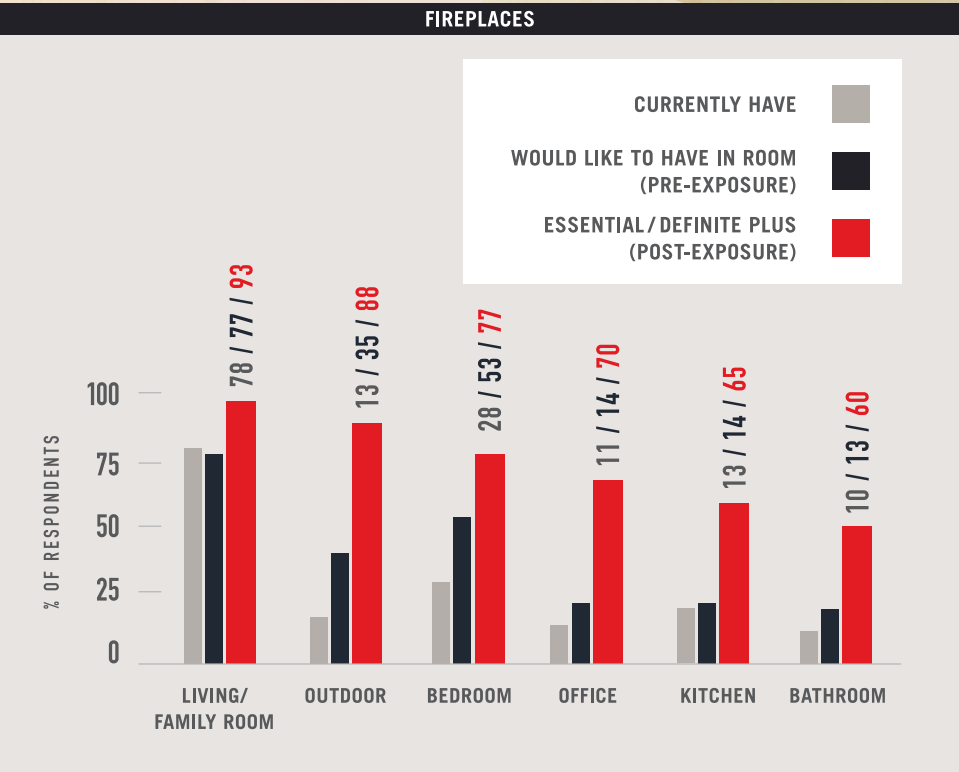
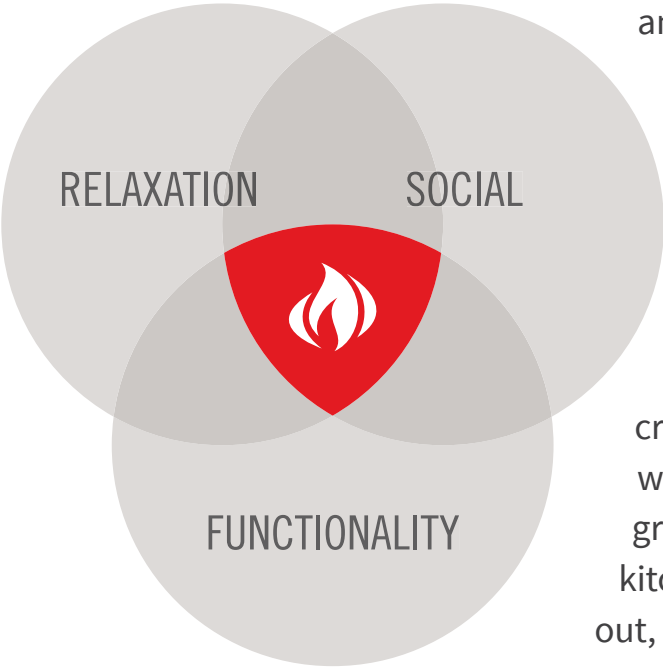
a space that encourages personal relaxation, intimacy and tranquility

SOCIAL

a gathering space for social interaction

FUNCTIONALITY

functional spaces that are used for a very specific, unchanging purpose



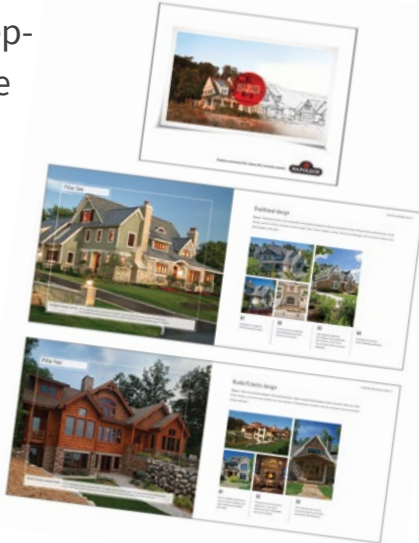
2 CREATING HOT SPOTS: Just because the research identified the living room, bedroom and kitchen as hot spots doesn't mean other rooms in the home can't also earn the distinction. Hot spots don't happen by accident; they can be created. In fact, the research suggests that a room's ability to evoke positive emotions and memorable moments is directly related to the design and amenities of that room. For example, when participants were exposed to pictures of rooms with and without certain amenities, including fireplaces, desire for rooms with fireplaces increased 41 percent. When research participants were asked to create poster boards representing what they wanted in their next home, expectedly they gravitated to living rooms, bedrooms and kitchens; however, outdoor spaces also stood out, demonstrating the potential for that space to reach hot spot status.

3 PUTTING HOT SPOTS IN ACTION: To help builders, architects and remodelers put hot spots to use, Napoleon collaborated with architect Wayne Visbeen to develop a 62-page design book and online design gallery. These resources cover traditional, contemporary, transitional and rustic/eclectic design and offer ideas on how to create hot spots throughout the home.

The goal of the study, and the purpose of the hot spots design tools, was to gain insights that could help building professionals sell more homes, differentiate themselves from the competition and strengthen home owner satisfaction. In fact, the research revealed that 52 percent of home buyers have a more positive perception of building professionals who integrate hot spots design insights into their homes.

For more information on how the Hot Spots Research Study can enhance the desirability of your projects, visit NapoleonFireplaces.com/HotSpots.

David Brown is a partner at home-category marketing and research firm Hoffman York.



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Visualizing Outdoor Amenities

By Brad Haigh, PLA,
and Jared Carlon, PLA



3D graphics help builders and designers make better decisions, drive presales

Technology now gives us a variety of methods to show builder clients and the design team a clear view of their future projects. During the design process, this offers the ability to:

- present options to clearly see opportunities and challenges,
- provide a clearer understanding of different choices and their impacts, and
- develop detailed marketing materials early in the development process to generate market interest.

ALL VISUALS COURTESY OF NORRIS DESIGN



The Gables Cherry Creek visualization rendering and final photo illustrate how similar the concept is to the finished product.

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FINAL

The Gables Cherry Creek visualization rendering and final photo illustrate how similar the concept is to the finished product.

ALL VISUALS COURTESY OF NORRIS DESIGN

Drawing Board

The quality, clarity and detail of early visualization brings a project alive for clients, and helps them make better-informed decisions, more efficiently. It also plays a critical role in project approvals and entitlements. Professional visualizations can help tell the story during presentations to elected officials, who typically don't have design backgrounds.

Finally, the vision often gets lost or diluted as the project moves through the marketing and building phases toward completion. Strong visualizations help keep the design concepts intact through final implementation.

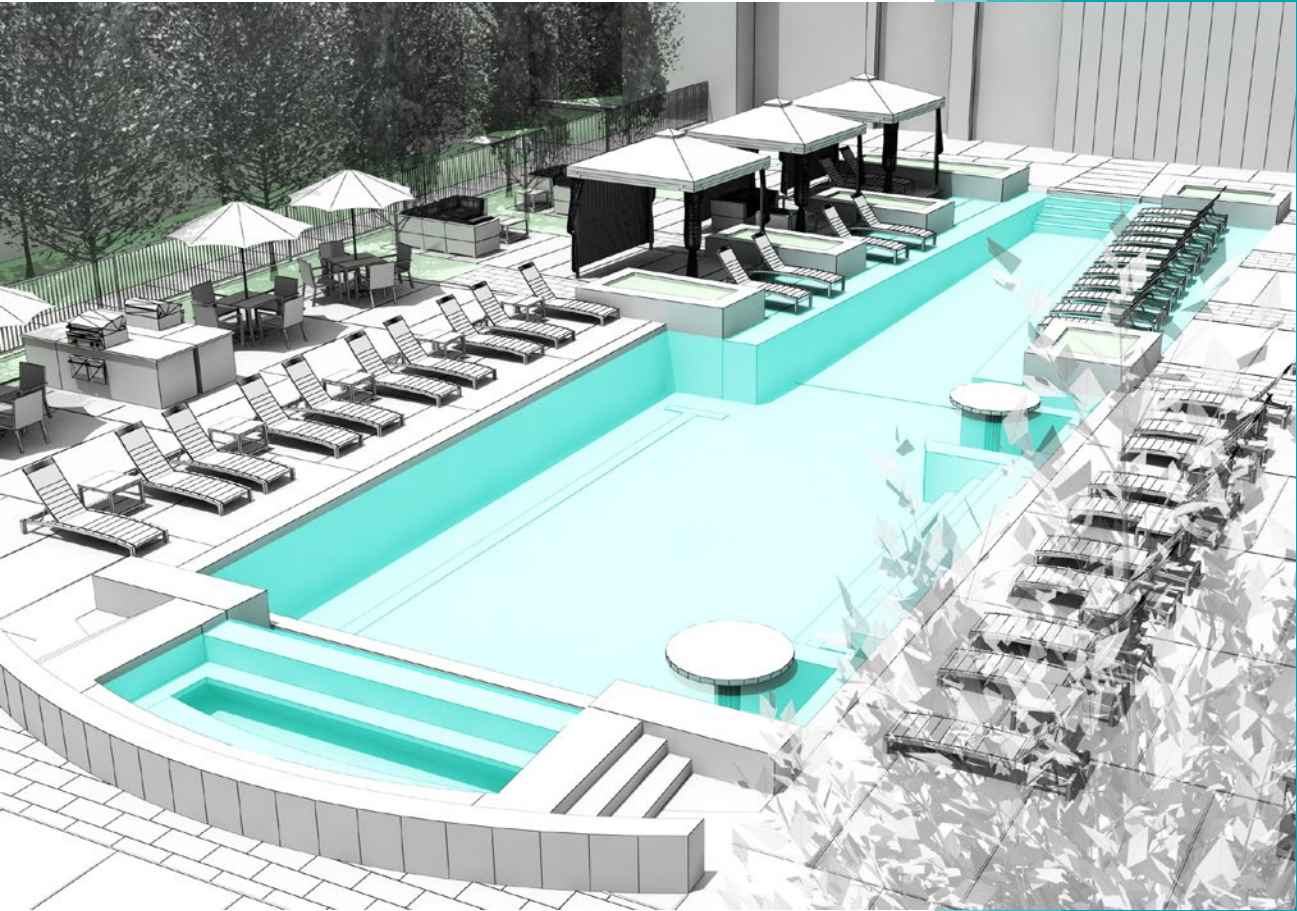
MAKING THE VISION REAL

One example of this is the Gables Cherry Creek project in Denver. To begin the process, Norris Design used 3D graphics as a design tool to determine how to soften the eighth-floor rooftop pool deck by adding more plant material and authentic finishes, such as natural stone, metal, and exposed aggregate concrete. The relationship between the fire feature and the pool/spa as they frame western views of the Front Range and Denver

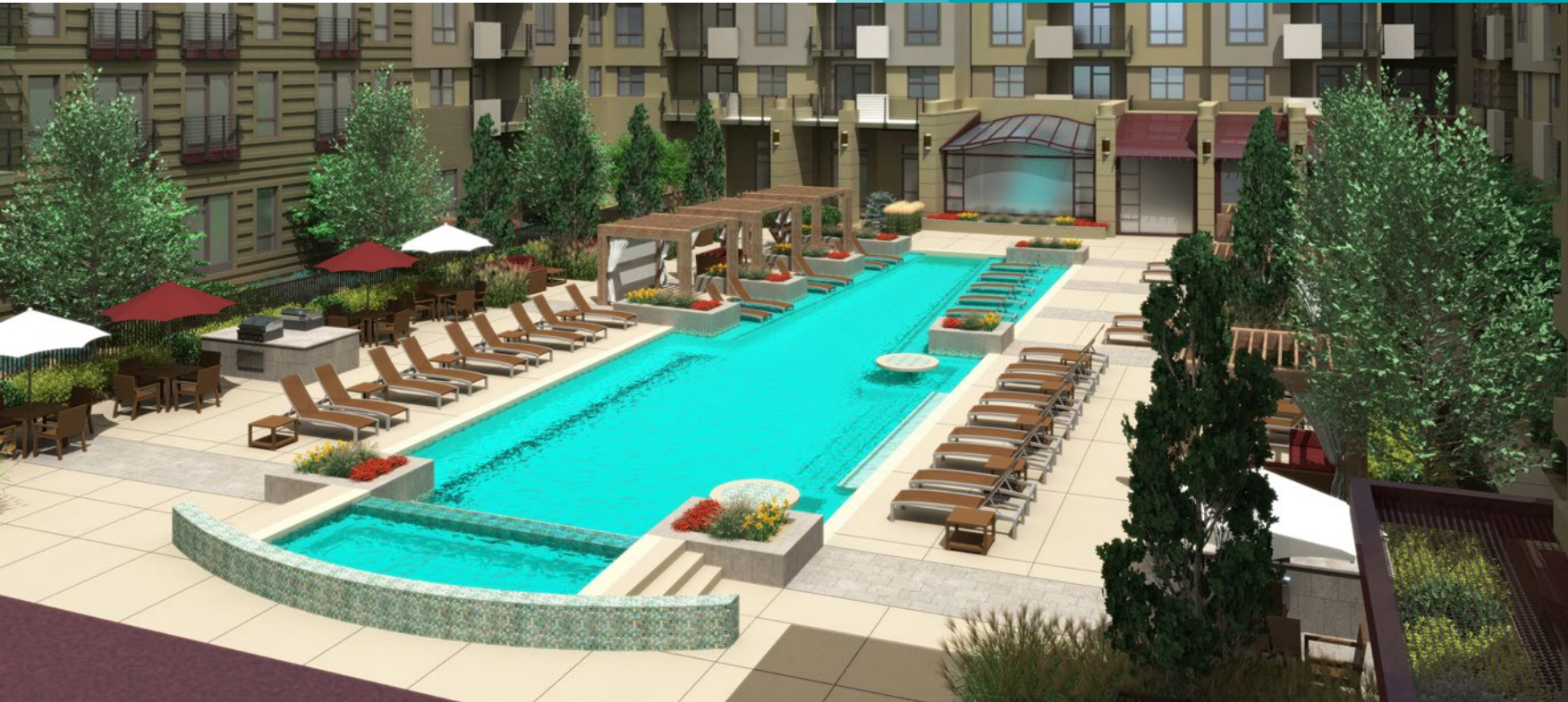
skyline needed to be explored. We examined what residents would see as they walked onto the rooftop. Where exactly are the key views and sight lines? It's important to put ourselves in the end user's shoes to make the experience powerful. To do that on high-rise projects like this, we use drones to capture what residents will see on future rooftop decks. Norris Design also works closely with the architect to build an extremely accurate computer model showing the proposed design. This not only

helps the design team understand the space better, but also gives our clients the ability to shape the spaces and select materials that work the best for them. While Gables Cherry Creek wasn't a controversial project, or a difficult one to get approved, the client used these graphics in meetings with the city to help officials get on board. Gables/Smith|Jones Partners also used the graphics on its website and sales center to pre-lease units for the community. When the project was completed, we took a photo from a similar viewpoint as one of the visualizations. This comparison helped solidify the developer's reputation by showing local

EARLY RENDERING



The 3D massing study in early design development and a later 3D rendering show chosen materials and finishes for Solana Cherry Creek.



LATE RENDERING

Drawing Board

jurisdictions and potential tenants that the developer will follow through with its promises. The Gables Cherry Creek project has future phases planned: Now the community, stakeholders and future residents will know that those design concepts will be carried out consistently through implementation.

COLLABORATIVE DESIGN

The 3D visualization process usually starts with massing diagrams, developed using either SketchUp or 3D Studio Max. Regardless of project scale, these massing diagrams help us and our clients begin to understand the scale and potential programming.

This 3D visual of The Aurora Highlands proposal helped the project gain city approval.



Once our clients and the design team are comfortable with the massing study, the Studio Max software makes it easy and efficient to bring in the detailed materials, finishes and amenities that make the graphics (and projects) come to life. The 3D massing study is usually completed early in design development. The final 3D visualization is completed toward the end of the construction document process to help finalize all the materials and amenities.

It is important to note that we always work very closely with our project

architects on these graphics. They supply us with their 3D models of the buildings and we make sure we represent the building architecture accurately, down to the color of the brick mortar.

In the public eye, the use of 3D visualization can help paint a picture to jurisdictions and help them understand a project's impacts and potential early on. The Aurora Highlands is a 2,900-acre community in Aurora, Colorado, that we helped model to gain city approval. This visualization also helped in early funding discussions for the project.

Denver's Colorado Station features a large indoor/outdoor space, the Aqua Room, shown here on a final 3D model.



Crescent Highlands utilized both 3D visualization and virtual reality images as leasing tools for prospective tenants.

Material boards are another very helpful tool we use during the design process. As landscape architects, we create our own materials boards that build off the architectural design palette. Our materials boards include every material and amenity we select on a project, shown side by side with the overall architectural palette of the project.

These material boards are developed late in the design development process.

They help us and our clients explore the finishes that bring projects to life. Our Colorado Station project in Denver has a significant indoor/outdoor space called an Aqua Room. We worked closely with the architect and the interior designer to create a strong indoor/outdoor connection. Once we were generally comfortable with the materials selection, we brought the materials into the final 3D model, which shows what this unique space will look like.

MARKETING THAT MAKES A DIFFERENCE

We are seeing clients looking for the best new thing to differentiate from the competition. People want to see where they are going to call home, but until a project is built, limited visuals exist to help sell or lease units. We have utilized virtual reality in multiple ways as an interactive marketing tool.

Technology is the newest trend we see in our communities, from the use

of virtual reality in the sales process, such as selecting finishes in 3D, to built systems, such as real-time water-use dashboards, motion lighting and all-home central lighting and speaker controller. This tool is one high-impact way to differentiate a project.

From the initial vision to the built product, realistic visualizations make projects come alive and help the full design team and the client imagine the possibilities in a more tangible way. Clients can make more informed decisions when they see how different choices will look and feel fully realized, not just in their imaginations or in plan form. The visualization experience makes vision come to life, so real that you feel as if you can step right into the space itself. That sense of reality is priceless when it comes to making decisions, whether as a builder client or as a home buyer. 🏠

Brad Haigh, PLA, is a principal at Norris Design. He is a landscape architect and community planner.

Jared Carlon, PLA, is a principal at Norris Design. He has managed a wide range of planning and landscape architecture projects from entitlements through design and construction.



The bedroom... is where you can heat things up, even on a Saturday morning.



Napoleon's Hot Spots Research Study revealed how
desire for a fireplace in the master bedroom has increased by

175%

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2016 NAHB Best in Green (BIG) Young Professional of the Year

Scott Frankel

Frankel Building Group, Houston, Texas

By Megan Alise Carroll



Top right: Water conservation is a key element in the homes Frankel Building Group designs and builds. All plantings are drought-tolerant and native to Texas; the fountain recycles its own water.

Above: Part of green building is having products that won't need to be replaced, like the quartzite island and backsplash in this kitchen.

Left: Frankel Building Group value engineers its homes to require less lumber; all the wood used is Forest Stewardship Council-certified as sustainable or reclaimed.

Having a family business, it might be easy to do things the way they have always been done. But Scott Frankel is on a quest to improve the way his company builds.

Scott Frankel, Co-President and Principal of Frankel Building Group, is a Graduate Master Builder. He was the first NAHB Master Certified Green Professional in Texas and the second in the country. Since Frankel joined the firm in 2006, he has been instrumental in transforming the company from a traditional home building group into a full-service custom design firm specializing in green construction. As a result of Frankel's sustainability

efforts, more than 185 of the builder’s custom homes have been certified for LEED for Homes projects.

Let’s explore the thought process and strategies behind Frankel’s innovative approaches to home building.

NAHB: Tell us about your role at Frankel Building Group.

Scott Frankel (SF): My brother and I both started at the company on the same day 11 years ago. As co-presidents and principals, we each have our focus; mine is company operations and construction. I oversee the detailed way each home is put together, all the way to placing the keys in

the home owner’s hands. We have worked very hard to continually sell homes while improving the process by debriefing with our in-house teams after every project. We are all working together toward the same goal, to build highly sustainable homes that will both meet the clients’ needs and stand the test of time.

NAHB: What drives you to build the way you do?

SF: My first two years on the job, I received a good deal of warranty calls, mostly to go out and replace doors and windows on homes that were five to six years old. I thought, “Why on earth are we doing this? There has to be a better way.”

We didn’t want to build things that we knew we would have to go back and fix in our lifetime, so we started researching better building techniques. What we found were offerings that were comparable in price for incomparable value. Working with the manufacturers to bring forth the best products, we have found great solutions for our clients.

Both millennials and empty nesters are recognizing and



appreciating this process. They realize, through our building techniques, high performance/green-conscious homes do not have to look like spaceships or something crazy, but rather be the home of their dreams while delivering benefits they may have not even thought possible.

NAHB: What is your company’s vision for the future?

SF: We want to keep growing, build better homes and continue to bring things to market that are intelligent, thoughtful and unique. We know all the details that are important to the future comfort and livability of their home, even the ones they can’t see. Our homes offer something cool

and a little different than what others are coming up with and people are so thankful for the homes we help them create.

NAHB: What makes Frankel Building Group unique?

SF: Each home we build is 100 percent unique. We really listen to our clients and don’t try to push them into a mold. Even though the construction techniques stay pretty much the same, because they are regionally specific, we explore other possibilities for their home. Once we have found something we love, we utilize it over and over again; a great example is ZIP System. (ZIP System sheathing integrates moisture management and

As with many of Frankel Building Group's houses, this home's elevation features reclaimed brick. The company closely monitors its jobsite waste and receives reports on what materials are recycled.



This bathroom features humidity-controlled exhaust to automatically expel humid air that could promote the growth of mold in a tightly constructed house.

an air barrier into the structural panels of a roof or wall system. According to the manufacturer, it streamlines the weatherization process and installs 40 percent more quickly than house wrap.)

It is not our goal to design a particular kind of house, but rather to design an architecturally and technically correct house for the home buyer. We evolve every single day, resulting in specification changes three or four times a month. With the volume of projects we are working on, we are learning as we go and then teaching and re-teaching each other along the way by changing our building documents, through face-to-face conversations, and via email.

NAHB: With the abundance of resources out there, how do you gather your information?

SF: Listening to everyone in the company is the best place to start. Many people have learned tricks and have tips within our group. Listening to them provides valuable insight and exposes the areas in which we need more research. I also talk to and meet with manufacturers and distributors, conduct online research, attend builders' shows and listen to what the market is demanding.

Being observant is critical. When a problem arises, we look at what we can do and at what price point and try to find



solutions. In the end, we come up with a superior product through effort and determination.

NAHB: What's the best advice you've been given?

SF: As an early adult, I began listening to what my father had to say. He has been an unbelievable mentor but has also given me space to learn from my mistakes, which allows for compounded growth. Perhaps the best lesson I've learned is to listen and pay respect to every trade and to look them in the eyes. Each person is here to teach you.

NAHB: What is the biggest challenge you see for the green building industry?

SF: We builders can be our own worst enemy if we are not good listeners, become too set in our ways, and close our minds to new alternatives. If you come across a problem, you fix it, but how are you changing your process to stop this issue from happening in

the future? Thinking like this makes a warranty unnecessary because you are ensuring you build it right the first time.

I tore down a 5,500-square-foot house that was 20 years old and replaced it. How many resources were wasted on a home that only lasted 20 years? I will not see our work torn down in my lifetime or in my kids' lifetime. I inherited good design sense from my father, and my brother, Kevin, helps ensure that the financial side is sustainable while we still push the envelope to get better and better.

NAHB: Are you working on any cutting-edge projects and are you seeing any trends in those projects?

SF: We've been doing more projects these days with fewer walls and more glass. These are 20 to 30 feet in height floor to ceiling and are completely glass, which means you have to consider thermal bridging and heat balancing. Previously, people might have looked at this and thought, "This cannot be done."

Our team has worked together project by project and has really developed a strong repertoire. We are highly focused on flashing, drainage, gutters, all of the details to ensure we do it right.

NAHB: What does the future hold for green building?

SF: I think in the future, DIY will be less hip and there will be an increased demand for smarter integrated technology in the home to decrease maintenance. As for the green movement, I don't think that is a relevant term anymore. Instead, I see a transition into building homes through sustainable techniques that will sell and resell for higher values. Over time, sustainability will become the norm for construction. We have now surpassed the green movement and are much more focused on healthy and sustainable living.

NAHB: Congratulations, Scott! We salute you as this year's BIG Young Professional of the Year, as well as the other finalists, Anthony Maschmedt, Amelia Godfrey, Leah Missik, William Rectanus and Drew Wallace. 🏡

Megan Alise Carroll is program manager, sustainability & green building, at the National Association of Home Builders.



HARNESSING HEAT

By Stephen Schroeter

New innovation dramatically expands how fireplaces can be incorporated into home design

Fire has been essential to life since the dawn of man, so it's no surprise the powerful impact fireplaces can have on design. In fact, according to the recent Hot Spots Research Study from fireplace manufacturer Napoleon, home owners are much more likely to associate positive emotions with rooms that have fireplaces compared to rooms that don't. Unfortunately, as building professionals know, fireplaces can pose design challenges that may inhibit their use.

Dedicated to overcoming challenges and changing the way people look at hearth design, Napoleon is breaking down barriers with the new Luxuria Linear Series. The product line is a game-changer for design professionals, as it boasts the industry-unique Dynamic Heat Control and

“Fireplaces can now be incorporated into rooms where home owners may not have wanted the added heat, such as a kitchen or bathroom.”

Glass Guard systems. To put it another way, these systems harness heat, expanding when, where and how fireplaces can be appreciated.

BOUNDLESS BEAUTY

Since 2015, mesh safety screens have been required on glass-front gas fireplaces. While no one will discount the importance of this mandate to protect against injury, the screens have left something to be desired when it comes to the beauty of the fireplace. With Napoleon’s new development, however, heat can be redirected, eliminating the need for a safety screen. In effect, the only thing to stand between you and the show-stopping flames of a 6-foot-long fireplace is clear glass that remains cool to the touch.

Another advantage to harnessing the heat is the ability to now use any number of finishes around the fireplace, including combustible materials. The framing options are limitless, allowing designers to achieve almost any style. Design options are further expanded as the series offers four sizes, ranging from 38 to 74 inches long, for cozy applications or a dramatic focal point.

LIMITLESS LOCALES

The beauty of a fireplace is almost always appreciated; however, the heat is sometimes not. There’s a reason fireplaces are more prevalent in the Northeast compared to the Southwest, and used more often in the winter than the summer. However, with the ability to redirect heat, no matter the location or time of year, home owners can appreciate the ambiance a fireplace offers while maintaining a comfortable temperature.

The heat emitted from a fireplace also often prohibits where they are placed within a room. Challenges such as heat-sensitive electrical equipment, valuable art work and accessibility to pets and children have often dictated where fireplaces can and cannot go. With cool-to-the-touch glass, however, fireplaces can now be appreciated from any room or location as little hands or paws won’t get burned. Plus, the redirected heat now won’t disturb anything surrounding it.

Furthermore, fireplaces can now be incorporated into rooms where home owners may not have wanted the added heat, such as a kitchen or bathroom. And considering the added conveniences of redirected heat and cool glass, builders can now include large linear fireplaces in more public spaces such as restaurants, nursing homes or lobbies.

The new Napoleon Luxuria Linear Series, and its many benefits, will be available for distribution this summer. Industry professionals looking for more information can visit NapoleonFireplaces.com. 🏠

Stephen Schroeter is senior vice president of sales and marketing for Napoleon Fireplaces.



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Beachfront New Urbanism

By Douglas Kallfelz, AIA, LEED AP, CNU, and Robert Brennan Jr.

Lovable Density on the Shores of Cape Cod

Heritage Sands is Cape Cod's first new oceanfront cottage community in more than 50 years. Now, 63 cottages are clustered around common greens to create intimate neighborhoods interlaced with crushed shell paths that wind down to more than 600 feet of private beach.



The architecture at Heritage Sands combines the historic style of Cape Cod summer cottages with the modern benefits of modular construction, energy efficiency and advanced storm protection.



Rather than line the waterfront with cottages that would block the view for the rest of the neighborhood, the site was carefully designed to provide all the homes with a connection to the ocean.

The 8-acre site was formerly a seasonal trailer park that hosted 150 RVs and 15 cottages on cement slabs. The developer's inspiration to transform this site came from the rich history of Cape Cod's summer communities, populated by families returning every year. This tradition began with tent sites and evolved over time to dense cottage neighborhoods, a land plan style that was unique to the Cape.



The clubhouse provides a spacious setting for family and neighborhood gatherings.

The developer's goal was not to recreate the wheel after 50 years, but instead to leverage technological advances (such as modular home building, energy efficiency and storm compliance) with tried-and-true strategies for traditional neighborhood design (pocket neighborhood layout, ample front porches, shared common space). The result is a highly unique community that has a deep sense of place.

It's beachfront New Urbanism, and the town warmly embraced it as a welcome break from fenced-off trophy homes that had dominated new Cape Cod waterfront construction for decades. The target market was looking for a sense of community, a neighborhood that did not include McMansions. Heritage Sands mimics the old-style cottage colonies, where families bonded and grew together, summer after



Welcoming front porches that face common green space and shell walkways foster daily casual interactions among residents.

summer. The architect created pocket neighborhoods with the front porches of clustered cottages facing onto common greens and crushed shell pathways where casual daily interactions among neighbors could occur naturally.

The design intent was to achieve an upscale but relaxed feel through simple craftsmanship. From the curve of a winding path to the strength of every roof rake, no detail at Heritage Sands was overlooked. The architect used gray cedar shingles and white trim to accentuate the cottages' classical forms and simple lines. The interiors were designed to maximize the small footprints of each of the 10 cottage prototypes in this neighborhood. With homes ranging from 900 to 1,350 square feet, 1 ½-story compact floor plans combine open common space with tall, lofty ceilings and smaller private rooms. Finishes are high quality and selected from a neutral palette.

Intimate scale defines a pocket neighborhood's unique character. When designing these neighborhoods in larger increments, it is challenging to maintain that intimacy. At Heritage Sands, careful attention was paid to the design of the site plan. Small clusters of six to 10 homes surrounding common green space were grouped with the goal of creating smaller "neighborhoods within neighborhoods." These small house

clusters are connected through winding walking paths and all homes feature front (and some side) porches to encourage social interaction between neighbors.

An additional challenge was to design the site in such a way that views and connection to the water were available to all cottages, thus increasing property values throughout the community. The design team resisted the temptation to line the waterfront with homes, which would have blocked views to the rest of the cottages. Instead, linear greens were arranged to draw views and create pedestrian connections to the water for the whole neighborhood.

As with all compact neighborhoods,



Open floorplans, tall ceilings, recessed lighting and neutral palettes help make the cottages feel larger and increase their functionality.



The team worked diligently with local officials to create a new seasonal resort zoning provision to ensure the viability of cottage communities on the Cape.

privacy was also a concern, so home types were selected and staggered so that most windows were not directly aligned. Attention to this design detail helped mitigate the negative associations with density by incorporating a sense of privacy between homes.

MODULAR BENEFITS

The target market of seasonal residents wanted a custom home built to their specifications, but didn't want to wait months on end. To deliver cottages in a timely fashion, the developer chose modular construction. Completed cottages were delivered to Heritage



Sands buyers as soon as 14 weeks after contract, which helped residents move in by summer.

The team found that the benefits of modular included a climate-controlled build environment, as opposed to the unpredictability and challenges of a coastal setting. It also minimized on-site staging and materials storage, sped delivery, and reduced construction noise and disturbance for owners and the surrounding neighborhood.

Each cottage was carefully designed to dovetail with the parameters of modular construction without compromising any of the character associated with a classic Cape Cod cottage. Each home was also built to exacting coastal standards, with steel straps that bolt homes to their foundations and hurricane-rated windows to withstand coastal storms.

PLANNING FOR THE FUTURE

The team worked carefully with the town selectmen, town manager, town planner, a host of town municipal boards and committees, the local business community, and the year-round and seasonal residents of Dennis to create a new “seasonal resort” zoning provision aimed at preserving neighborhood character and securing the continued viability of cottage communities for the



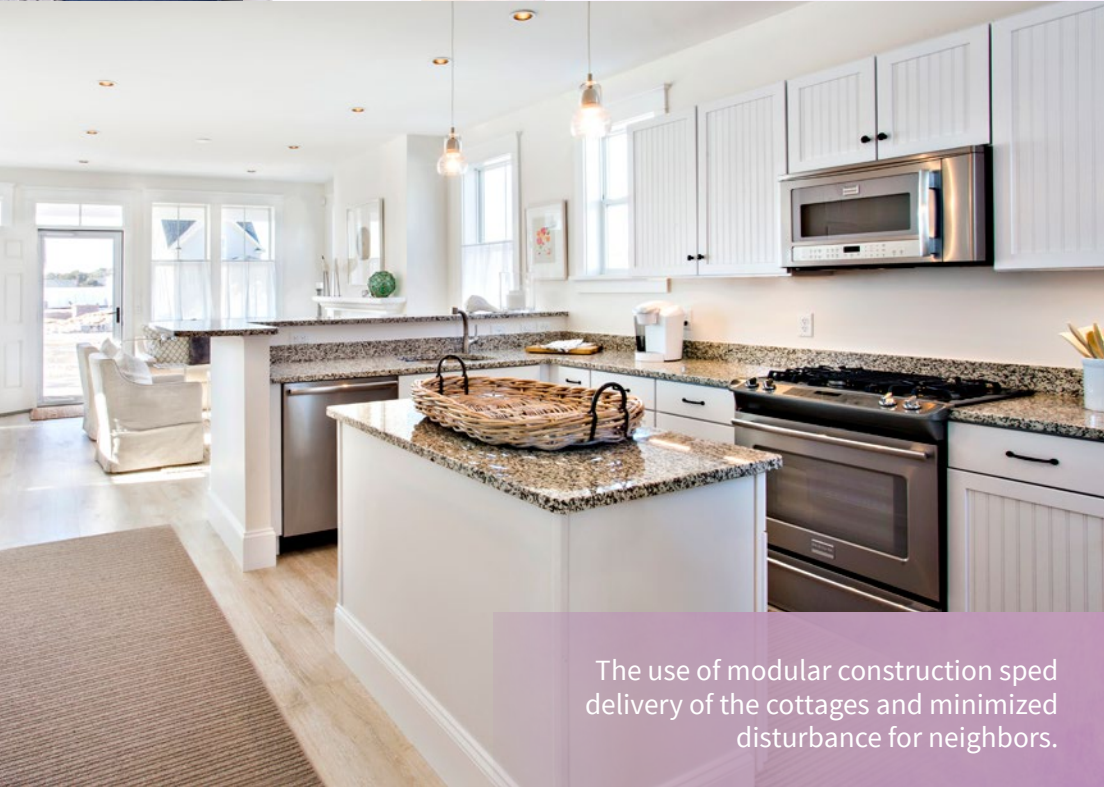
The clubhouse and the cottages feature gray cedar shingles and white trim, in keeping with historic Cape Cod style.

next 100 years. The Dennis town planner anticipates that Dennisport’s new cottage-friendly zoning will reap benefits for the town’s year-round residents and businesses by bolstering second-home inventory and drawing cottage owners back to the Cape throughout the year.

As of May 2017, 61 of 63 available cottages had been sold. The project received NAHB’s prestigious 2016 Best of American Living Community of the Year award as well as NAHB’s Best Residential Community (under 100 homes) and Best Project in North Atlantic Region. Additionally, it won gold awards for modular homes and for production

home under 2,000 square feet at the 2016 *Professional Builder* awards, and Best Land Planning, Best Multi-Unit For Sale Community: Detached Homes, and Best Detached Home under 2,500 Square Feet at the 2016 Prism Gold Awards.

Most importantly, Heritage Sands has proven that the seasonal residential market on the Cape responds positively to housing options that favor well-designed density over conventional development. People were looking for a community where they could develop lifelong relationships with neighboring families, and they have found it at Heritage Sands. 🏡



The use of modular construction sped delivery of the cottages and minimized disturbance for neighbors.

Douglas Kallfelz, AIA, LEED AP, CNU, is managing principal at Union Studio Architecture & Community Design in Providence, Rhode Island.

Robert Brenna Jr. is a developer at CapeBuilt Development LLC in Dennisport, Massachusetts.



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LIGHT UP THE YARD

Lighting and patios top home buyers' list of popular outdoor features

By Paul Emrath

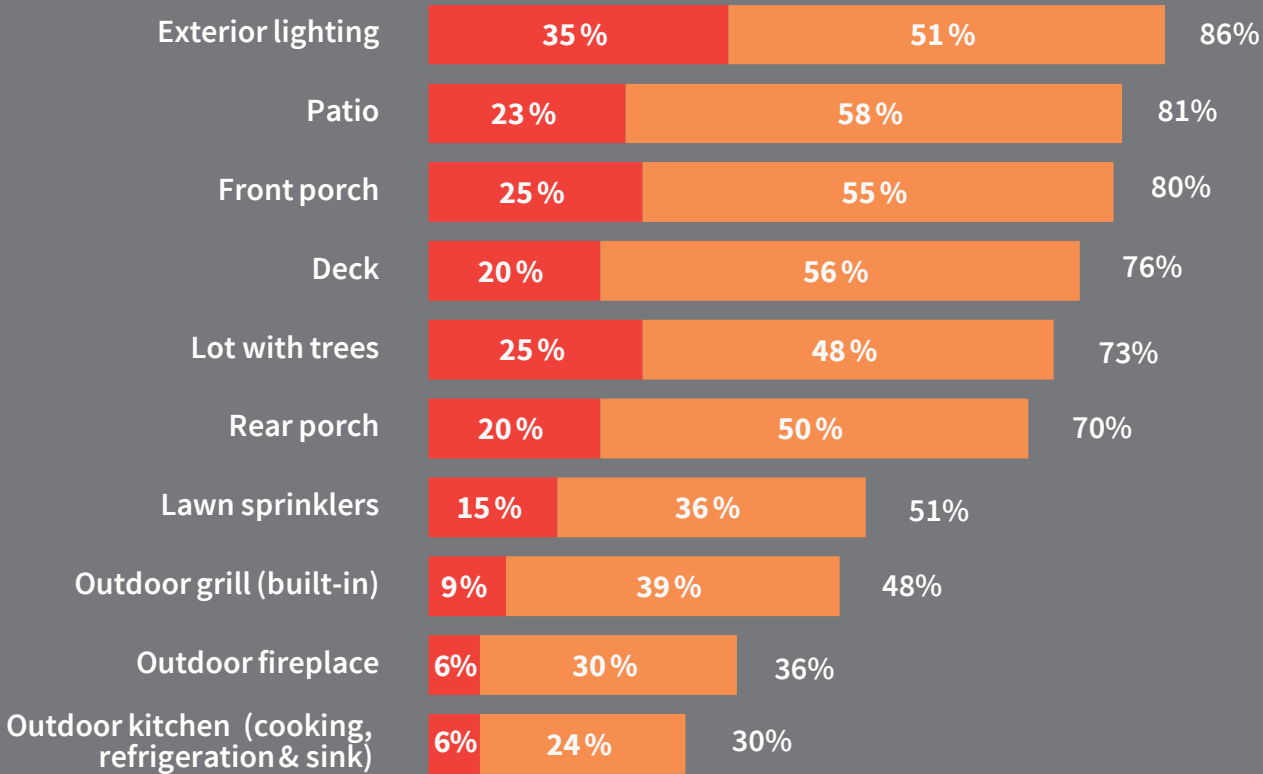
When considering the yard space around a home, buyers demand good lighting more than any other outdoor amenity, according to NAHB's [latest consumer survey](#). Among buyers in most parts of the country, a patio ranks a close second.

NAHB conducted the survey using a consumer panel maintained by [Home Innovation Research Labs](#). The panel allowed NAHB to identify both recent and prospective buyers (those who had either purchased a home in the past three years, or plan to purchase one in the next three). The resulting sample of 4,326 recent and prospective home buyers was stratified and weighted to be representative of home owners in the U.S. across key characteristics, including income and geography (the nine census divisions).

Home buyers responding to the survey rated 10 outdoor features on the following four-tier scale:

ESSENTIAL	unlikely to buy a home without feature
DESIRABLE	seriously influenced to buy home if included
INDIFFERENT	would not influence purchase decision
DO NOT WANT	not likely to buy a home with feature

Figure 1: Home Buyer Ratings of Outdoor Features



Household Income Level:



Exterior lighting and a patio were rated “essential” or “desirable” by 90 and 84 percent of home buyers, respectively. At the other end of the scale, an outdoor kitchen, outdoor fireplace and outdoor built-in grill were overall the least popular of the 10 features. In fact, more than 20 percent of home buyers said they were unlikely to purchase a home if it came with an outdoor kitchen or fireplace.

As **Figure 1** shows, buyers rank exterior lighting and a patio at the top—and outdoor kitchens, fireplaces and grills at the bottom—no matter what their incomes, although there is a tendency for higher-income buyers to rate these features somewhat more favorably, especially those at the bottom of

the list. For example, nearly half of high-income (\$150,000-plus) buyers rate an outdoor kitchen as essential or desirable, compared to only 30 percent of buyers with moderate incomes (under \$75,000).

INCOME DRIVES PREFERENCES

An exception to this general rule is a front porch, which ranks as the Number 3 outdoor amenity among moderate-income buyers (80 percent of whom rate it essential or desirable) but only Number 7 among buyers with at least \$150,000 income (72 percent of whom rate it essential or desirable).

Almost no buyers in any income group explicitly say they do

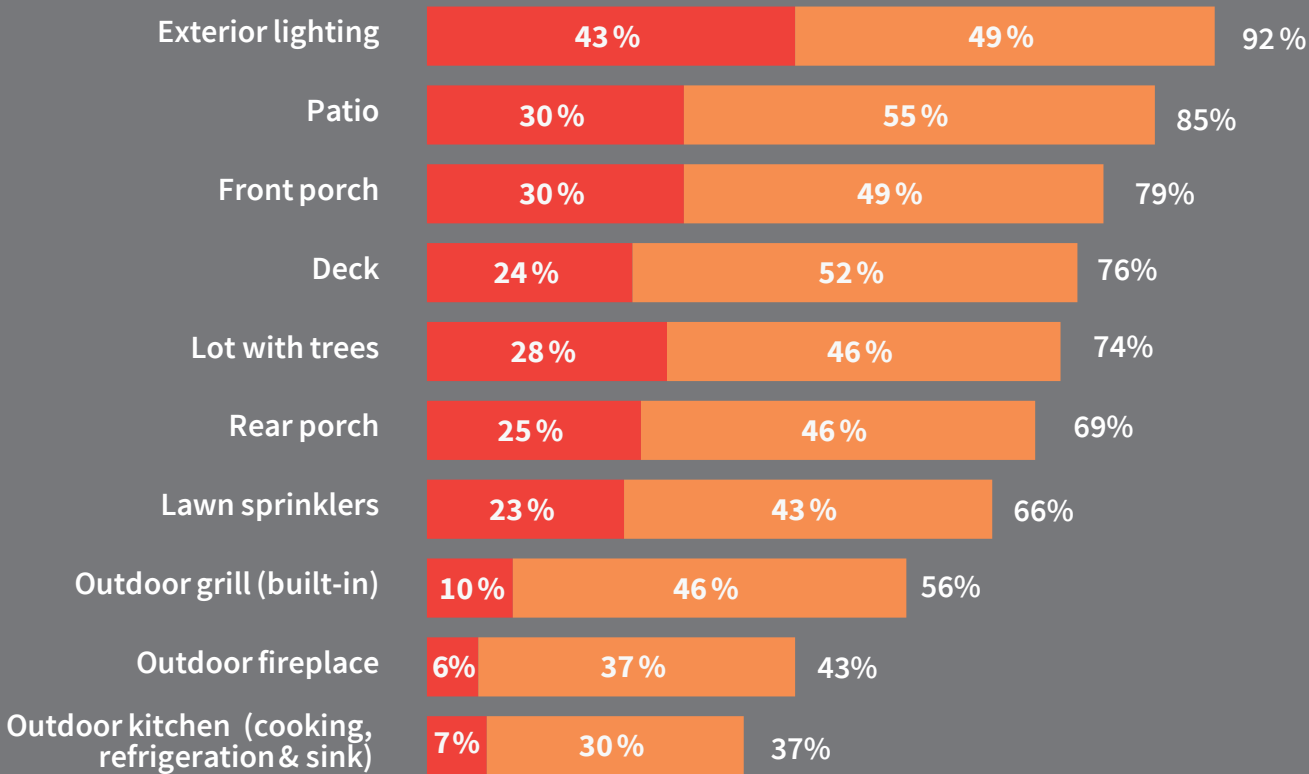


not want a front porch, but buyers with higher incomes are more likely to be indifferent. Perhaps high-income buyers have alternate ideas for an attractive home front (e.g., large entry doors flanked by columns) that seem as good to them as the front-porch design.

As the front porch slides down the list slightly, a lot with trees and deck move up, ranking as the third and fourth most popular outdoor features among buyers with at least \$100,000 in income. High-income buyers are considerably more interested than others in lawn sprinklers. Seventy-two percent of buyers with \$150,000-plus in income rate lawn sprinklers essential or desirable, compared to only about half of buyers with incomes under \$75,000.

In terms of geography, there are a few differences across the nine census divisions, but the similarities are more striking (**Figure 2**). As the figure shows, exterior lighting is the most popular outdoor feature, and an outdoor kitchen the least popular, in each division. A patio ranks second from the top, except in the two divisions on the eastern border of the Mississippi River (the East North Central and East South Central), where a front porch edges it out. An outdoor fireplace ranks second from the bottom in every division except the East South Central, where it ranks slightly higher than lawn sprinklers.

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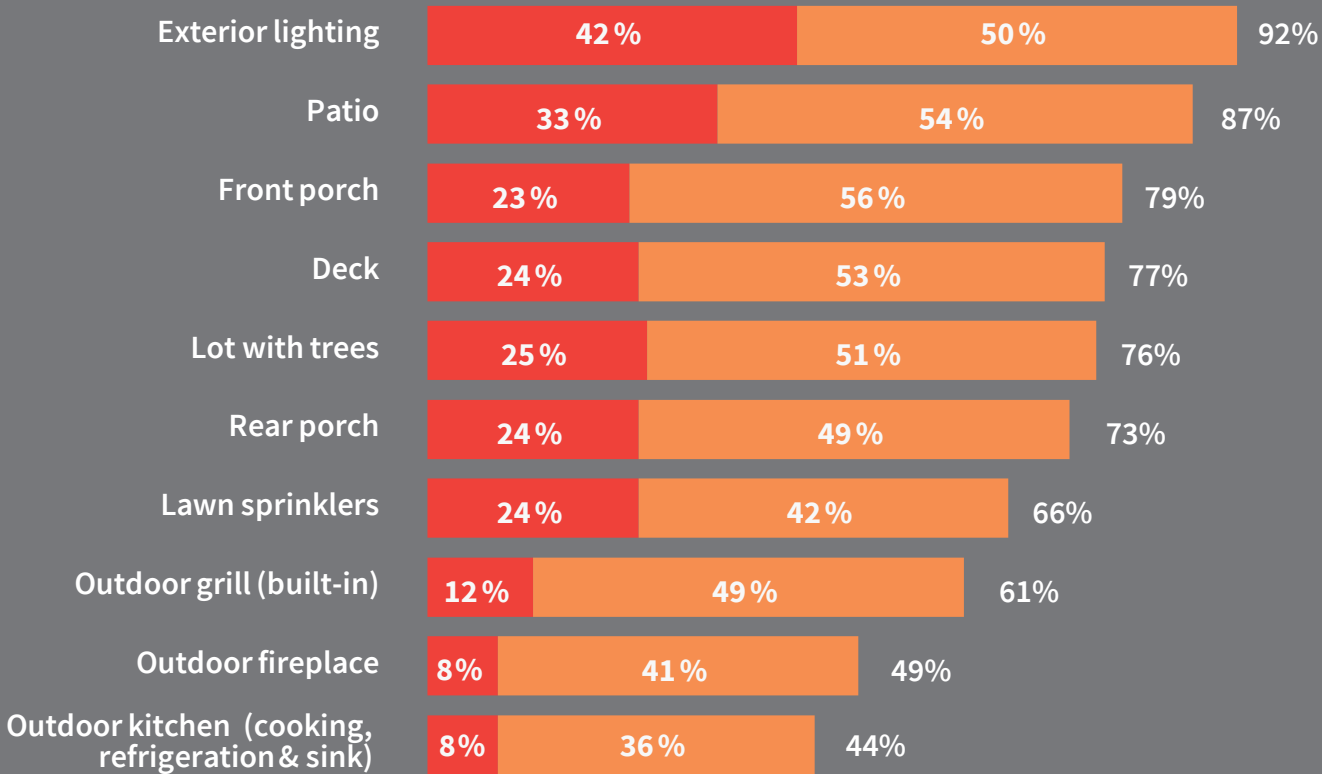
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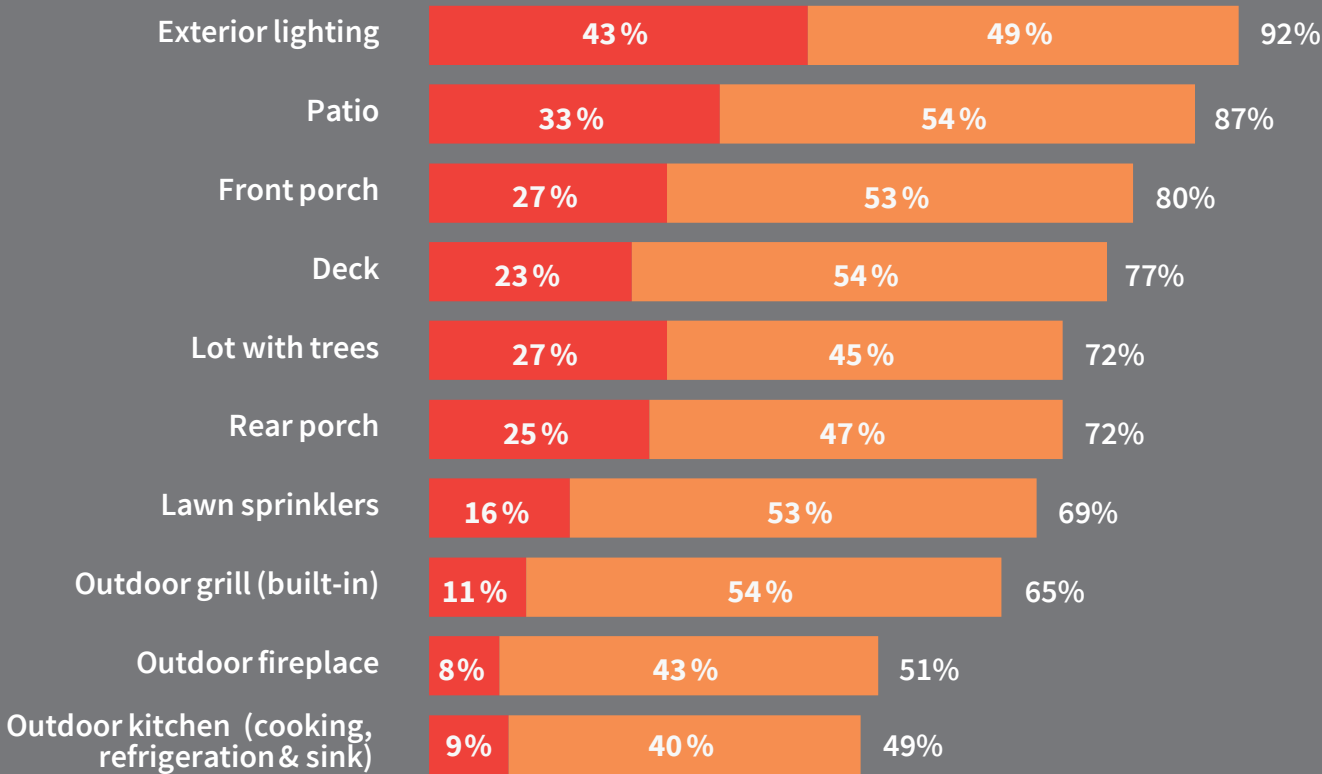
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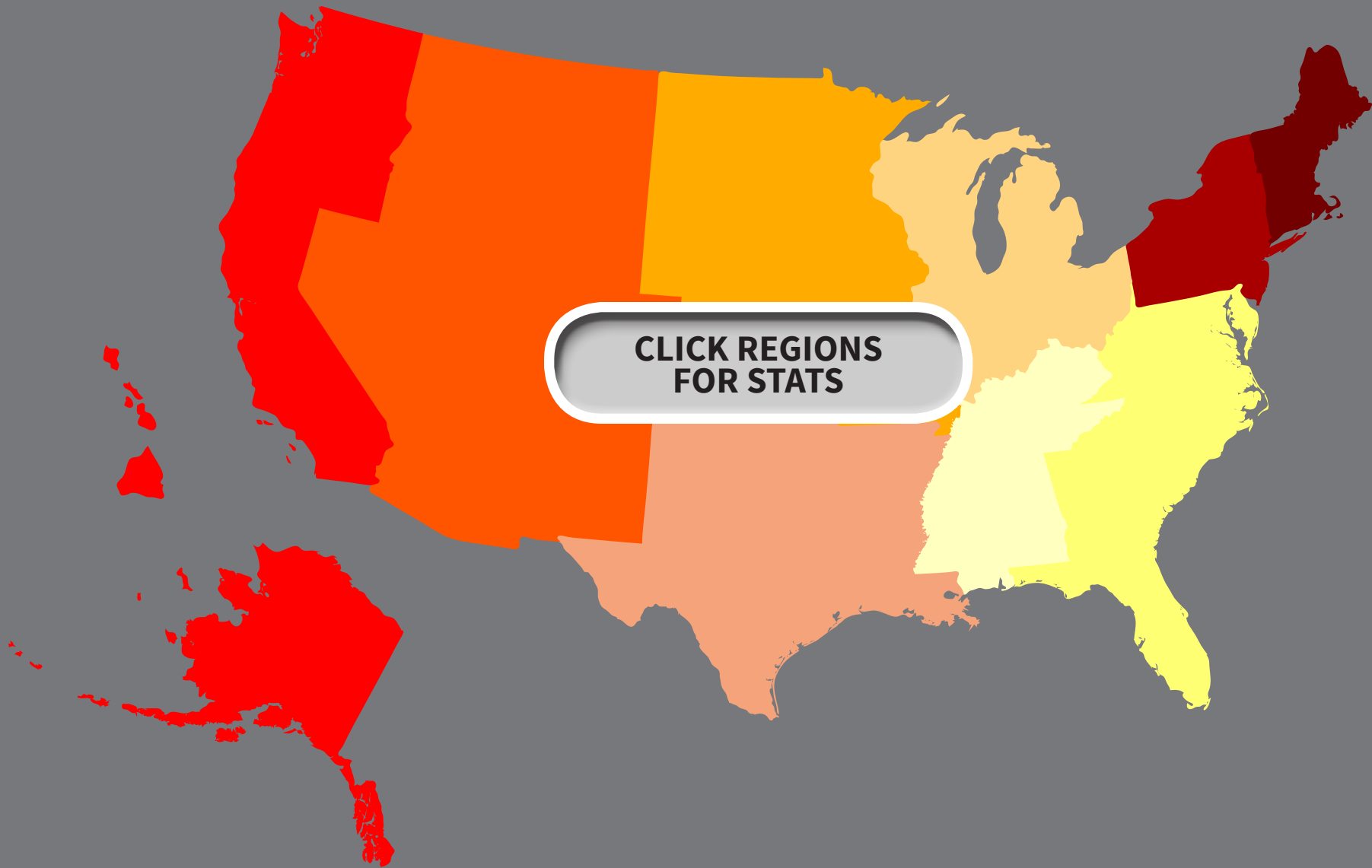
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Buyer preferences for lawn sprinklers vary more with geography than the other nine features on the list. The share of buyers rating lawn sprinklers as essential or desirable ranges from a low of 43 percent in the East North Central and East South Central divisions to more than 70 percent in the Mountain and West South Central divisions.

OUTDOOR FEATURES SELL HOMES

With the exception of the relatively low-rated outdoor kitchens and fireplaces, the most common reaction from home buyers is to say that an outdoor feature is desirable (it would seriously influence their decision in a positive way without being absolutely essential).

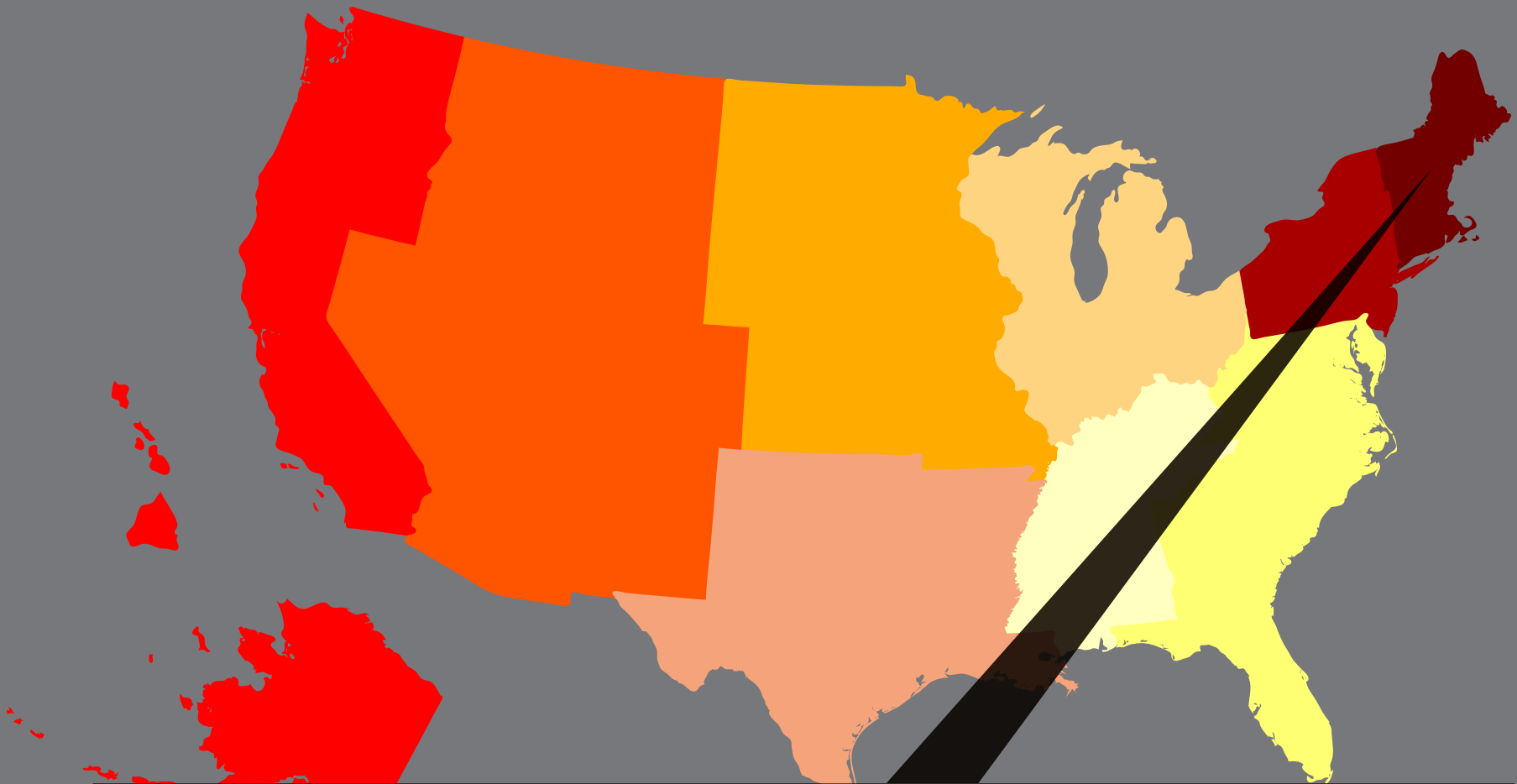
Buyers in the West South Central Division (Arkansas, Louisiana, Oklahoma and Texas), however, are more likely than others to classify certain outdoor features as essential. The share of buyers in the West South Central rating a particular feature essential is 32 percent for a rear porch, 33 percent for a front porch, 34 percent for a lot with trees and 41 percent for a patio. In each case, this essential percentage is higher—often much higher—than in any of the other eight divisions.

The obvious implication is that home builders in Arkansas, Louisiana, Oklahoma and Texas especially should be trying to provide porches, patios and treed lots as often as possible. There also may be opportunities for contractors in the West South Central to add these types of outdoor features to existing homes. 🏠

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New England Census Division

Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont

	DO NOT WANT	INDIFFERENT	DESIRABLE	ESSENTIAL	ESSENTIAL + DESIRABLE
Exterior lighting	0	9	54	37	91
Patio	1	15	68	16	84
Front porch	2	16	63	19	82
Deck	1	19	53	27	80
Lot with trees	1	21	56	23	79
Rear porch	1	25	61	13	74
Lawn sprinklers	8	34	48	10	58
Outdoor grill (built-in)	18	27	45	10	55
Outdoor fireplace	25	29	42	4	46
Outdoor kitchen	35	36	27	1	28

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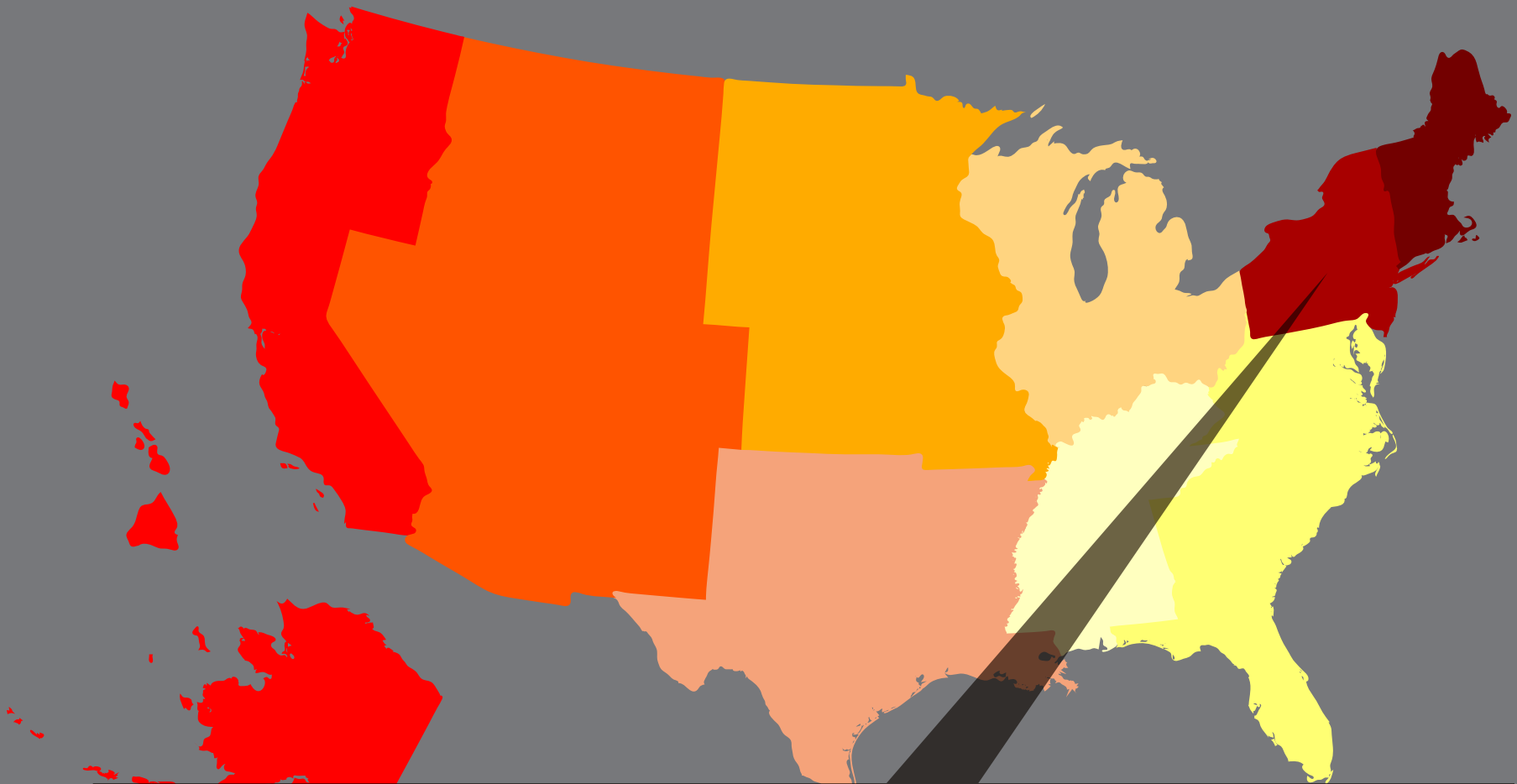
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Mid-Atlantic Census Division

New Jersey, New York, Pennsylvania

	DO NOT WANT	INDIFFERENT	DESIRABLE	ESSENTIAL	ESSENTIAL + DESIRABLE
Exterior lighting	2	12	48	38	86
Patio	2	16	61	21	82
Deck	4	17	56	23	79
Front porch	3	18	53	25	78
Rear porch	2	27	52	19	71
Lot with trees	7	22	48	23	71
Outdoor grill (built-in)	13	30	46	11	57
Lawn sprinklers	12	34	39	15	54
Outdoor fireplace	21	36	35	8	43
Outdoor kitchen	29	36	27	7	34

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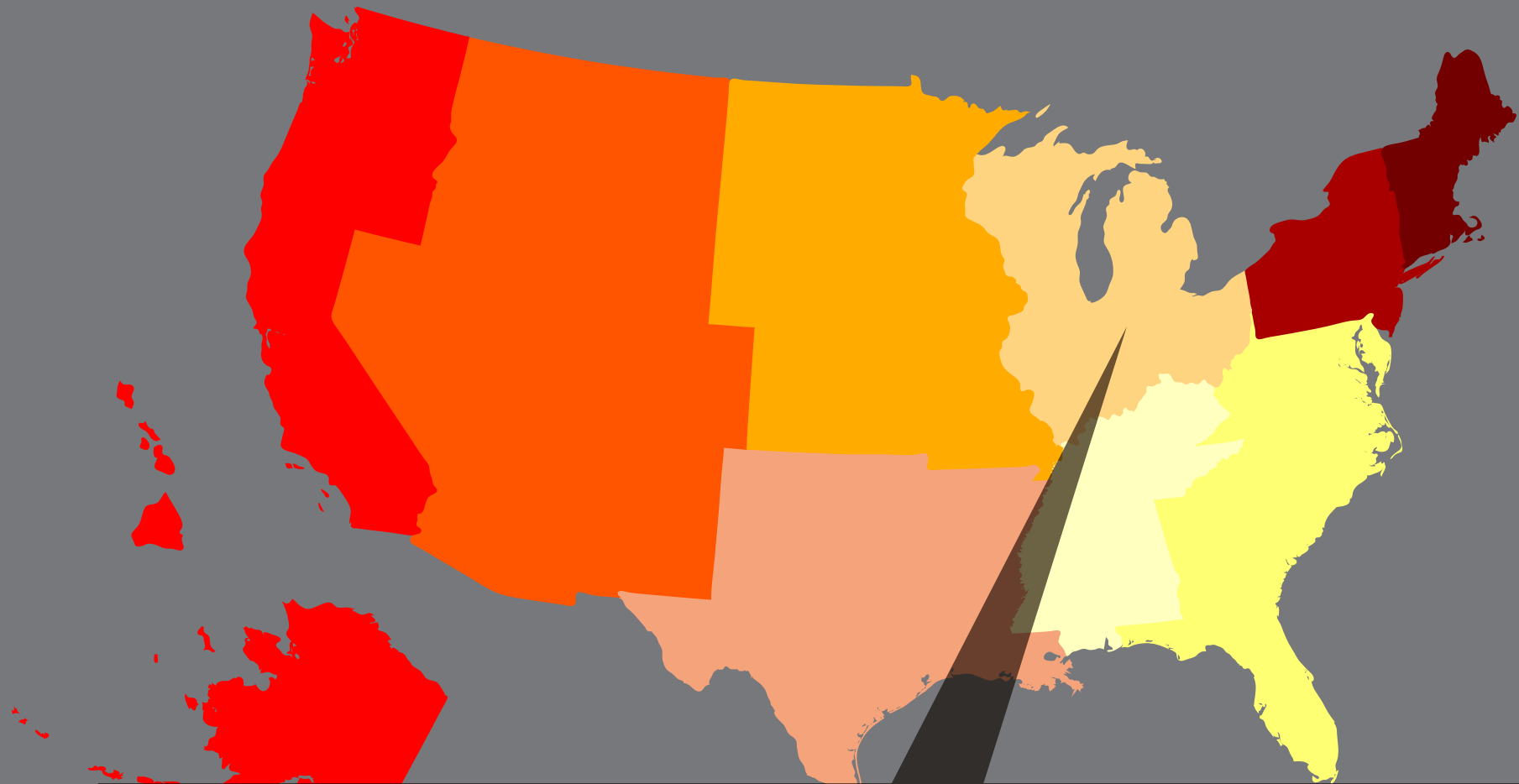
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East North Central Census Division

Illinois, Indiana, Michigan, Ohio, Wisconsin

	DO NOT WANT	INDIFFERENT	DESIRABLE	ESSENTIAL	ESSENTIAL + DESIRABLE
Exterior lighting	1	13	55	31	86
Front porch	2	16	57	25	82
Patio	3	17	61	20	81
Deck	7	18	54	21	75
Lot with trees	8	20	53	18	71
Rear porch	7	27	49	17	66
Outdoor grill (built-in)	18	33	41	7	48
Lawn sprinklers	18	39	32	11	43
Outdoor fireplace	23	35	38	5	43
Outdoor kitchen	35	35	24	6	30

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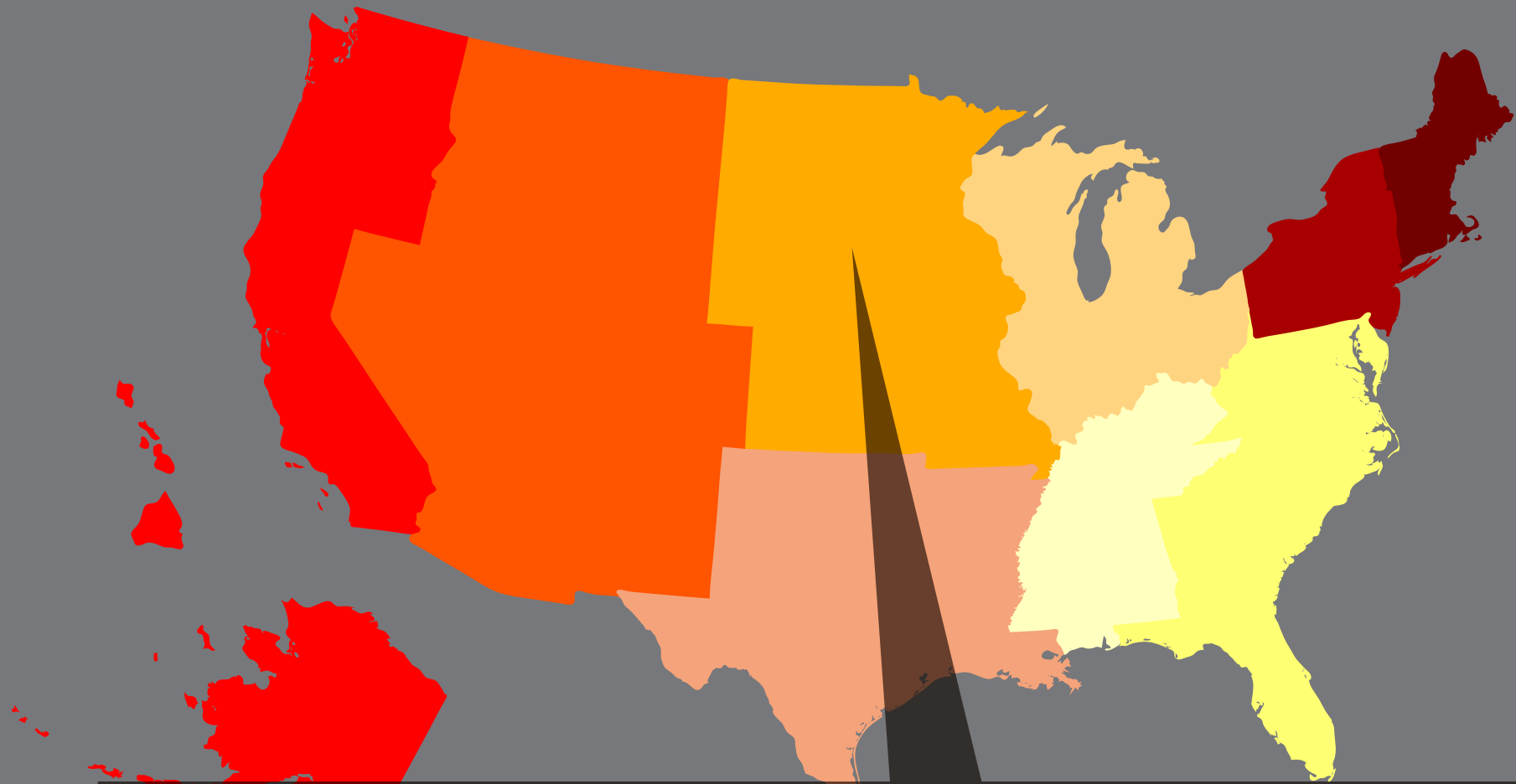
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West North Central Census Division

Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota

	DO NOT WANT	INDIFFERENT	DESIRABLE	ESSENTIAL	ESSENTIAL + DESIRABLE
Exterior lighting	0	12	51	36	87
Patio	2	13	56	29	85
Deck	5	13	61	22	83
Lot with trees	5	16	46	32	78
Front porch	3	22	54	21	75
Rear porch	4	26	54	16	70
Lawn sprinklers	12	32	36	20	56
Outdoor grill (built-in)	18	35	42	6	48
Outdoor fireplace	20	40	34	6	40
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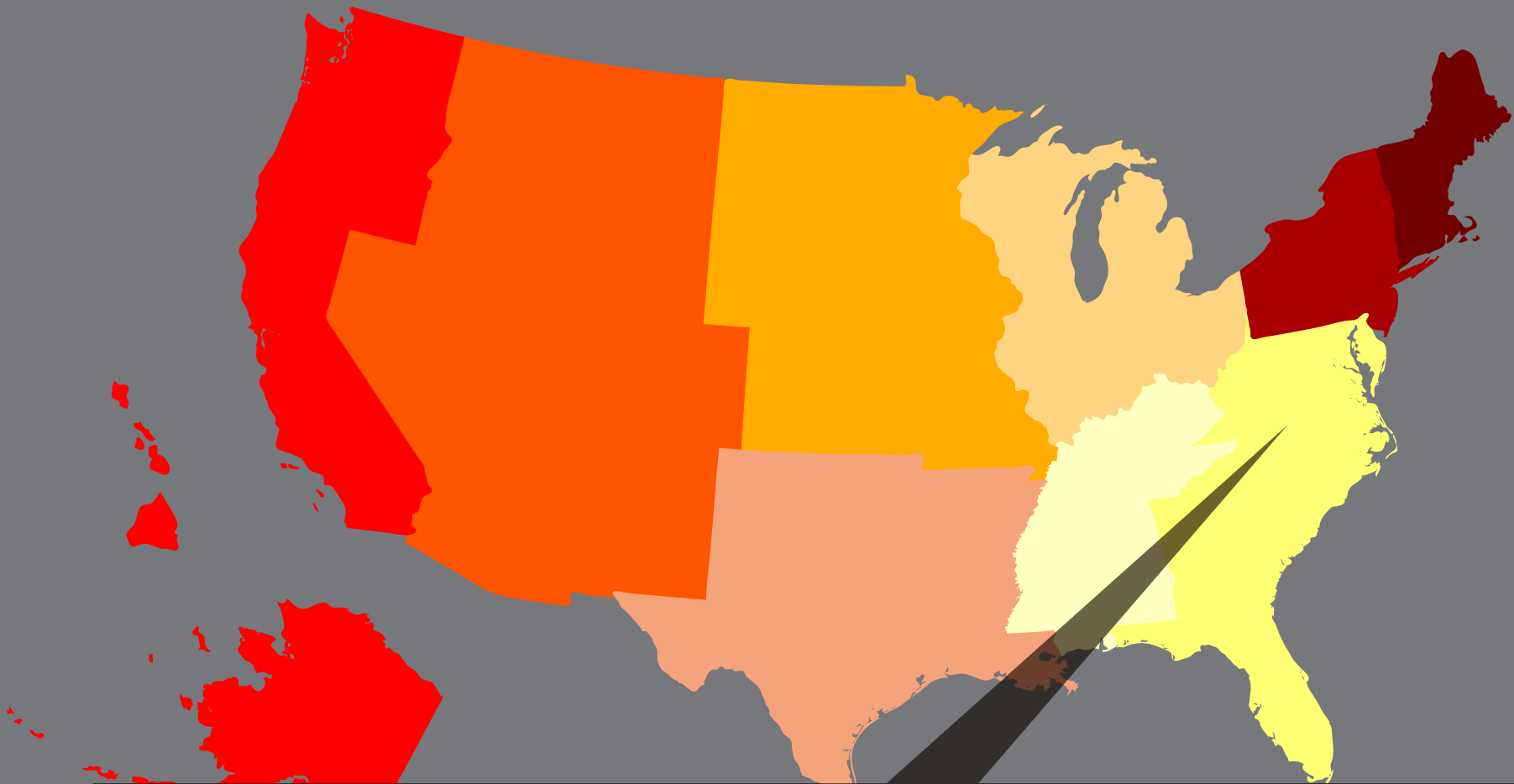
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South Atlantic Census Division

Delaware, District of Columbia, Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia, West Virginia

	DO NOT WANT	INDIFFERENT	DESIRABLE	ESSENTIAL	ESSENTIAL + DESIRABLE
Exterior lighting	1	8	49	42	91
Patio	2	17	54	27	81
Deck	6	20	54	21	75
Front porch	7	20	48	25	73
Lot with trees	6	22	49	23	72
Rear porch	7	25	47	21	68
Lawn sprinklers	13	26	42	20	62
Outdoor grill (built-in)	17	29	44	10	54
Outdoor kitchen	30	33	30	7	37
Outdoor fireplace	29	36	30	5	35

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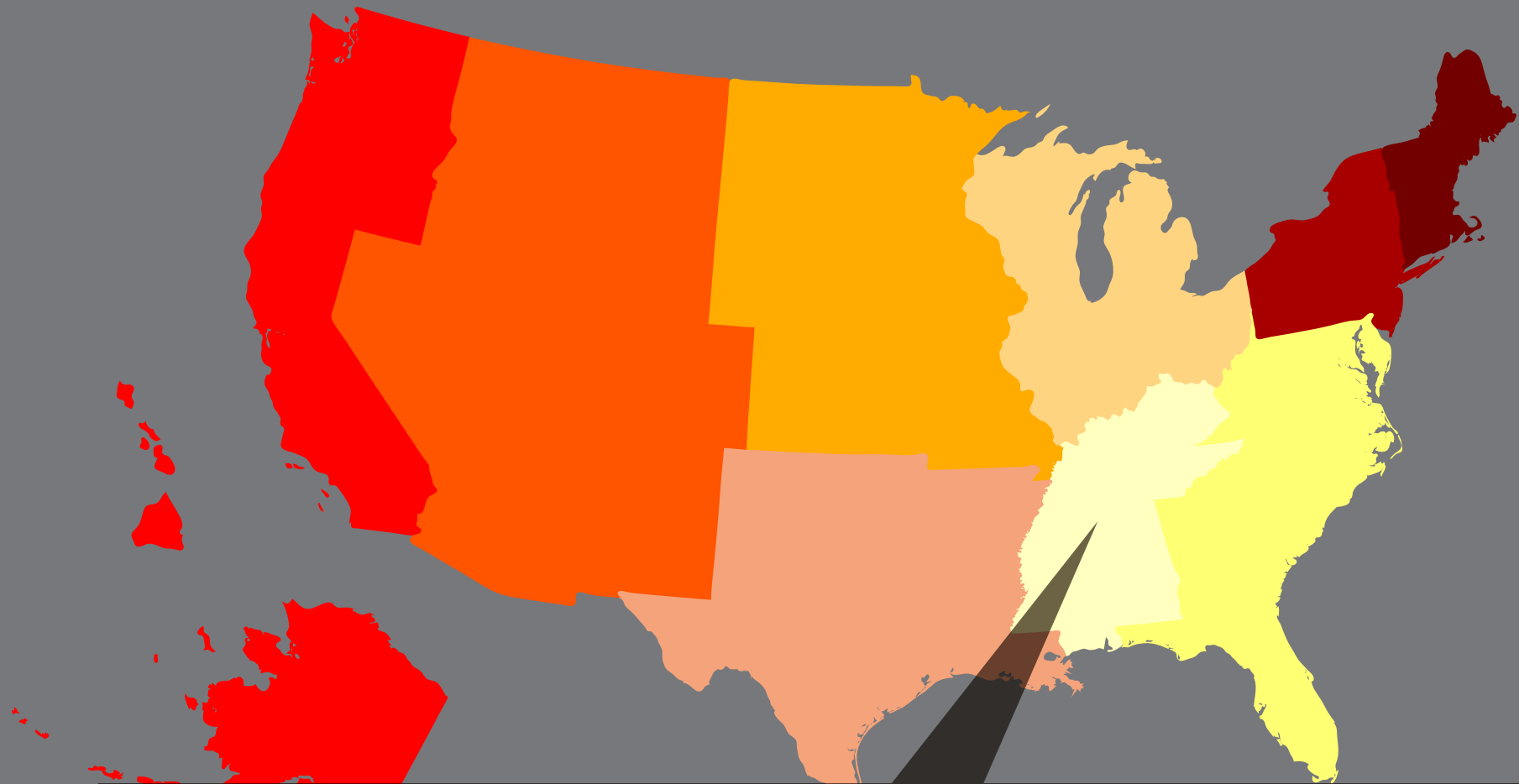
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East South Central Census Division

Alabama, Kentucky, Mississippi, Tennessee

	DO NOT WANT	INDIFFERENT	DESIRABLE	ESSENTIAL	ESSENTIAL + DESIRABLE
Exterior lighting	1	9	47	43	90
Front porch	3	15	51	32	83
Patio	2	17	58	23	81
Rear porch	3	20	52	25	77
Deck	5	20	52	24	76
Lot with trees	5	24	42	29	71
Outdoor grill (built-in)	18	29	41	12	53
Outdoor fireplace	20	32	39	10	49
Lawn sprinklers	23	34	33	10	43
Outdoor kitchen	26	36	31	6	37

Buyer preferences for lawn sprinklers vary more with geography than the other nine features on the list. The share of buyers rating lawn sprinklers as essential or desirable ranges from a low of 43 percent in the East North Central and East South Central divisions to more than 70 percent in the Mountain and West South Central divisions.

OUTDOOR FEATURES SELL HOMES

With the exception of the relatively low-rated outdoor kitchens and fireplaces, the most common reaction from home buyers is to say that an outdoor feature is desirable (it would seriously influence their decision in a positive way without being absolutely essential).

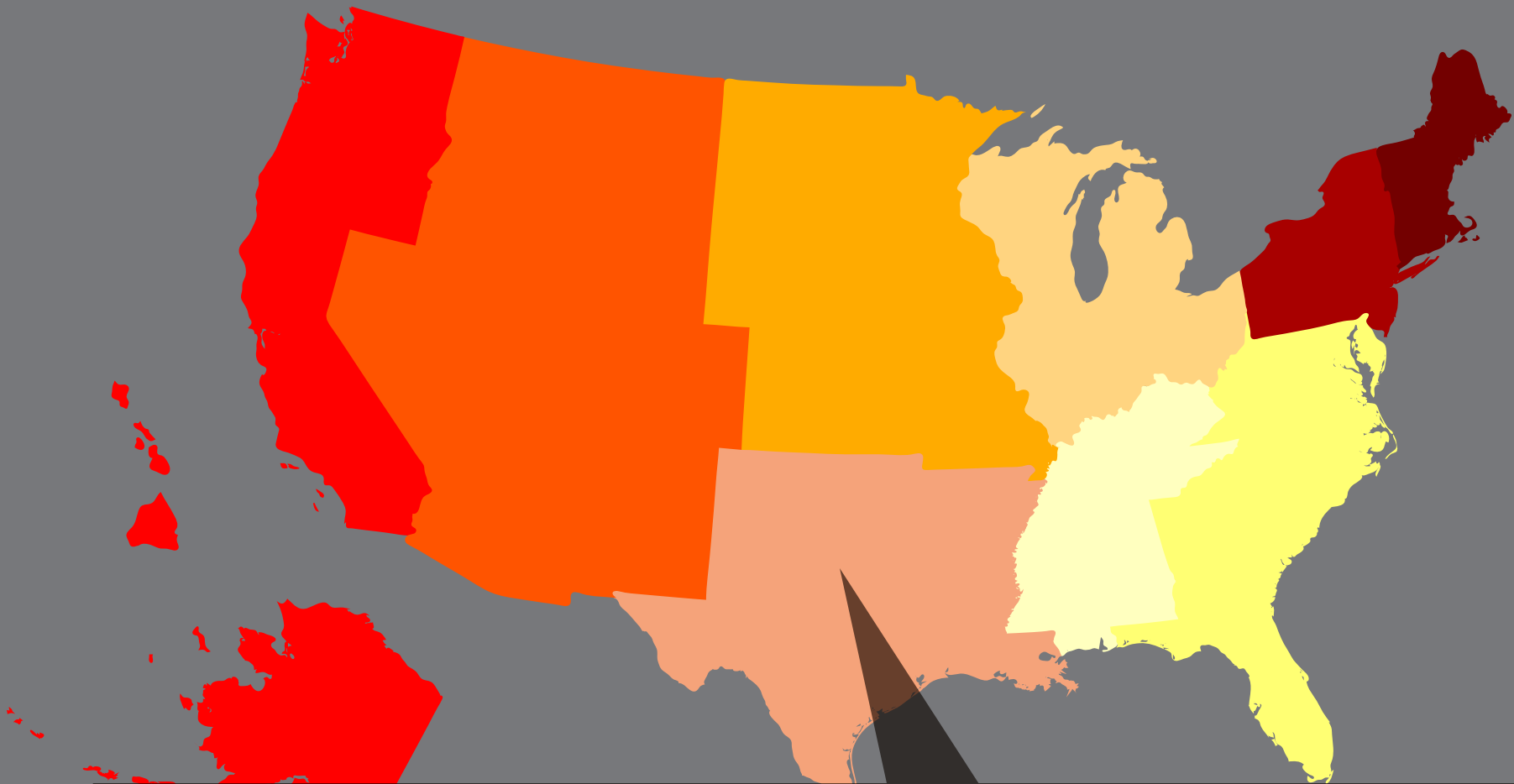
Buyers in the West South Central Division (Arkansas, Louisiana, Oklahoma and Texas), however, are more likely than others to classify certain outdoor features as essential. The share of buyers in the West South Central rating a particular feature essential is 32 percent for a rear porch, 33 percent for a front porch, 34 percent for a lot with trees and 41 percent for a patio. In each case, this essential percentage is higher—often much higher—than in any of the other eight divisions.

The obvious implication is that home builders in Arkansas, Louisiana, Oklahoma and Texas especially should be trying to provide porches, patios and treed lots as often as possible. There also may be opportunities for contractors in the West South Central to add these types of outdoor features to existing homes. 🏠

Paul Emrath, Ph.D., is vice president for survey and housing policy research for the National Association of Home Builders.



Figure 2: How Home Buyers Rate Outdoor Features in the Nine Census Divisions



West South Central Census Division

Arkansas, Louisiana, Oklahoma, Texas

	DO NOT WANT	INDIFFERENT	DESIRABLE	ESSENTIAL	ESSENTIAL + DESIRABLE
Exterior lighting	1	8	48	43	91
Patio	1	9	48	41	89
Lot with trees	3	13	50	34	84
Front porch	4	13	50	33	83
Rear porch	3	23	42	32	74
Deck	7	19	52	22	74
Lawn sprinklers	6	23	39	32	71
Outdoor grill (built-in)	10	33	44	13	57
Outdoor kitchen	20	35	37	9	46
Outdoor fireplace	20	39	32	9	41

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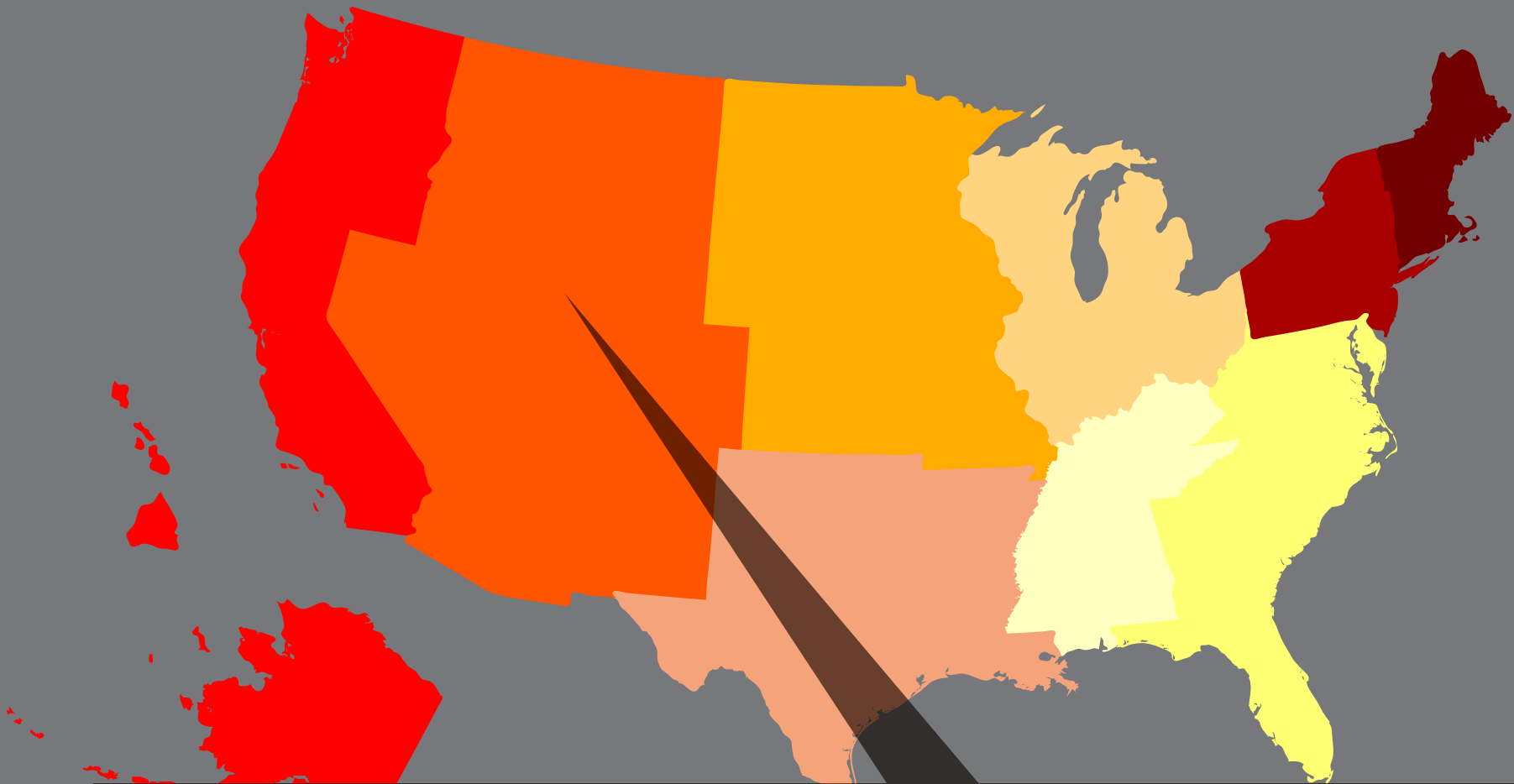
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Mountain Census Division

Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, Wyoming

	DO NOT WANT	INDIFFERENT	DESIRABLE	ESSENTIAL	ESSENTIAL + DESIRABLE
Exterior lighting	2	9	46	42	88
Patio	2	11	49	37	86
Lot with trees	5	16	49	29	78
Front porch	4	22	48	26	74
Lawn sprinklers	8	19	44	29	73
Rear porch	5	28	44	23	67
Deck	7	29	46	18	64
Outdoor grill (built-in)	15	30	44	12	56
Outdoor fireplace	25	36	31	9	40
Outdoor kitchen	32	32	29	8	37

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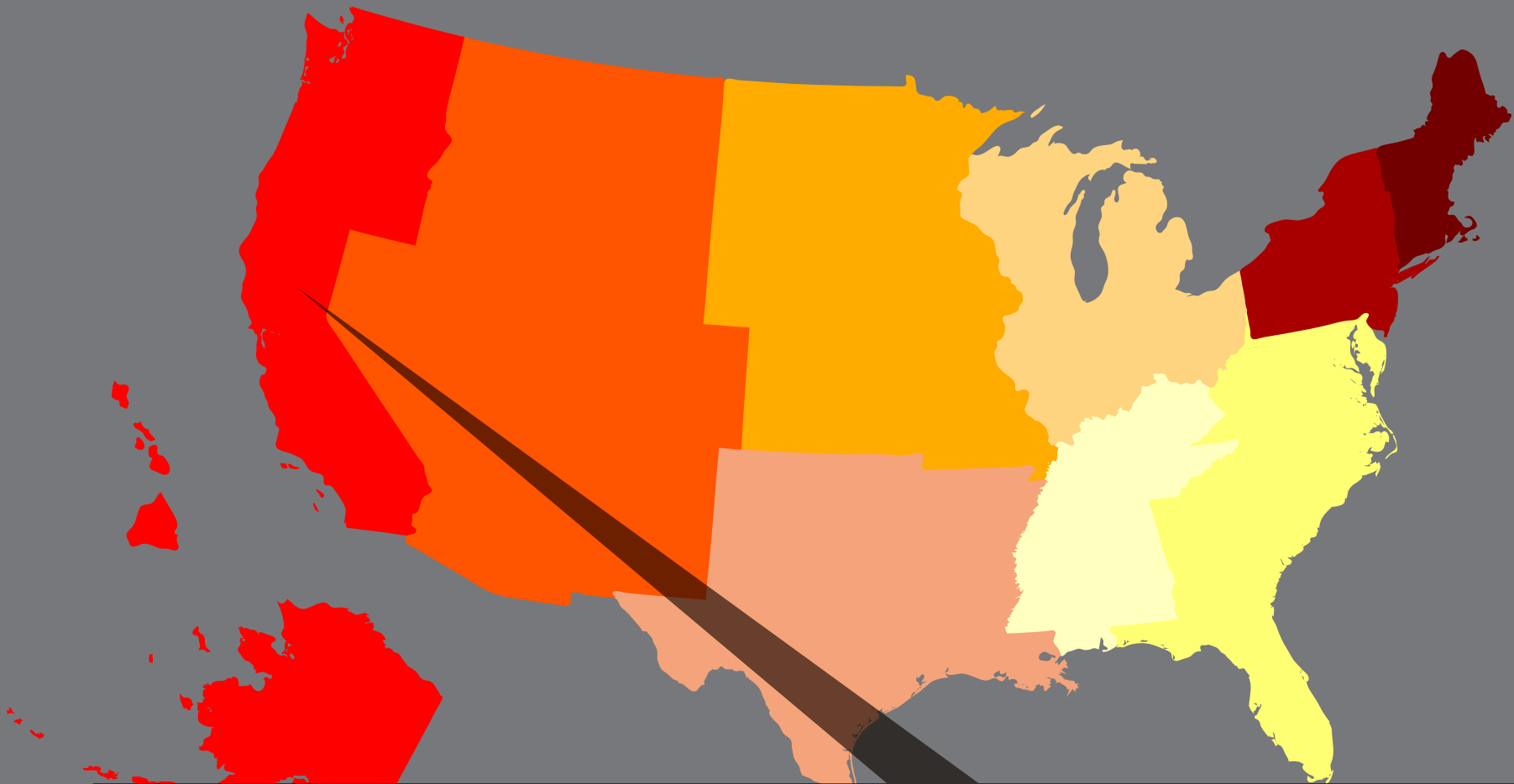
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Pacific Census Division

Alaska, California, Hawaii, Oregon, Washington

	DO NOT WANT	INDIFFERENT	DESIRABLE	ESSENTIAL	ESSENTIAL + DESIRABLE
Exterior lighting	0	8	54	38	92
Patio	1	11	58	30	88
Deck	3	17	60	20	80
Front porch	5	17	53	25	78
Lot with trees	7	19	50	24	74
Rear porch	5	24	53	18	71
Lawn sprinklers	9	21	45	25	70
Outdoor grill (built-in)	14	29	45	12	57
Outdoor fireplace	20	33	39	8	47
Outdoor kitchen	22	40	28	9	37

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Shared Knowledge

By Alexandra Isham

NAHB research shows building industry professionals' use of building information modeling is expanding

Building information modeling (BIM) is a three-dimensional (3D) computer-generated model that can incorporate design, time, system and location data into a single file. BIM digitally captures the physical and functional characteristics of a building, such as a home, and how they interact. The model serves as the single, shared library for both 3D and 2D information about the building. Using this shared library, project team members can make informed decisions during the building's life cycle, which is defined as existing from earliest conception to demolition.

Images courtesy of Dahlin Group Architecture Planning

Dahlin Group Architecture Planning designed The Wave, a \$43 million city-owned water park in Dublin, California. The firm used BIM to manage the project, which features indoor and outdoor pools, six water slides, a water playground, an amphitheater and a plaza for outdoor events.



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The Wave was designed as a green facility, with such features as solar energy to heat the indoor pool, drought-tolerant landscaping, LED lighting, a stormwater filtering system, and state-of-the-art irrigation. BIM allowed the entire team to easily coordinate the project's energy conservation efforts.



The City of Dublin used renderings such as this one to help keep the public informed and excited about The Wave at Emerald Glen water park during its construction.



BIM enables a virtual information model to be handed from the design team to the contractor and subcontractors, then to the building's owner. Each professional inputs discipline-specific information into the shared model. The extracted information helps architects, designers, builders and operators make more informed design and construction decisions that result in better end products.

WHO USES BIM?
BIM is an increasingly used tool that helps facilitate integrated project delivery (IPD), a collaborative approach to the design and building process. IPD harnesses the talents of many individuals to enhance coordination and maximize efficiencies, from product design through construction, thus increasing value to the owner and reducing errors and waste.

BIM is used by architects, engineers, contractors/builders, subcontractors, fabricators and property owners. The U.S. General Services Administration, U.S. Department of Defense, the state of Wisconsin, and other governmental agencies require the use of BIM because of recognized performance benefits that result from its use. In addition, BIM is also being used in Canada, the United Kingdom, Norway, France and India.

WHY IS BIM BENEFICIAL?

In standard practice, a design change can require modifications to multiple, independently constructed drawings. This disassociation between drawings introduces more opportunities for errors. For example, an architect could update floor plans with a change but miss updating the elevation.

With BIM, opportunities for errors are reduced since a single change is applied across the project. If the width of 'window type A' needs to be increased by 6 inches, a team member can change one 'window type A' in the computer model and the change will automatically be reflected in all other places and drawings in which 'window type A' occurs.

Objects that relate to the object being modified also change as necessary. For example, when the width of 'window type A' is increased by 6 inches, the trim, shutters, wall assembly and flashing associated with each occurrence of window type A are updated accordingly.

An aerial view of The Wave during construction demonstrates the level of detail BIM provides to members of the project team. As information was updated in BIM, corresponding elements were updated as well.



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HOW CAN BIM HELP HOME BUILDERS?

BIM can be used for visualization, fabrication/shop drawing generation, code reviews, facilities management, construction sequencing and trade coordination. Teams that use BIM view it as a reliable basis for decision-making and believe it reduces redundancies by being the sole coordination point for a project. It can facilitate better communication, collaboration and coordination among building industry professionals and trades working on a project, whether the project is a roadway, office building, high-rise or single-family home.

By incorporating time and location data into the model, BIM allows for accurate analyses of energy use, lighting and acoustics before anything is built. BIM also accommodates specific data for appliances, fixtures and systems. For example, an air conditioning unit placed in a model can also contain data about its supplier, operation and maintenance procedures, flow rates and clearance requirements.

Since an entire building and its systems and life cycle can be modeled, cost estimates and material takeoffs can be more accurate. BIM can also check for spatial conflicts, leading to fewer errors and change orders.

Overall, BIM allows for better collaboration, consistent drawings, accurate cost estimating, and spatial conflict and system clash detection. BIM can increase construction efficiency and decrease costs if the project team embraces the collaboration required to make BIM work to its fullest potential. Because of these attributes, BIM is now used for infrastructure as well as buildings.

HOW HAS THE USE OF BIM EVOLVED?

In fall 2016, NAHB’s Economics and Housing Policy Group conducted a survey on NAHB members’ familiarity and usage of BIM, a follow-up to NAHB’s 2014 Building Information Modeling Survey. The survey included data from 4,756 and 4,573 respondents in 2016 and 2014, respectively.

COMPANY’S MAIN OPERATION	2014	2016
Single-family home building	77%	76%
Architecture	7	9
Multifamily building (condo/co-op or for-rent units)	7	7
Other	10	8

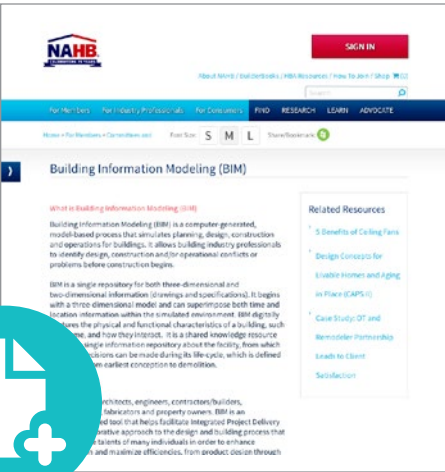
FAMILIARITY WITH BIM	2014	2016
I have heard of BIM, but don’t know much about it	40%	41%
I have never heard of BIM	43	32
I am familiar with BIM as described above	15	26
I am familiar with BIM, but NOT as described above	2	1

IF FAMILIAR WITH BIM, DESCRIBE YOUR COMPANY’S USE OF BIM	2014	2016
Currently using BIM	27%	47%
Not currently using BIM, and don’t expect to do so in the future	22	25
Considering using BIM in the future	47	23
Used BIM in the past, but have stopped using it now	4	5

In 2016, most respondents who are familiar with BIM also said that they do or would use BIM for computer-aided design and drafting (94 percent), reviewing 3D plans (89 percent), project collaboration (86 percent), product specification (86 percent), integrated project delivery (84 percent) and trade coordination (84 percent). Other uses include code review/code checking, automated generation of shop drawings and energy and thermal modeling.

Overall, BIM familiarity and usage has increased among builders and architects over the past couple of years. NAHB will continue to track its usage and prevalence in the home building industry. 📈

For additional information, visit nabh.org/BIMToolkit.



Alexandra Isham is program manager for design at the National Association of Home Builders.

By Doris Pearlman, MIRM

Indoors Out/ Outdoors In

Today, more than ever, a huge demand exists for maximizing the indoor-outdoor relationship. Creating outdoor spaces that are both glamorous and functional add unprecedented appeal to already fabulous interiors.

Home buyers consider these luxury outdoor spaces an extension of their social and relaxation times. Spending time with friends and family on a patio that has the same design elements as the interior is what it's all about.

Here are some tips from the pros on how to use flooring, ceiling details, furniture and lighting to create a cohesive indoor-outdoor experience and a space that visually doubles in size.

Doris Pearlman, MIRM, is president of Possibilities for Design in Denver, Colorado.



Opening the doors to the patio area makes the room look and feel much larger. Note the ceiling detail that subtly defines the seating area.

The Durango plan at Toll Brothers' Kechter Farm community was largely inspired by the beautiful, natural surrounds of Fort Collins, Colorado. This rustic contemporary design style is highlighted by textural tones and a color palette of greys, putty and browns to complement the natural elements that encompass this community.

The Western sliding wall gives way to the indoor-outdoor relationship in a huge way. All the interior elements—the textural rug, the ceiling detail and the contemporary chandeliers—centralize the design focus. The eye is then guided outside by the continuation of the flooring surface.

PRO TIP:

Select flooring that can be weathered outside and installed in both spaces. The seamless transition to the outdoors creates the ultimate appeal.

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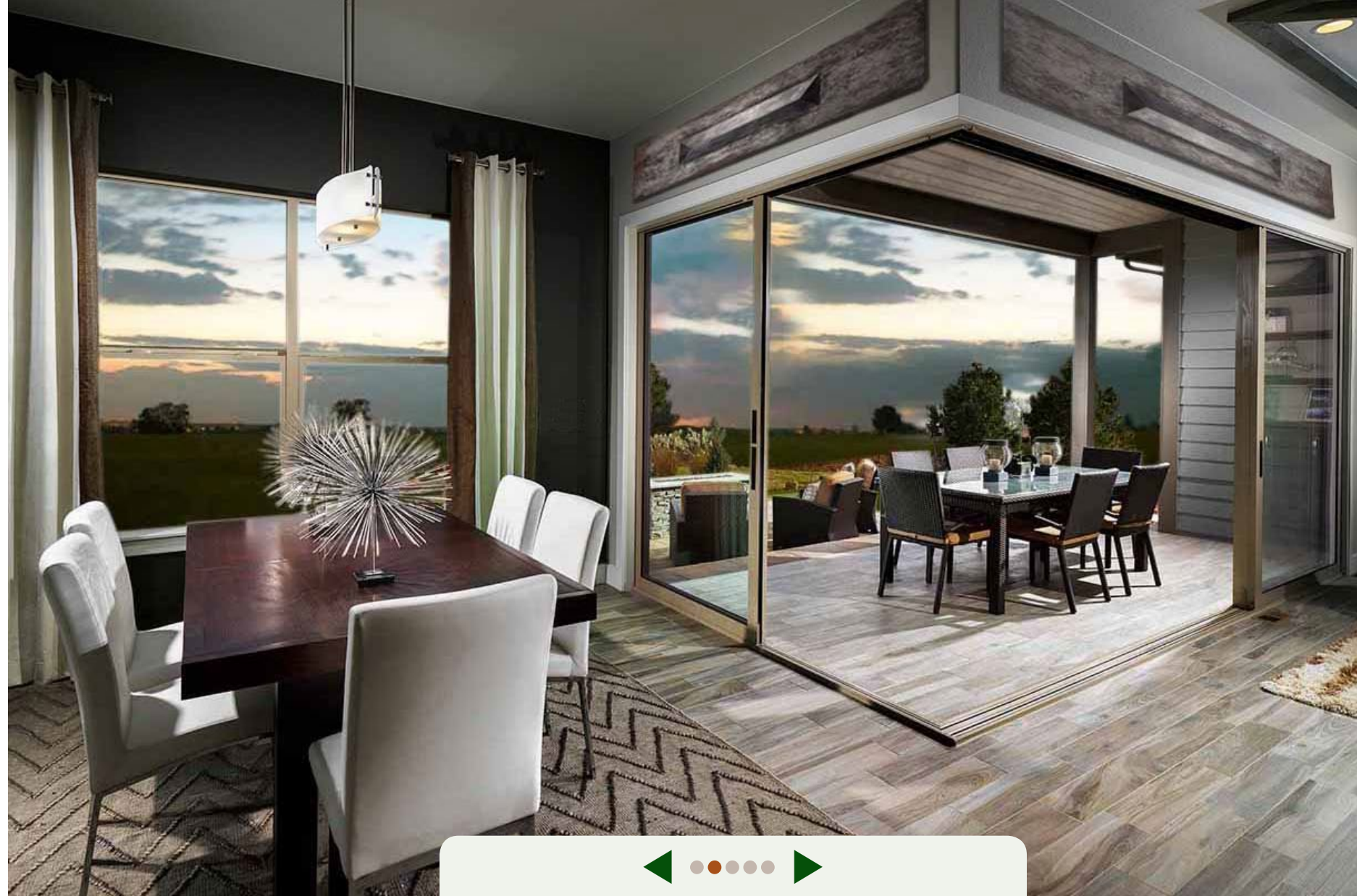
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The design team selected indoor-outdoor tile from Arizona Tile, shown here in Savanna Dust, applied randomly and varied, size 6x24.

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The design team drew on suppliers Ratana and Sunset West to source furniture designed for indoor and outdoor use.

Continuing to the exterior of the Durango, the space visually doubles in size by reflecting the design theme of the interior. Note how the table and chairs on the covered patio coordinate with the seating around the fire pit.

PRO TIP:

Use furniture that can be used both indoors and out to establish a sense of continuity between the two spaces.

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Retractable walls make it easy to transition from indoor to outdoor gathering spaces. The floor-to-ceiling fireplace and the water feature provide dramatic and complementary focal points.

The Wakefield plan at Toll Brothers' Kechter Farm in Fort Collins takes on a mountain modern design theme, featuring textural surfaces such as stone walls, tongue-and-groove ceilings, metallic copper detailing and rustic floors to create the perfect Colorado retreat. The 10-foot Western sliding wall allows the outside patio to fulfill expectations immediately.

The furniture in the great room, combined with the glass coffee table, is arranged so that the eye can effortlessly see through to the outdoors. The stone fireplace with floating cabinets on either side, paired with a copper penny surround, help to extend the appeal.

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The patio area reflects and makes full use of the rustic, natural setting.

To amplify the 10-foot ceilings, we added tongue-and-groove hardwood and applied wooden beams in the great room, and extended this detail to the outdoor living area. This repeated ceiling treatment helped create vertical interest and accentuate the volume of the both spaces.

The espresso wicker sofas and chairs on the patio combine the color and feel of the great room. The water feature is the real “wow” factor. Rustic stacked stone with cascading jets provide the ultimate Rocky Mountain appeal, allowing mountains and water to come together as the perfect duo.

The Draper chandeliers by Progress Lighting used in both spaces were the finishing touches.

PRO TIP:

Repetition in design creates a strong statement!