

Putting People at the Center: Reframing Landscape Architecture for Maximum Impact

Research Methods and Data Appendix

To arrive at the recommendations described in the Strategic Brief, we applied Strategic Frame Analysis®—an approach to communications research and practice that yields strategies for shifting the discourse around social issues. This approach has been shown to increase understanding of, and engagement in, conversations about scientific and social issues.

This work builds on earlier research we conducted that involved interviews with members of the public and experts about landscape architecture and its value for society, which is described in a *separate report*.

Below, we describe the research conducted in which we designed and tested frames to deepen understanding of and support for landscape architecture. These frames were tested and refined in 2020–2021 using four methods: on-the-screen interviews, survey experiments, peer-discourse sessions (PDS), and usability trials. In total, 4,703 people were included in this research.

Frame Design

To identify effective ways of communicating about landscape architecture and its value for society, FrameWorks researchers specified a set of tasks the frames needed to address and then brainstormed potential reframing strategies that might accomplish one or more of these tasks (for example, metaphors, values, and issue frames). After generating a list of candidate framing ideas to test, researchers solicited feedback on these ideas from project partners to ensure the frames were both apt and potentially usable for those working in the field. Based on this feedback, researchers refined a set of frames and brought them into empirical testing.



On-the-Screen Interviews

Frame design was followed by a set of on-the-screen interviews conducted over Zoom in April/May 2020 to explore potential framing tools with members of the public. FrameWorks researchers conducted 54 brief, one-on-one interviews with members of the public from across the United States. A diverse sample of participants was recruited in terms of age, gender, race/ethnicity, household income, education level, and political party identification. We conducted the first 18 interviews in April and analyzed them to determine whether the COVID pandemic was affecting public thinking about outdoor spaces. Finding no fundamental changes, we proceeded to conduct and analyze the remaining 36 interviews.

We first asked participants to respond to open-ended questions about outdoor spaces and landscape architecture. Participants were then presented with different metaphors and analogies that explained what landscape architecture is by comparing it to more familiar domains. Researchers then asked participants questions that explored the frames' abilities to restructure understanding, open up new ways of thinking, and give people productive language to use in discussing landscape architecture and the design of outdoor spaces. A list of candidate metaphors and analogies we tested are itemized below:

Candidate metaphors/analogies:

- Weaving Mosaic
- Hidden Design
- Building Architecture
- Blueprints
- Software Design

Survey Experiment

After analyzing how the candidate frames performed in on-the-screen interviews, FrameWorks researchers refined the frames to bring forward for testing in the survey experiment. We conducted two online survey experiments to test the effectiveness of frames on public understanding and policy support. These experiments were conducted in September–October 2020 and March 2021. We gleaned some initial insights from the first wave, then we updated and changed the survey instrument for the second wave to reflect these insights. Below, we display the demographics from both waves and sample questions from the survey (we note where a question was slightly revised between waves). The first wave of the experiment included 2,559 respondents, and the second wave included 2,025 respondents, for a total of 4,584 respondents. The respondents were US residents matched to national quotas for age, gender, race/ethnicity, household income, education level, and political party identification.

In each experiment, respondents were randomly assigned to a treatment or control condition. Those assigned to a control condition received a base message providing basic information about landscape architecture. In wave 1, the base message read, “Landscape architects design outdoor spaces, from bike lane networks to green spaces in cities, to wildlife crossings over busy roads.” In wave 2, the base message was simplified to read “Landscape architects design outdoor spaces,” which allowed us to better isolate the explanatory power of examples. Those assigned to treatment conditions received a full message, framed with a particular frame element (for example, issue frames, values frames, or analogy frames).

After receiving the base message (in the control condition) or a framed message (in the treatment conditions), all respondents were asked an identical series of questions designed to measure understandings of and attitudes toward landscape architecture. Questions were Likert-type items with five- or seven-point scales, rank-order questions (“Order the following factors from *most important* at the top, to *least important* at the bottom”), multiple-choice questions, and open-ended questions requiring free-text answers. Questions were randomized within blocks. For analysis, responses to these questions were aggregated to a set of composite measures, or *batteries*.

Multiple regression analysis was used to determine whether there were significant differences in responses to questions between the treatment group and the control group. A threshold of $p < 0.05$ was used to determine whether treatments had any significant effects, although we also noted cases of borderline significance within the context of a broader set of evidence. Significant differences were understood as evidence of a frame effect on the particular outcome (for example, understanding of the effects of landscape architecture or attitudes about its importance).

Sample composition:

Wave 1:

Demographic Variable	Percent of Sample (N=2,559)
Age	
18–29	5%
30–44	16%
45–59	34%
60+	45%
Gender	
Male	47%
Female	53%
Nonbinary/other	<1%

Income	
\$0–\$24,999	15%
\$25,000–\$49,999	22%
\$50,000–\$99,999	35%
\$100,000–\$149,999	18%
\$150,000 or more	11%
Education	
Less than high school diploma	2%
High school diploma	17%
Some college or Associate’s degree	31%
Bachelor’s degree	31%
Graduate degree	18%
Ethnicity	
White	83%
Black	6%
Hispanic or Latino	3%
Asian	6%
Other Race	2%
Political Views	
Democrat	35%
Republican	40%
Independent	24%
Other	1%

Wave 2:

Demographic Variable	Percent of Sample (N=2,025)
Age	
18–29	11%
30–44	22%
45–59	19%
60+	47%
Gender	
Male	51%
Female	49%
Nonbinary/other	<1%

Income	
\$0–\$24,999	14%
\$25,000–\$49,999	25%
\$50,000–\$99,999	35%
\$100,000–\$149,999	16%
\$150,000 or more	11%
Education	
Less than high school diploma	2%
High school diploma	20%
Some college or Associate’s degree	32%
Bachelor’s degree	29%
Graduate degree	17%
Ethnicity	
White	77%
Black	9%
Hispanic or Latino	6%
Asian	5%
Other Race	3%
Political Views	
Democrat	39%
Republican	34%
Independent	26%
Other	1%

Desired communications outcomes: Understanding and attitudes

Below is a list of sample questions used in the survey experiment.

Scales	Sample Question
Understanding of what outdoor design involves	<p>What sorts of things need to be considered when designing outdoor spaces in public locations? Order the following factors from <i>most important</i> at the top, to <i>least important</i> at the bottom.</p> <ul style="list-style-type: none"> • Making sure the outdoor space addresses the needs and wants of the local community • Making sure the outdoor space incorporates aspects of local culture and history • Making sure the outdoor space is nice to look at • [Other considerations] <p><i>Note: This is the version of the question used in wave 2. The question in wave 1 was conceptually similar but had slightly different wording.</i></p>
Understanding of the spaces landscape architects design	<p>How likely do you think landscape architects are to be involved in the design of the following spaces? [5-point Likert scale: Not at all likely; Slightly likely; Moderately likely; Very likely; Extremely likely]</p> <ul style="list-style-type: none"> • Parks and trails • Backyards and front yards • Wetlands and waterways • Town squares and waterfronts • [Other spaces]
Understanding effects of landscape architecture	<p>When landscape architects are involved in creating outdoor spaces, how much of an effect does it have on the following? [5-point Likert scale: No effect; A small effect; A moderate effect; A large effect; A very large effect]</p> <ul style="list-style-type: none"> • How aesthetically pleasing the outdoor spaces are • The physical and mental health of people who spend time in them • How safe it is to use those spaces • [Other effects]
Understanding of landscape architects' expertise and skills	<p>To the best of your knowledge, how much expertise do you think landscape architects have in the following topics or fields? [5-point Likert scale: None at all; Very little; A moderate amount; A large amount; A very large amount]</p> <ul style="list-style-type: none"> • Civil Engineering (e.g. knowledge of how to develop structures and systems) • Architecture (e.g. knowledge of how to design buildings) • Environmental sciences (e.g. knowledge of how to conserve natural resources) • [Other areas of expertise]

Perceived importance of landscape architecture	Landscape architects should be involved in the design of all outdoor spaces. [7-point Likert scale: Strongly disagree; Disagree; Slightly disagree; Neither agree nor disagree; Slightly agree; Agree; Strongly agree]
Licensing support	Landscape architects should be required by law to be appropriately licensed in the state they are practicing. [7-point Likert scale: Strongly disagree; Disagree; Slightly disagree; Neither agree nor disagree; Slightly agree; Agree; Strongly agree]
Understanding of influences on outdoor spaces	<p>Think about the things that contribute to the poor quality of outdoor spaces in a neighborhood. Which of the statements below do you most agree with?</p> <ul style="list-style-type: none"> • When outdoor spaces in a neighborhood are unsafe and in bad shape, it is because they were poorly designed to begin with. • When outdoor spaces in a neighborhood are unsafe and in bad shape, it is because the local community doesn't value or care enough about them. • When outdoor spaces in a neighborhood are unsafe and in bad shape, it is because the local community doesn't have the resources they need to improve them.

Frames Tested:

Value Frames (wave 1)

Fairness Across Places

Landscape Architects Ensure that Everyone Has Access to Great Outdoor Spaces, No Matter Where They Live

Everyone in the country should have their fair share of outdoor spaces that are practical, safe, and durable. The place where people live shouldn't determine the quality of the outdoor spaces around them. But in many communities across the US, public spaces are impractical, poorly maintained, and unsafe, because they weren't created to support positive experiences and wellbeing in the community.

That's why landscape architects are so important. Their job is to map out and create all kinds of outdoor spaces, from bike lane networks to green spaces in cities, to wildlife crossings over busy roads. When public spaces like parks and city squares are designed by landscape architects, they are more likely to be functional, safe, and durable, and to support the life of the community.

Landscape architects should be involved in the design and creation of public spaces everywhere in the country, because everyone deserves to enjoy and thrive in the places around them, no matter where they live.

Community Cohesion

Landscape Architects Create Outdoor Spaces that Bring Communities Together

Bringing people together is an essential step to building communities that are stronger and more connected. The outdoor spaces where we live, work, and play should bind people together and provide opportunities for people to connect and interact. But right now in the US, people are too often isolated and disconnected from each other because the public spaces around them weren't created to be accessible, safe, and comfortable.

That's why landscape architects are so important. Their job is to map out and create all kinds of outdoor spaces, from bike lane networks to green spaces in cities, to wildlife crossings over busy roads. When public spaces like parks and city squares are designed by landscape architects, they are more likely to support safe, positive social gatherings and events. They also create opportunities for everyone to participate in community life, because they are accessible to people of all ages, incomes, and abilities.

Landscape architects should be involved in the design and creation of public spaces everywhere in the country, because they help bring communities together.

Environmental Stewardship

Landscape Architects Help Us Care for Nature Responsibly

We have a responsibility to take care of the environment now and for future generations. The outdoor spaces where we live, work, and play should be designed to support the natural world around us and help address challenges in the environment. But right now, many of our outdoor spaces just weren't designed to help us fulfill that duty. As a result, the environment doesn't get the respect and care that it deserves.

That's why landscape architects are so important. Their job is to map out and create all kinds of outdoor spaces, from bike lane networks to green spaces in cities, to wildlife crossings over busy roads. Landscape architects help manage natural resources responsibly by selecting materials that are recycled, renewable, and nontoxic. By choosing plants that are native to an area, they ensure that they can easily get the water and heat that they need. And by creating wildlife crossings, they help respect and protect the lives of animals in cities.

Landscape architects should be involved in the design and creation of public spaces everywhere in the country, because they help ensure that we care for nature responsibly and that we protect the environment for current and future generations.

Example Frames (wave 1)

Place–Environment-Centered

Landscape Architects Create Outdoor Spaces that Help Care for the Environment, Like Green Rooftops

Landscape architects play an important role in creating outdoor spaces that are good for the environment, like green rooftops on buildings. They use their knowledge of plants, animals, and engineering to plan every detail of green roofs: what plants to grow, what material to grow them in, and what structure to build around them. Thanks to all these decisions, green rooftops offer durable and effective ways to care for the environment. They can regulate a building's inside temperature and reduce the amount of rain that builds up during storms. Green rooftops can also help local insects and animals thrive, increase the number of different species living in an area, and reduce levels of air pollution in cities.

Green rooftops are just one of the many examples of outdoor spaces that landscape architects design to be good for the environment. Landscape architects' job is to map out and create all kinds of outdoor spaces, from bike lane networks to green spaces in cities, to wildlife crossings over busy roads. And a key focus of their work is to support and protect nature and the environment with all the outdoor spaces they design.

Place–People-Centered

Landscape Architects Create Outdoor Spaces that Help Support People's Needs, Like City Parks

Landscape architects play an important role in creating outdoor spaces that meet people's needs, like city parks. They get ideas and feedback from local residents to plan every detail of city parks with the needs of the whole community in mind: what materials to use for playgrounds, what gathering areas should look like, and what types of accessible trails and pathways are needed. Thanks to all these decisions, city parks are accessible to different groups of people, including children and people with disabilities. They support the health and wellbeing of the entire community. They help people connect and interact with one another in a safe, positive environment.

City parks are just one of the many examples of outdoor spaces that landscape architects design with people's needs in mind. Landscape architects' job is to map out and create all kinds of outdoor spaces, from bike lane networks to green spaces in cities, to wildlife crossings over busy roads. And a key focus of their work is to support individuals and communities with all the outdoor spaces they design.

System–Environment-Centered

Landscape Architects Create Outdoor Networks that Help Care for the Environment, Like Wildlife Crossings

Landscape architects play an important role in creating outdoor networks that are good for the environment, like wildlife crossings. They use their knowledge of animal life and ecosystems to plan every detail of wildlife crossings: They map out the areas where animals live in a city, where they migrate to, and at what time of the year; they identify all types of human activity that might interfere with the needs and safety of the local wildlife. Thanks to all these decisions, wildlife crossings protect local wildlife even when people have altered their habitats by building roads, harbors, or airports.

Wildlife crossings are just one of the many examples of outdoor networks that landscape architects design for the good of the environment. Landscape architects' job is to map out and create all kinds of outdoor spaces, from bike lane networks to green spaces in cities, to wildlife crossings over busy roads. And a key focus of their work is to support and protect nature and the environment with all the outdoor systems they design.

System–People-Centered

Landscape Architects Create Outdoor Networks that Help Support People's Needs, Like Bike Lane Networks

Landscape architects play an important role in creating outdoor networks that meet people's needs, like bike lane networks. They study commuting patterns in cities and use their knowledge of engineering and urban planning to plan every detail of bike lane networks, from their length, to which streets they best fit in, to how they connect throughout the city. All of these decisions ensure that cyclists can ride safely in cities because bike lane networks fit in well with existing city plans, and because they are accessible, highly practical, and durable.

Bike lane networks are just one of the many examples of outdoor networks that landscape architects design to meet people's needs. Landscape architects' job is to map out and create all kinds of outdoor spaces, from bike lane networks to green spaces in cities, to wildlife crossings over busy roads. And a key focus of their work is to support individuals and communities with all the outdoor systems they design.

Issue Frames (wave 2)

Note: We tested slightly different versions of issue frames in wave 1, then refined them for wave 2. We include the wave 2 versions below, as these are the message treatments for which we report effects.

Environment-Centered

Landscape Architects Help Care for the Environment

Landscape architects help us care for the planet and address environmental challenges. Their job is to design and create all kinds of outdoor spaces that benefit the environment, from wildlife habitats that protect threatened and endangered species to urban landscapes that reduce air and noise pollution. They work to create spaces that support and sustain the natural world and help address environmental challenges now and in the future.

Landscape architects help preserve natural resources by selecting materials that are recycled, renewable, and nontoxic. By choosing plants that are native to an area, they limit how much water, energy, and chemicals have to be used to care for a space. And in cities, landscape architects design spaces to get rid of *heat islands*—areas with high temperatures due to the density of buildings and roads—by using trees, open green space, lighter colored paving material, and green roofs to reduce temperatures and combat climate change.

To support the environment and address environmental challenges, we need to involve landscape architects more consistently and centrally in the design of all outdoor spaces.

People-Centered

Landscape Architects Help Support People's Needs

Landscape architects help us address the needs of individuals and communities. Their job is to design and create all kinds of outdoor spaces that benefit people, from parks that provide opportunities for exercise to bike lane networks that make it convenient for people to get around. They work to create spaces that meet the needs of people and the communities in which they live.

Landscape architects ensure that outdoor spaces are accessible for all groups in a community, including children and people with disabilities. By designing spaces where people can play, move, and gather, landscape architects promote physical and mental health. And landscape architects create outdoor spaces where communities can come together for social and civic events, which strengthens community ties and enables political participation.

To support the needs of individuals and communities, we need to involve landscape architects more consistently and centrally in the design of all outdoor spaces.

People-in-the-Environment

Landscape Architects Bring People and the Environment Closer Together

Landscape architects help individuals and communities connect with the natural world. Their job is to design and create all kinds of outdoor spaces, from city parks that provide opportunities to connect with nature in cities to networks of biking and hiking trails in national parks. They work to create spaces that improve and support people's engagement with the natural world around them.

Landscape architects deepen people's connection with the natural world by helping people engage with the places where they live. They do this by creating natural spaces like parks and urban forests where people can feel comfortable and relaxed as they connect with nature. Landscape architects also deepen this connection to nature by protecting forested and other natural areas from development.

To connect individuals and communities to the environment, we need to involve landscape architects more consistently and centrally in the design of all outdoor spaces.

Valence Frames

Implications of Good Design

Well-Designed Outdoor Spaces Promote the Safety, Health, and Wellbeing of People and the Environment

Think of the last time you spent time in an outdoor space, such as a walking trail or city park. If you found it enjoyable and safe, it was probably because it was designed well. Well-designed outdoor spaces meet the needs of local communities as well as the local environment, promoting the safety, health, and wellbeing of both people and the environment.

To make sure that all outdoor spaces are well-designed, we need landscape architects. Landscape architects consider all the factors that make a space usable, sustainable, and safe. For example, they may recognize that certain areas need to be well-lit at night to increase visibility and ensure people's safety. They may also need to create green features to prevent flooding, such as running a storm water drainage path alongside a park walkway so that people can enjoy the park in all types of weather.

Well-designed outdoor spaces are safe, usable, and sustainable, and promote the health and wellbeing of both people and the environment. That's why we need to involve landscape architects more consistently and centrally in the design of all outdoor spaces.

Implications of Bad Design

Poorly Designed Outdoor Spaces Undermine the Safety, Health, and Wellbeing of People and the Environment

Think of the last time you spent time in an outdoor space, such as a walking trail or city park. If you found it unenjoyable and unsafe, it was probably because it wasn't designed well. Poorly designed outdoor spaces fail to meet the needs of local communities as well as the local environment, undermining the safety, health, and wellbeing of both people and the environment.

To avoid poorly designed outdoor spaces, we need landscape architects. Landscape architects prevent outdoor spaces from being unusable, unsustainable, and unsafe. For example, when they are not involved in the design of a space, certain areas may not be well-lit at night, making them less visible and potentially unsafe. Similarly, if parks are designed without attention to water flow and drainage, walkways can flood during storms, which can prevent people from using and enjoying the park.

Poorly designed outdoor spaces are unsafe, difficult to use, and undermine people's health and wellbeing. That's why we need to involve landscape architects more consistently and centrally in the design of all outdoor spaces.

Analogy/Metaphor Frames

Note: We tested slightly different versions of analogy/metaphor frames in wave 1, then refined them for wave 2. We include the wave 2 versions below, as these are the message treatments for which we report effects.

Software Design

Just as Software Designers Shape How We Experience Digital Spaces, Landscape Architects Shape Our Experience of Outdoor Spaces

We're all familiar with software designers, who use their expertise to design computer programs that work well, are pleasant to engage with, and hold up for a long time. Landscape architects, similarly, use their expertise to design outdoor spaces that meet the needs of communities, are attractive and pleasant to use, and that last over time.

Just as software designers create computer programs to perform specific tasks, when landscape architects design outdoor spaces, they keep in mind the functions they want the space to perform, like creating places for people to relax, exercise, and gather. And landscape architects create spaces that are visually appealing and easy to use in much the same way that software designers do when creating apps. And just as software designers have to build programs that last, landscape architects choose materials that hold up and make sure that outdoor spaces will serve a wide range of future needs.

Landscape architects play a key role in how we use and engage with outdoor spaces, just as software designers shape our digital experiences.

Building Architecture

Just as Architects Design Buildings, Landscape Architects Design Outdoor Spaces

We're all familiar with architects, who use their expertise to design buildings that work well, are pleasant to engage with, and hold up for a long time. They draw and plan every element of the building, from where doors and windows are placed to what materials are used. Landscape architects, similarly, use their expertise to design outdoor spaces that meet the needs of communities, are attractive and pleasant to use, and that last over time.

Just as architects design every aspect of a building to meet the needs of the people who will use it, when landscape architects design outdoor spaces, they keep in mind the needs of people and the environment, like creating places for people to relax, exercise, and gather. Landscape architects make decisions about every element in the outdoor space, from the layout of different areas to the materials used in the design, much like architects do when designing a building. And just as architects have to create buildings that last, landscape architects choose materials that hold up and make sure that outdoor spaces will serve a wide range of future needs. Landscape architects play a key role in shaping how our outdoor spaces look and function, just as architects shape our buildings.

Blueprints

Landscape Architects Draw Blueprints for Outdoor Spaces

We're all familiar with the blueprints that architects draw for buildings like homes, offices, and stores. These blueprints are used to plan for every element of the building, from where doors and windows are placed to how much square footage a building uses. Blueprints are similarly needed to design outdoor spaces that meet the needs of communities, are attractive and pleasant to use, and that last over time.

Just as the blueprints drawn by architects contain instructions for every element of a building, blueprints drawn by landscape architects include instructions for every part of an outdoor space. These blueprints help landscape architects plan out the layout of a space and the type of materials that will be used, much like blueprints drawn by architects show how rooms, doors, and windows will be laid out and the materials used. And just as blueprints drawn by architects help create homes that meet people's needs into the future, blueprints drawn by landscape architects ensure that outdoor spaces serve a wide range of future needs and last a long time.

Landscape architects use blueprints to shape how our outdoor spaces look and function, just as architects use blueprints to build buildings that last.

Peer-Discourse Sessions

After an analysis of both waves of the survey experiment was conducted, FrameWorks researchers further tested how to refine and supplement promising frames in PDS over Zoom with 36 participants (six sessions with six participants each) in May 2021. A diverse sample of participants was recruited from across the United States in terms of age, gender, race/ethnicity, household income, education level, and political party identification.

These two-hour-long sessions included a variety of discussion prompts and activities designed to evaluate how the frames were taken up in social context and their usability during conversations with peers. We further tested the *Building Architecture* and *Blueprint* metaphors, including an exploration of how these frames can be used to discuss equity issues.

The sessions also tested images to understand how they can be used in combination with text-based frames. Researchers engaged participants in a series of activities to understand how participants made sense of images, including what aspects of images were most salient to them as well as the ability of images to focus or deepen their understanding of landscape architecture. Images were tested in the following paired sets (headings represent researchers' understanding of image type and were not provided to participants):

Set 1 and 2: Prototypical (top set) vs. Non-Prototypical (bottom set)



Set 3 and 4: Place (top set) vs. Systems (bottom set)



Set 5 and 6: People Present (top set) vs. People Absent (bottom set) Usability Trials



Usability Trials

We conducted six usability trials over Zoom to ascertain the usability of frames and to help us understand how any barriers to usability could be overcome. The six sessions were conducted in June–July 2021 with 12 communicators in the field of landscape architecture drawn from the organizations that partnered on this project—American Society of Landscape Architects, Council of Landscape Architectural Registration Boards, Landscape Architecture Foundation, Landscape Architectural Accreditation Board, and the Council of Educators in Landscape Architecture. We used these sessions to refine our recommendations around the *Architects* and *Blueprint* analogies. Each session included two experts and two or three public participants, who provided an audience for the experts as they were asked to use the frames to communicate about their work.

Evidence Supporting Recommendations

The evidence supporting each of the recommendations in the Strategic Brief is provided below.

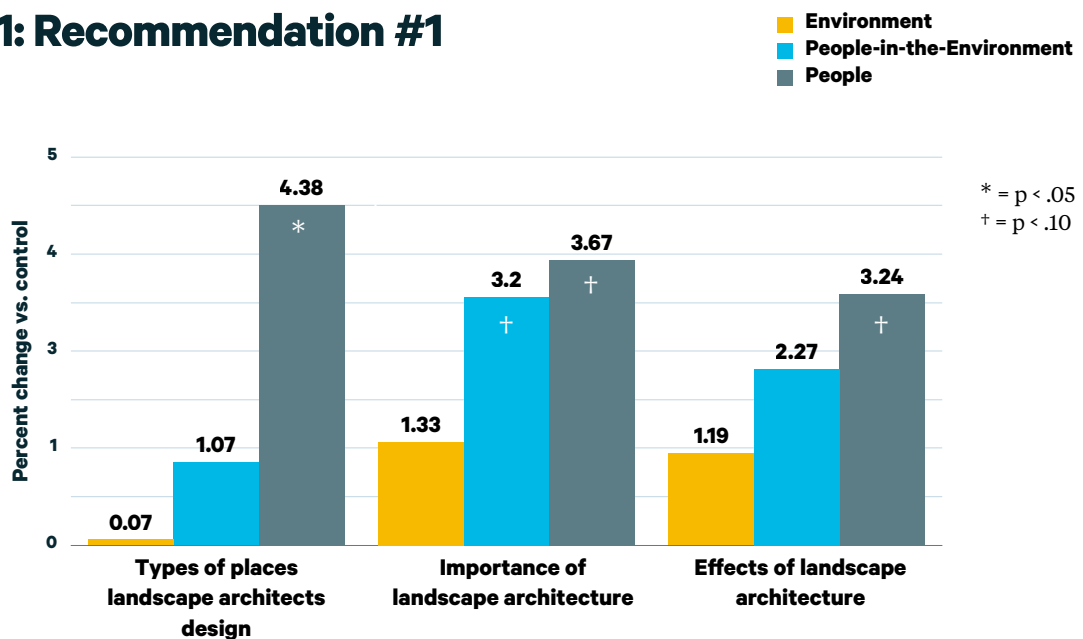
Recommendation #1: Lead with how landscape architecture benefits people.

Issue frames establish what a topic is actually *about*. Experts recognize that there are many dimensions to an issue. But in public discourse, one dimension of a topic—also known as an issue frame—is frequently invoked. Framing research shows that foregrounding particular issues can dramatically affect public thinking.

To that end, we tested three issue frames designed to talk about landscape architecture and its value in society: *environment-centered*, *people-centered*, *people-in-the-environment*. As shown below, the people-centered issue frame increases people’s understanding of the types of spaces that landscape architects design, helps people better understand the importance of landscape architecture, and increases people’s understanding of its positive impact for society. Effects for the second two outcomes fell just short of statistical significance ($p=0.059$, $p=0.069$ respectively), but the pattern of positive effects across outcomes—coupled with the positive effects of the *community cohesion* value, which also centers people (see recommendation #2)—provides strong evidence for this recommendation.

Usability trials found that experts in the field tend to lead with the environment and talk about landscape architects as *stewards of the environment*. While this frame isn’t harmful, the experimental results make clear that the environmental frame does little to boost public understanding of and support for landscape architecture.

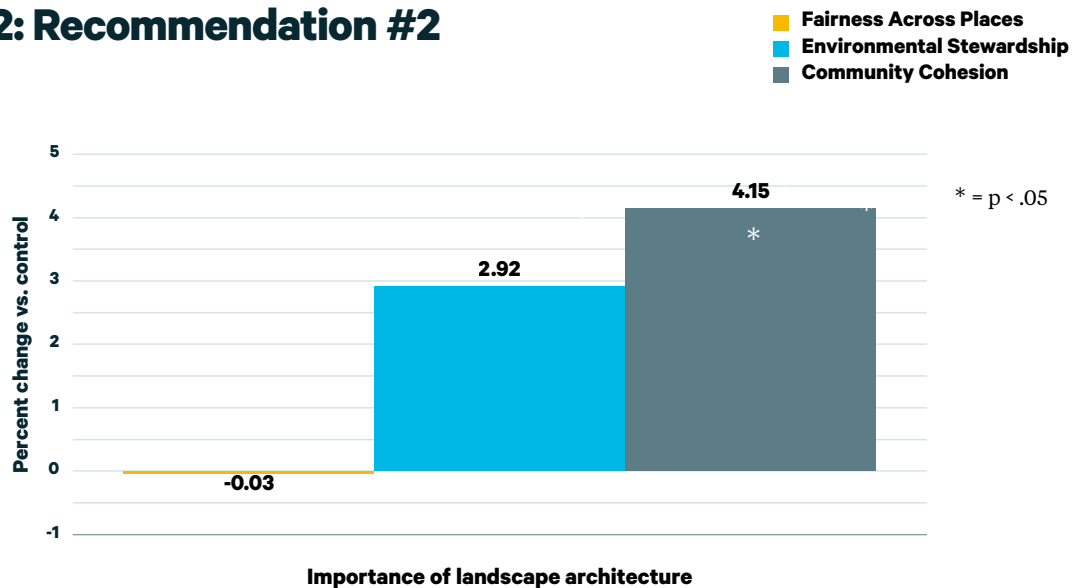
Figure #1: Recommendation #1



Recommendation #2: Appeal to the value of community cohesion to reinforce the value of the field for people and communities.

Values are organizing principles that people use to evaluate social issues and make decisions. When used as frames, values help people understand what's at stake about an issue and why they should support it. We tested three values frames to help explain why landscape architecture is important to society: *fairness across places*, *community cohesion*, and *environmental stewardship*. As shown below, the *community cohesion* value was effective in increasing people's sense of the importance of landscape architecture.

Figure #2: Recommendation #2



In PDS, we explored how to broach issues of equity when discussing landscape architecture. Analysis found that when researchers raised questions about differences in the quality of outdoor spaces between neighborhoods, people's thinking went quickly to gentrification and the benefits of revitalization for those who might move into a community. Our analysis of these PDS conversations suggests that the *community cohesion* frame can be an important corrective to this pattern. Talking about benefits to and inclusion of those *within* the community is a way to build a more inclusive understanding of landscape architects' role in neighborhood revitalization.

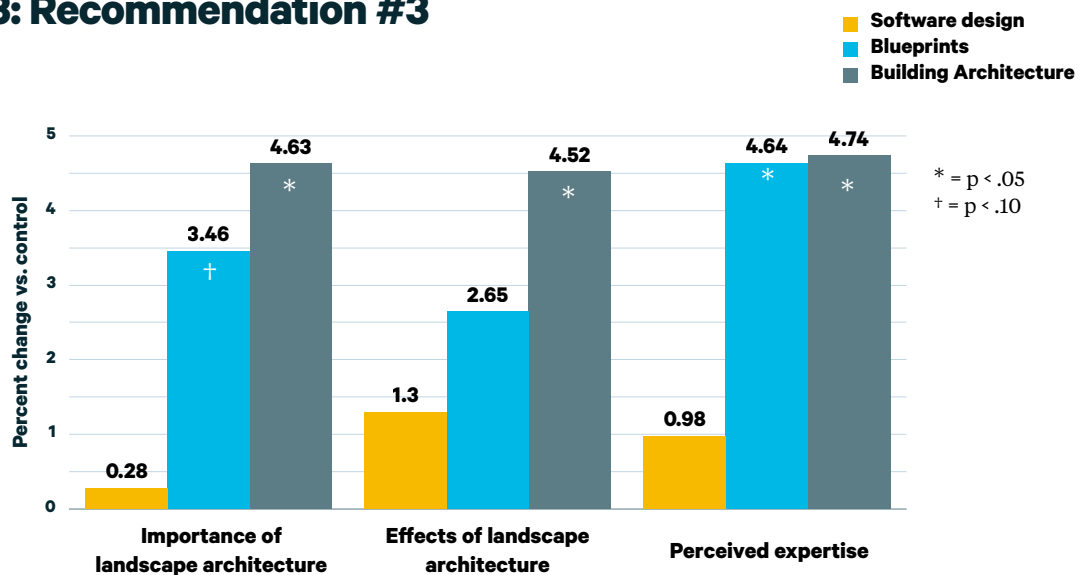
Recommendation #3: Leverage what people know about building architecture to build a better understanding of what landscape architecture entails.

Explanatory metaphors are linguistic devices that help people think and talk about a complex concept in new ways. By comparing an abstract or unfamiliar idea to something concrete and familiar, explanatory metaphors can make information easier to understand—and it can have a particular power to change the way a topic is understood.

In the second wave of the experiment, we tested three explanatory metaphors—or analogies—to explain what landscape architecture is and what landscape architects do: *software design*, *blueprints*, and *building architecture*. As we note above, these three were chosen based on earlier testing, which had found them to be the most promising among a broader set of candidate metaphors.

As shown in Figure 3, *blueprint* and *building architecture*, which are variations on a common metaphor, were effective in building people’s understanding of landscape architecture’s importance, its societal effects, and the types of expertise that landscape architects possess.

Figure #3: Recommendation #3



These recommendations are also grounded in extensive qualitative research (PDS, on-the-screen interviews, usability trials). The Strategic Brief describes the evidence from qualitative research about *how* these metaphors help people understand landscape architecture, so we don’t repeat these findings here.

In the brief, we note the specific value of the *blueprint* metaphor in explaining the role of landscape architecture in building an equitable society. This finding stems from PDS, which included an activity around equity in which we asked participants to use metaphors to think about differences in the quality

of outdoor spaces between neighborhoods. Analysis of these conversations found that the *blueprint* metaphor helped people take an overarching view of community spaces and to think productively about how landscape architects can take a holistic view of a broader community and identify where needs aren't being met.

Recommendation #4: Weave different examples and images into every communication to get the public to better understand that landscape architects connect people to their surroundings.

Qualitative research consistently found that examples did substantial work to build understanding of what landscape architecture is and what landscape architects do. In on-the-screen interviews, messages briefly mentioned bike lane networks, green spaces in cities, and wildlife crossings as the types of spaces designed by landscape architects. Analysis found that participants frequently latched onto these examples to ground their understanding of the field. The wildlife crossing and bike network examples helped stretch people's thinking about outdoor spaces beyond prototypical outdoor spaces like parks.

In PDS, we identified ways in which images can be paired with text-based frames to deepen understanding of landscape architecture. Analysis found that bird's eye view images of large-scale systems not only helped stretch thinking about the spaces landscape architects design but also helped people see how landscape architects integrate nature and human beings and bring people together. In other words, image testing both reinforced the value of people-centered framing and provided a key finding about *how* to execute this strategy. Analysis also found that pairing prototypical and non-prototypical images is effective in leveraging people's existing understanding of the value of parks and similar urban green spaces while broadening people's understanding of the field.