

THE NATURAL CITY

ENERGY | CLIMATE | WATER

DECEMBER 2021

A SURVEY OF HOUSTON'S ATTITUDES ON SUSTAINABLE GROWTH

CITYAGE
INSIGHTS

POWERED BY
MUSTEL GROUP

Houston is a global energy capital and one of the United States' fastest growing cities. This puts Texas at the center of a global question: how do we balance growth and future energy needs, while ensuring environmental and economic sustainability?

One emerging idea in urban design is to improve metropolitan growth by embracing a greater understanding of the benefits of natural ecosystems, particularly to manage water, energy and green space.

At CityAge we call the result The Natural City.

CityAge Insights took this important design idea to Houston residents in our independent survey of 500 representative people, from all walks of life, to see what they think.

What follows is what they told us.

- CITYAGE INSIGHTS

Key Finding

In America's energy capital

73%

of people support nature being
designed into their city and future
development

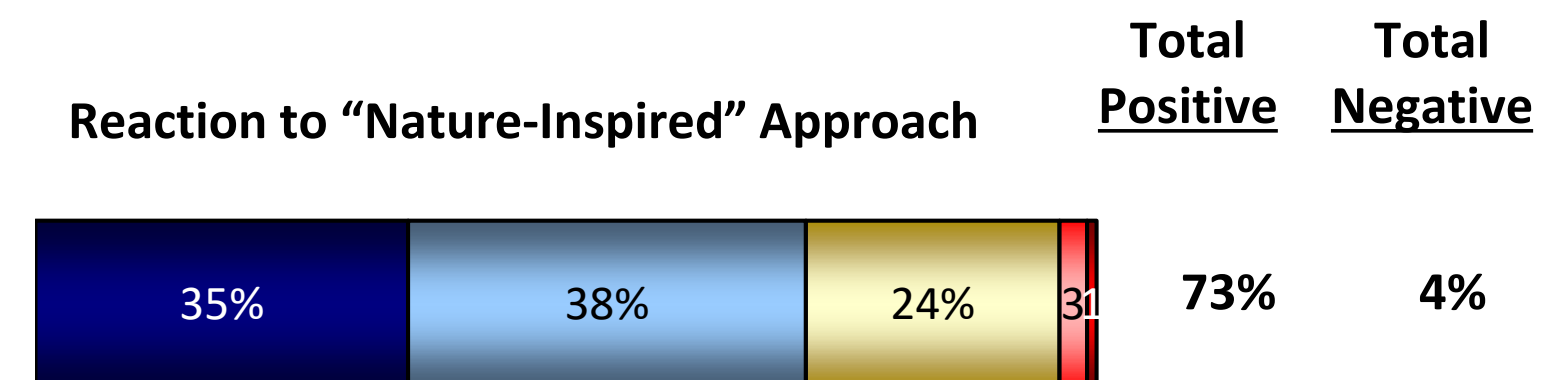
Executive Overview

Research Findings

Overall, Houston residents react quite positively to the concept of a ‘nature-inspired’ approach to balancing growth with the natural environment in the city. A total of 73% react positively in contrast to 4% reacting negatively, with the remaining 23% neutral in their views. Reactions are consistently positive across all demographic segments (gender, age, race, education, household income) and geographic areas.

Reasons provided for a positive reaction include: should coexist with nature for more livable growth and/or more rural/suburban feel, necessary to protect the environment, solution oriented, way to mitigate climate change and/or reduce air pollution.

The small group reacting negatively are concerned about lack of interest (by residents and/or government), and the economic costs. Others simply need more information.

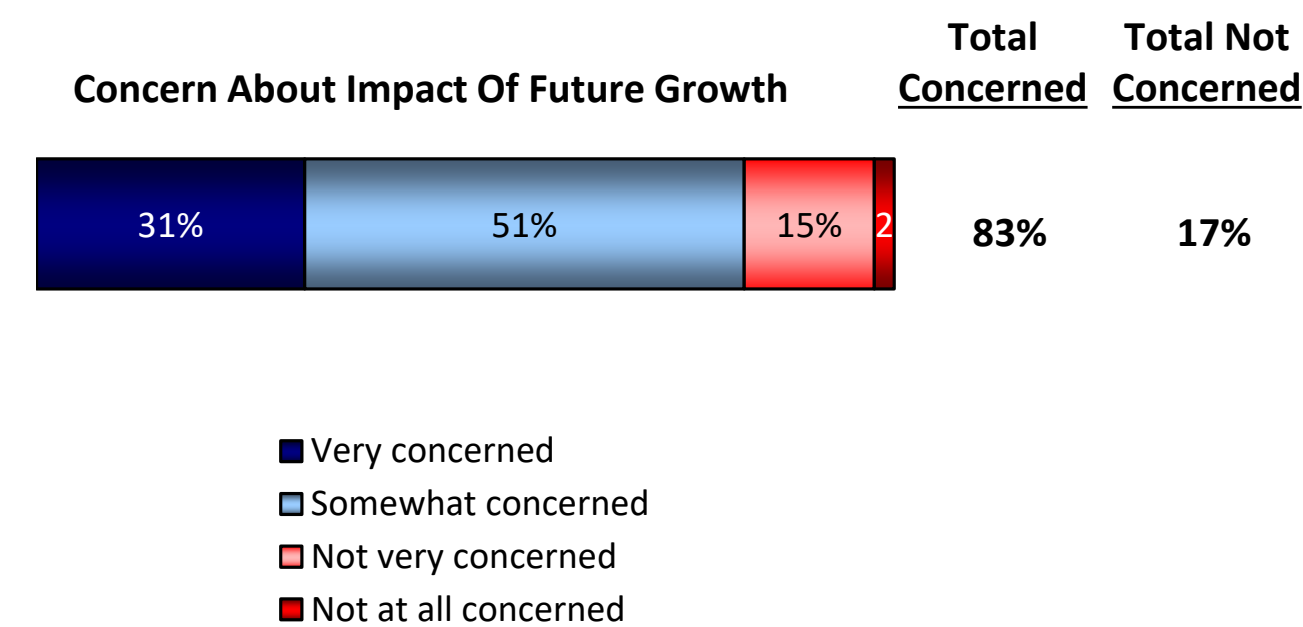
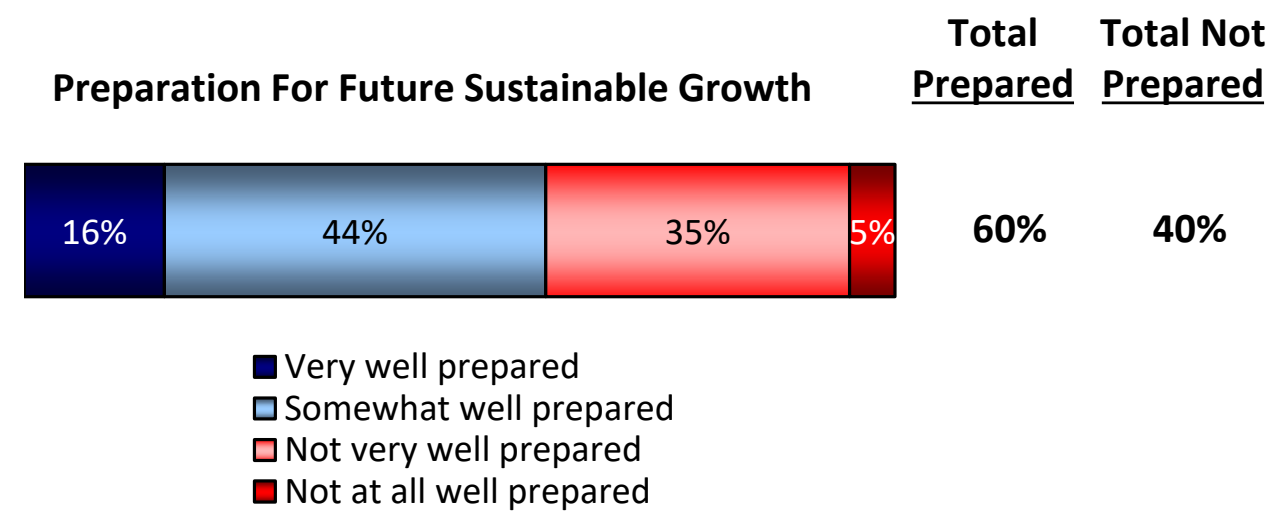


- Very positive
- Positive
- Neutral
- Negative
- Very negative

Base: Total (n=500)

Q.1) Overall, what is your reaction to this “nature-inspired” approach to balancing growth with the natural environment in a city such as Houston?

Executive Overview (cont.)



Base: Total (n=500)

Q.3) How well prepared do you believe Houston is for future sustainable growth?

Q.4) How concerned are you about the impact of future growth on the Houston's natural environment?

Views are relatively mixed when asked how well prepared they believe Houston is for future sustainable growth; 60% respond 'very' or 'somewhat' well prepared, and 40% respond 'not very' or 'not at all' prepared. Older residents (55 years plus) are most concerned.

But residents are clearly concerned about the impact of future growth on Houston's natural environment; 83% are concerned (31% 'very' concerned) versus 17% not concerned. Concern is high across all demographic and regional segments of the population.

There is, however, **optimism about Houston's ability to restore natural habitat with proper planning and expertise.** Seven in ten (70%) are optimistic relative to 30% who are not optimistic. Men, older residents and those from affluent households express the most concern.

Executive Overview (cont.)

Reasons for optimism include: Houston already has plans or the ability to restore and protect natural habitat, past history/actions, public support for environmental protection.

Those who are pessimistic do not believe Houston has focused in the past on environmental protection (focus more on economic growth), lack confidence in government, and to a lesser extent are concerned about lack of public interest.

When asked how concerned they are about the **future state of specific aspects of Houston's natural environment, high levels of concern are expressed for all elements** measured with the highest concern for:

- flooding (93% concerned) and
- storm/extreme weather resilience (90%).

These are followed by concern about:

- air quality (85%),
- carbon emissions (82%),
- water quality including drinking water (81%),
- health of local ecosystems such as the bayous (81%),
- health and habitat for local plant and animal species (79%), and
- access to nature such as greenspaces and parks (67%).

Executive Overview (cont.)

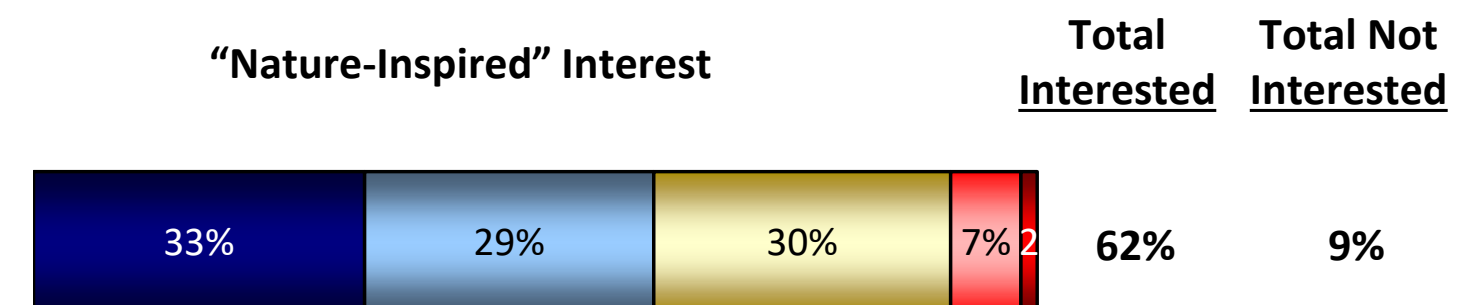
When questioned which type of infrastructure they think requires the most upgrades in Houston, opinions are somewhat varied.

This is consistent across the region, but younger residents (under 35 years) are most concerned about water systems, the middle age group about coastal communities superstorm barriers and energy systems, and the oldest age group (55+) about bridges and roads.

The majority, 62%, are interested in the concept of nature inspired design as a tool to reduce carbon emissions.

The majority (76%) do not see any barriers to successfully adopting nature inspired infrastructure but of those mentioned, the most common are cost/financing, politics/leadership and lack of public support.

The community broadly supports using funds from the federal government’s infrastructure bill to integrate nature inspired designs into the city (66% support, 7% not support, 27% unsure).

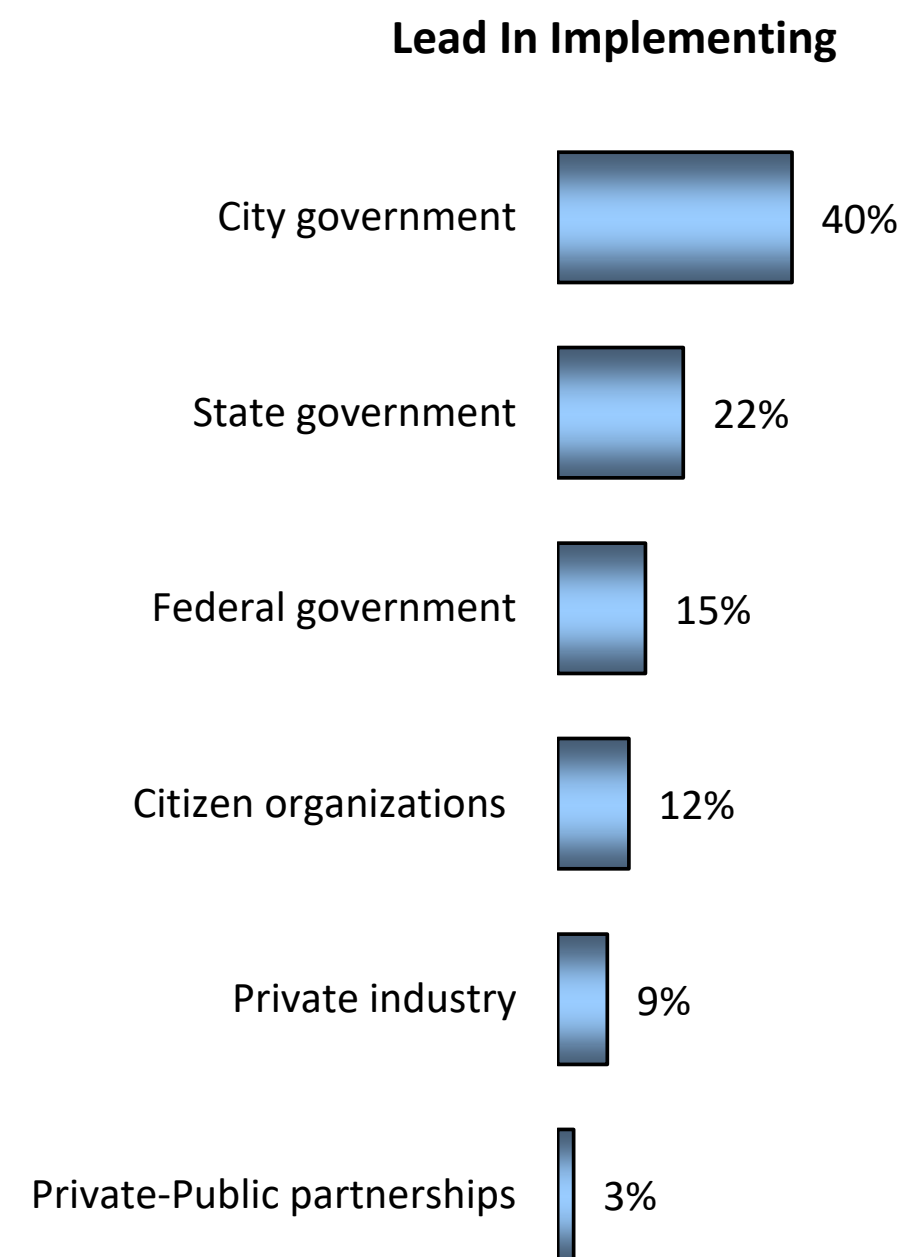


- Absolutely yes
- Yes
- Maybe
- No
- Absolutely not

Base: Total (n=500)

Q.9) Are you interested in the concept of nature-inspired design (such as vegetated/green roofs to aid stormwater management) as a tool to reduce carbon emissions?

Executive Overview (cont.)



Base: Total (n=500)

Q.12) If Houston adopted this approach, who should take the lead in implementing it?

Residents tend to believe the **city government should take the lead in implement this approach** (40%), followed by state government (22%), private public partnerships (15%), citizen organizations (12%), federal government (9%), and private industry (3%).

Residents tend to also believe the idea of **nature inspired solutions fit into Houston's pre existing efforts and strategies to address climate change and resilience** (51% agree, 12% do not and 38% are unsure).

When asked to rate the **potential of the concept to be a leading solution to our climate crisis**, residents provide an average rating of **6.7** where **10 means 'high potential'**.

And when **asked how quickly they think the idea of nature inspired design should be implemented** in building Houston's future, an average rating of **8.5** is provided where **10 means 'start immediately'**.

Executive Overview (cont.)

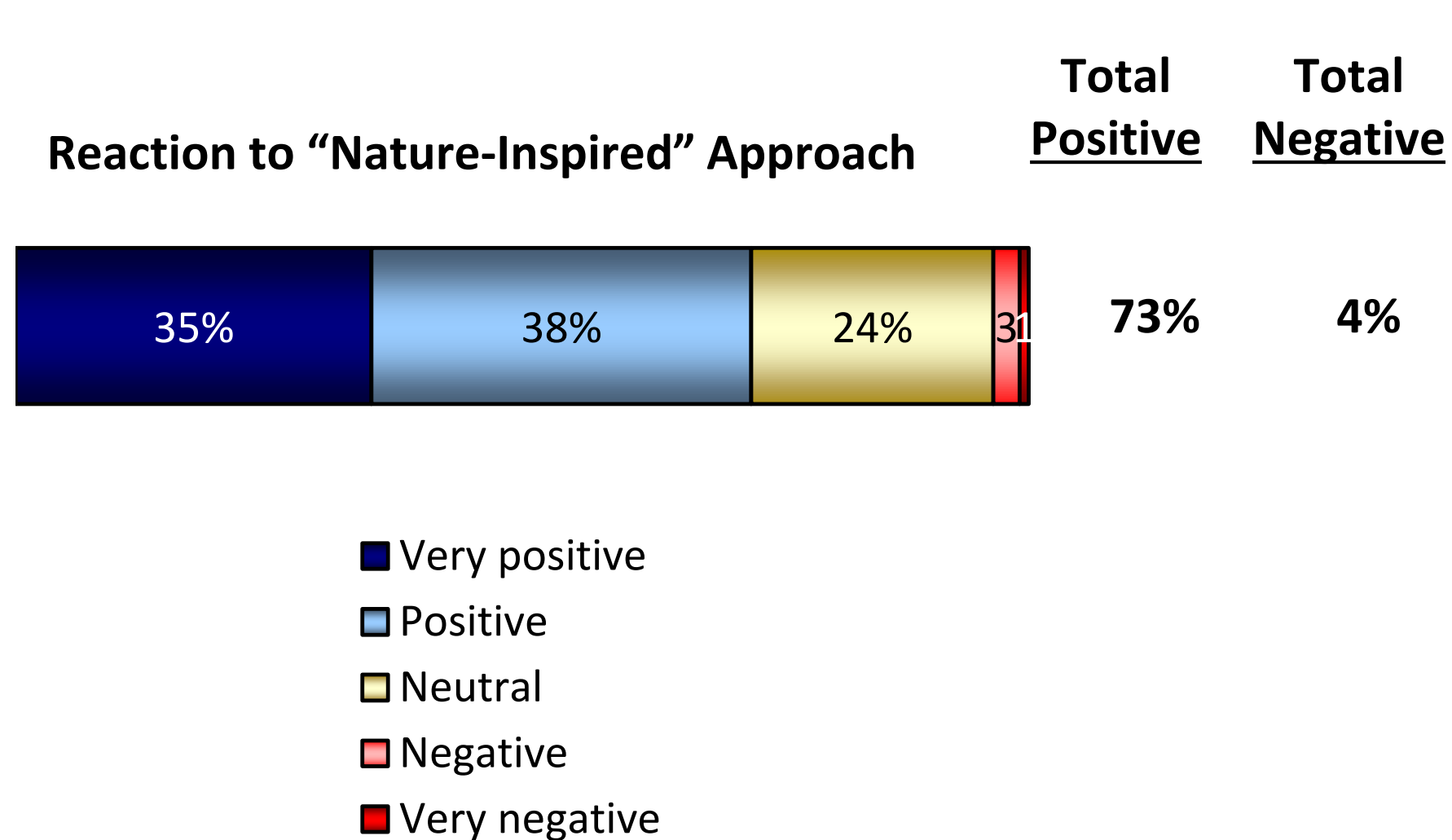
The survey concluded with a question about **concerns they have about Houston adopting nature inspired solutions. Eight in ten had none.** Concerns expressed echo those made earlier in the interview: cost/financing, politics/leadership, lack of public support, and questions about how the designs or projects will be implemented.

In summary, the research shows

- **strong support** for nature inspired solutions to achieve sustainable growth and build resilience to climate change
- **optimism** that Houston can be successful at implementing this concept, and
- that the approach **supports Houston's existing efforts** and strategies to build a resilient city

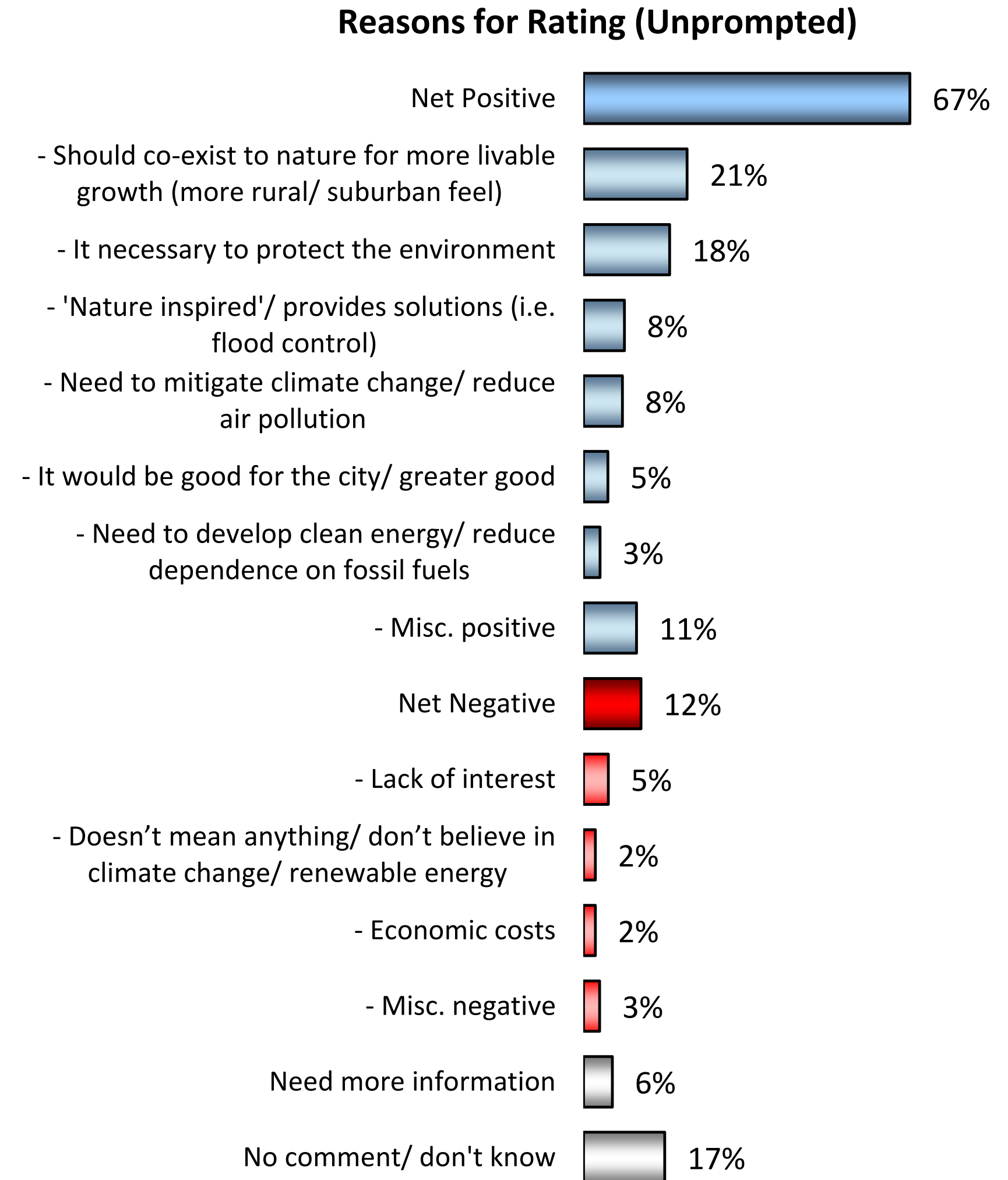
Detailed Findings

➤ Reaction to “Nature-Inspired” Approach



Base: Total (n=500)

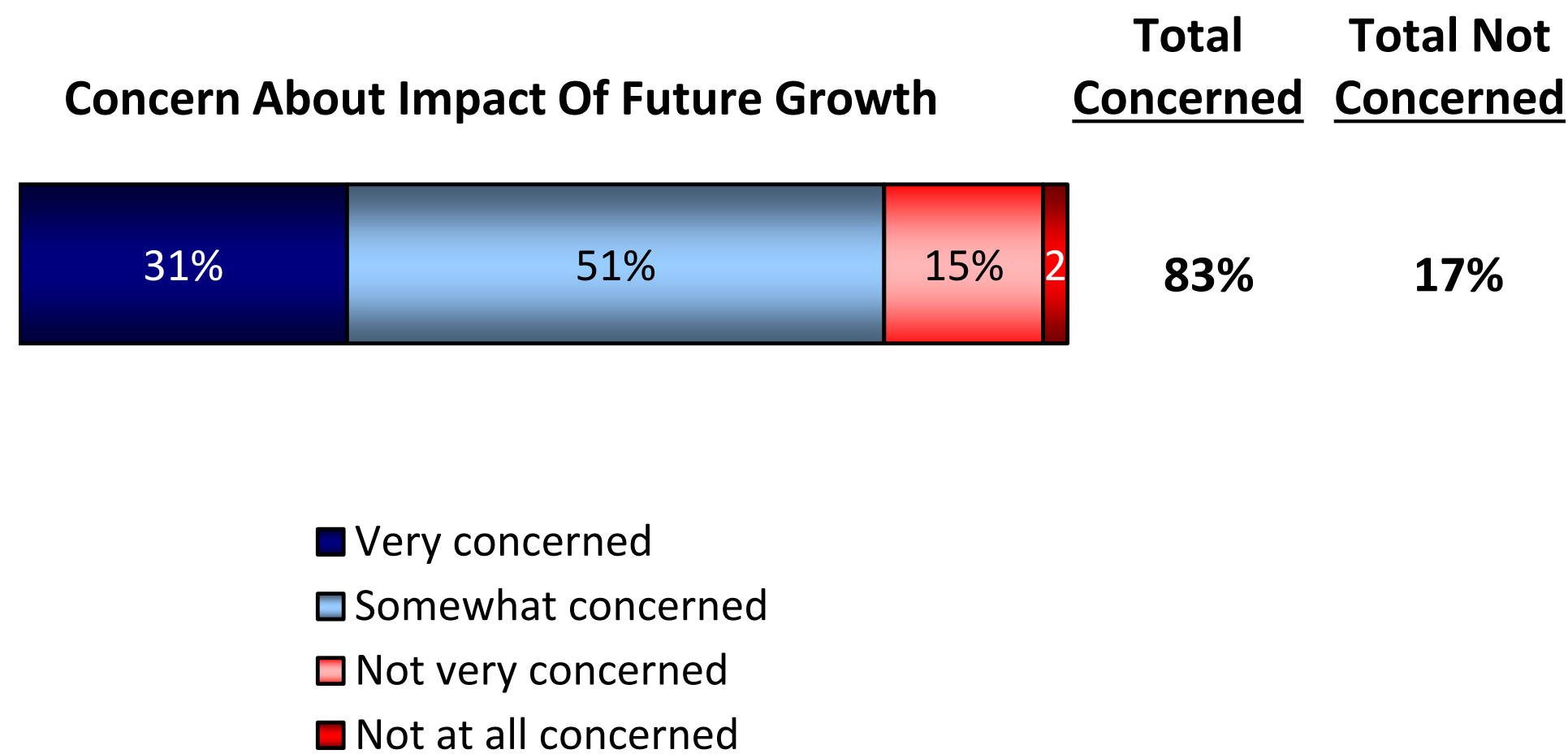
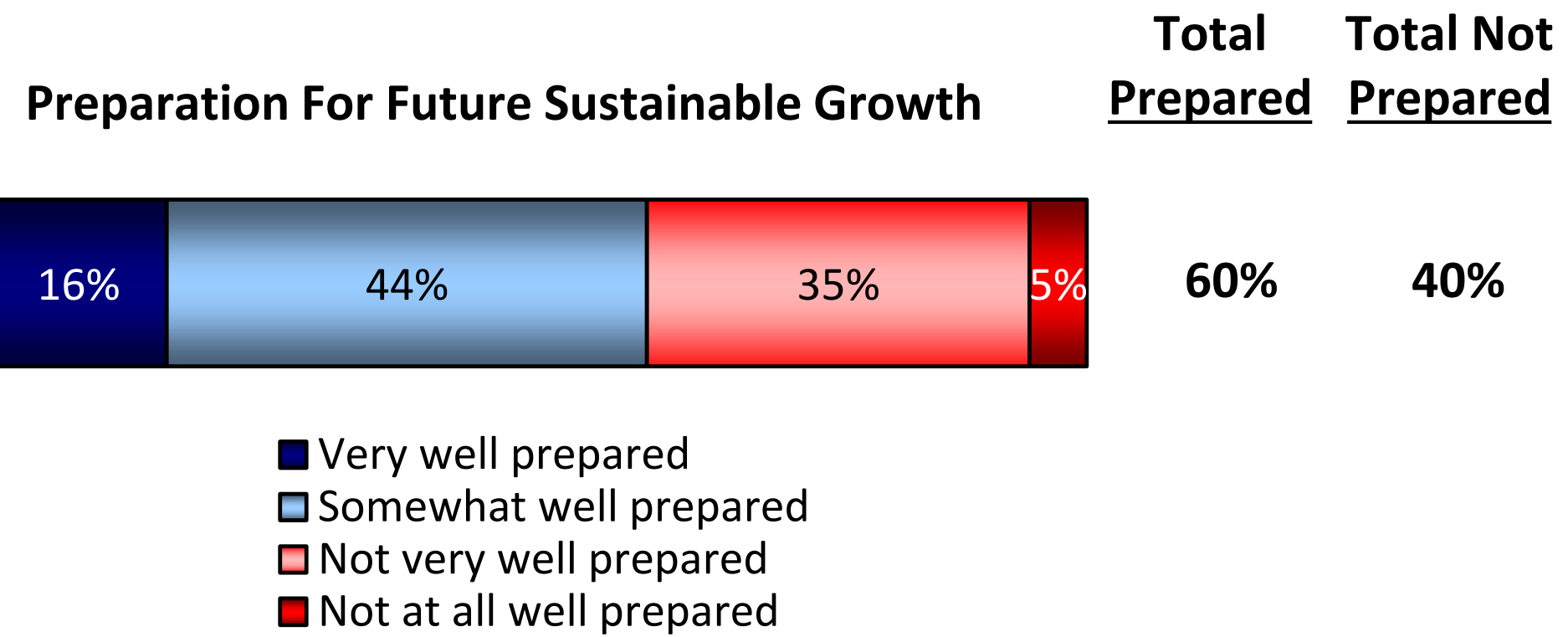
Q.1) Overall, what is your reaction to this “nature-inspired” approach to balancing growth with the natural environment in a city such as Houston?



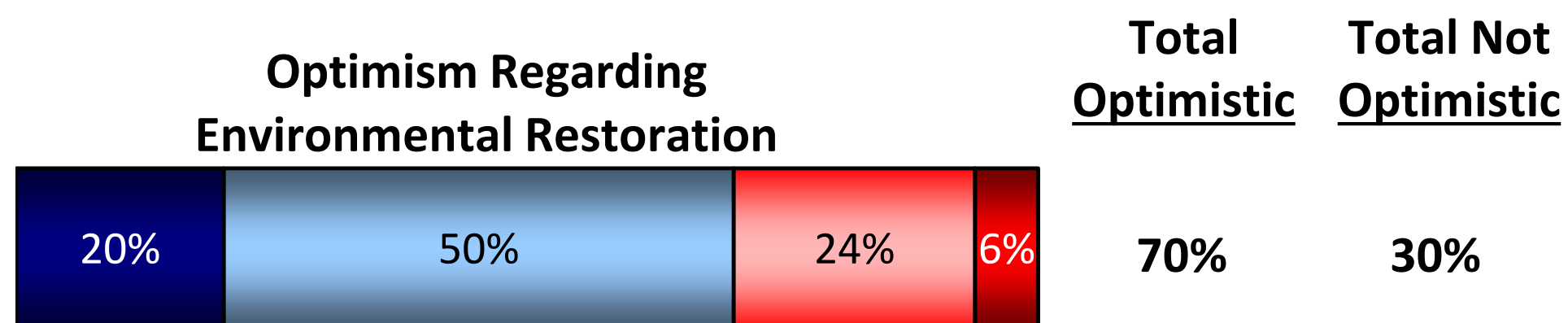
Base: Total (n=500)

Q.2) Why do you say that?

How Well Prepared and Concern about Future Sustainable Growth



Base: Total (n=500)



- Very optimistic
- optimistic
- Not very optimistic
- Not at all optimistic

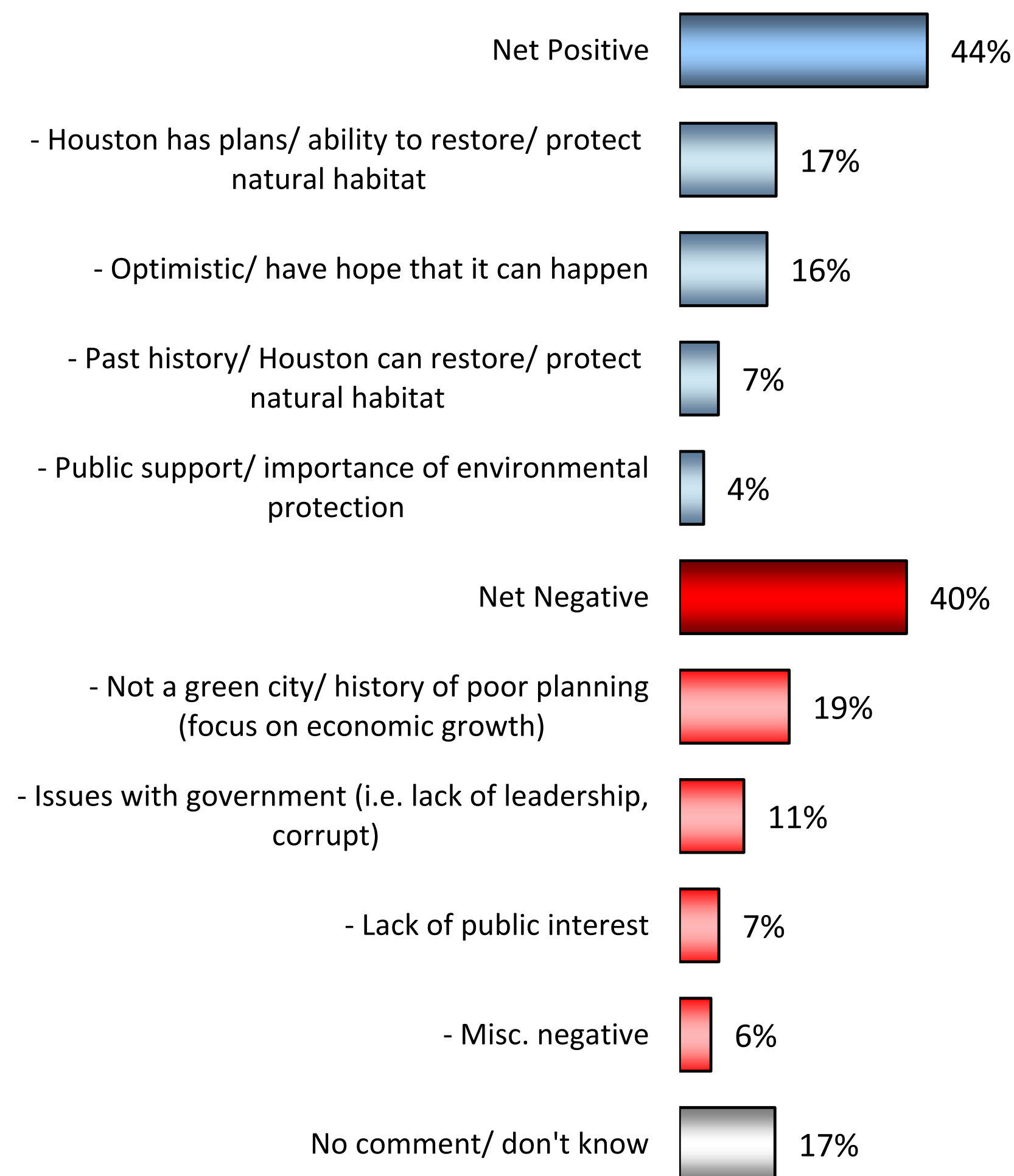
Base: Total (n=500)

Q.5) How optimistic are you about Houston's ability to restore natural habitat with proper planning and expertise?

Total Optimistic
70%

Total Not Optimistic
30%

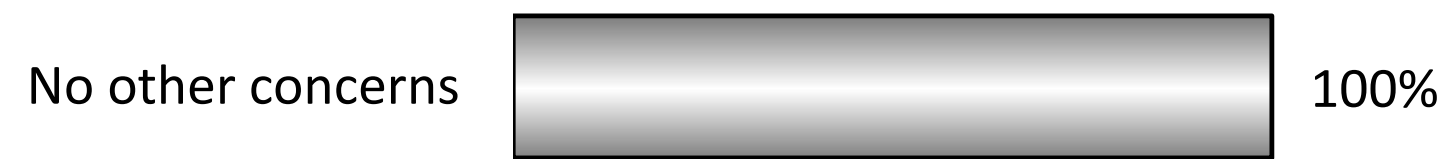
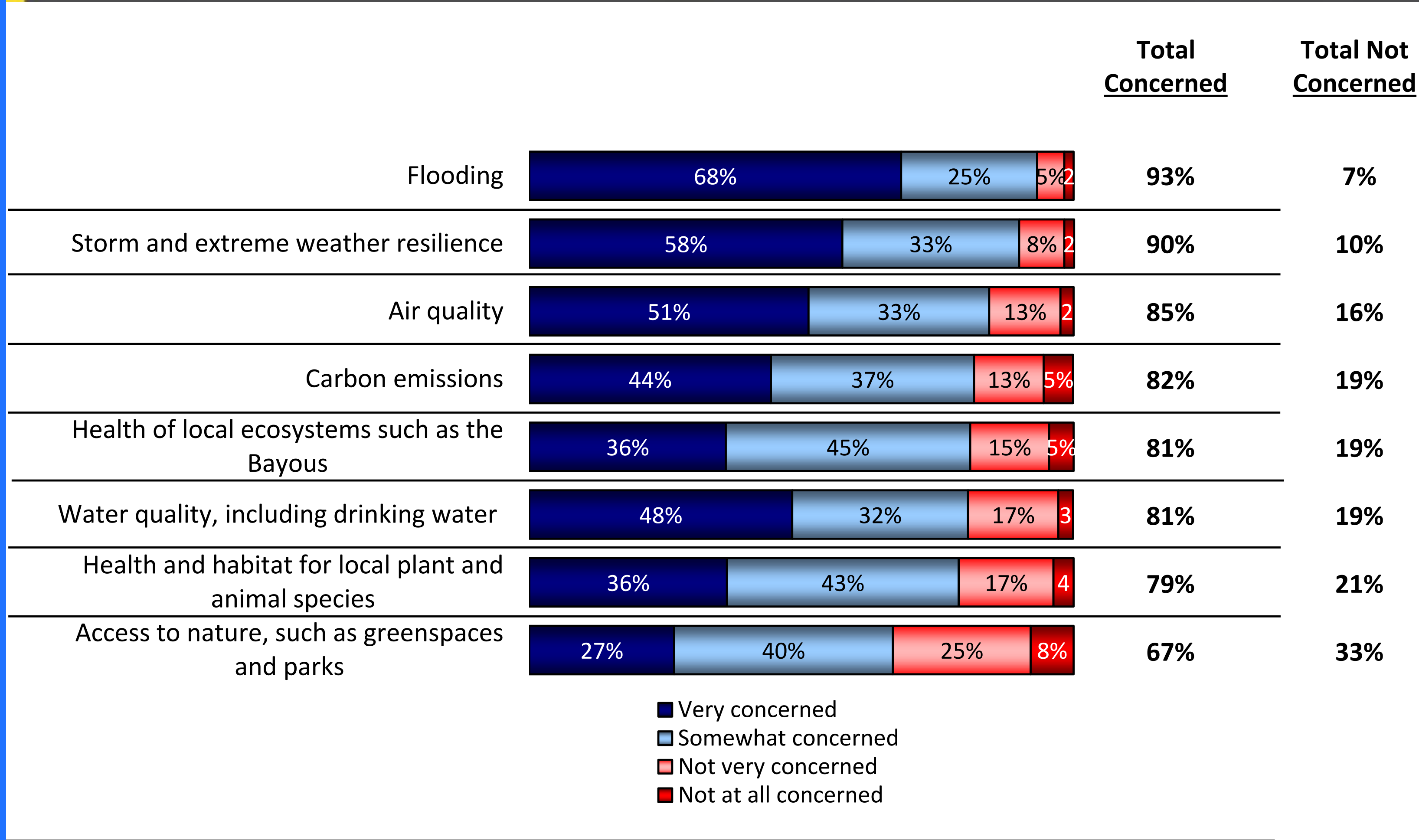
Reasons for Rating (Unprompted)



Base: Total (n=500)

Q.5) Why do you say that?

Environmental Concerns

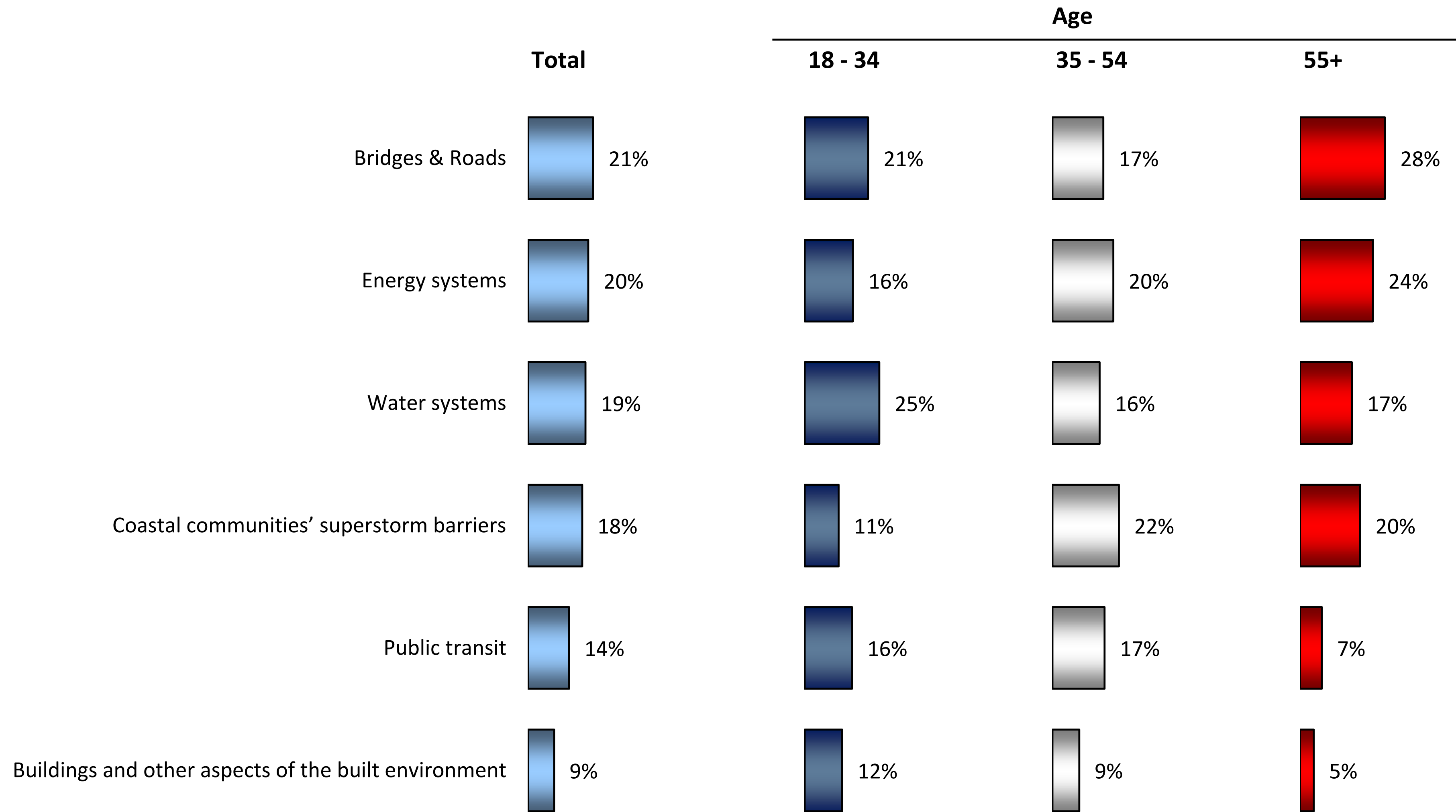


Base: Total (n=500)

Q.6a-h) How concerned are you, if at all, about the future state of these aspects of Houston's natural environment?

Q.7) Are there any other aspects of Houston's natural environment that you are concerned about for the future?

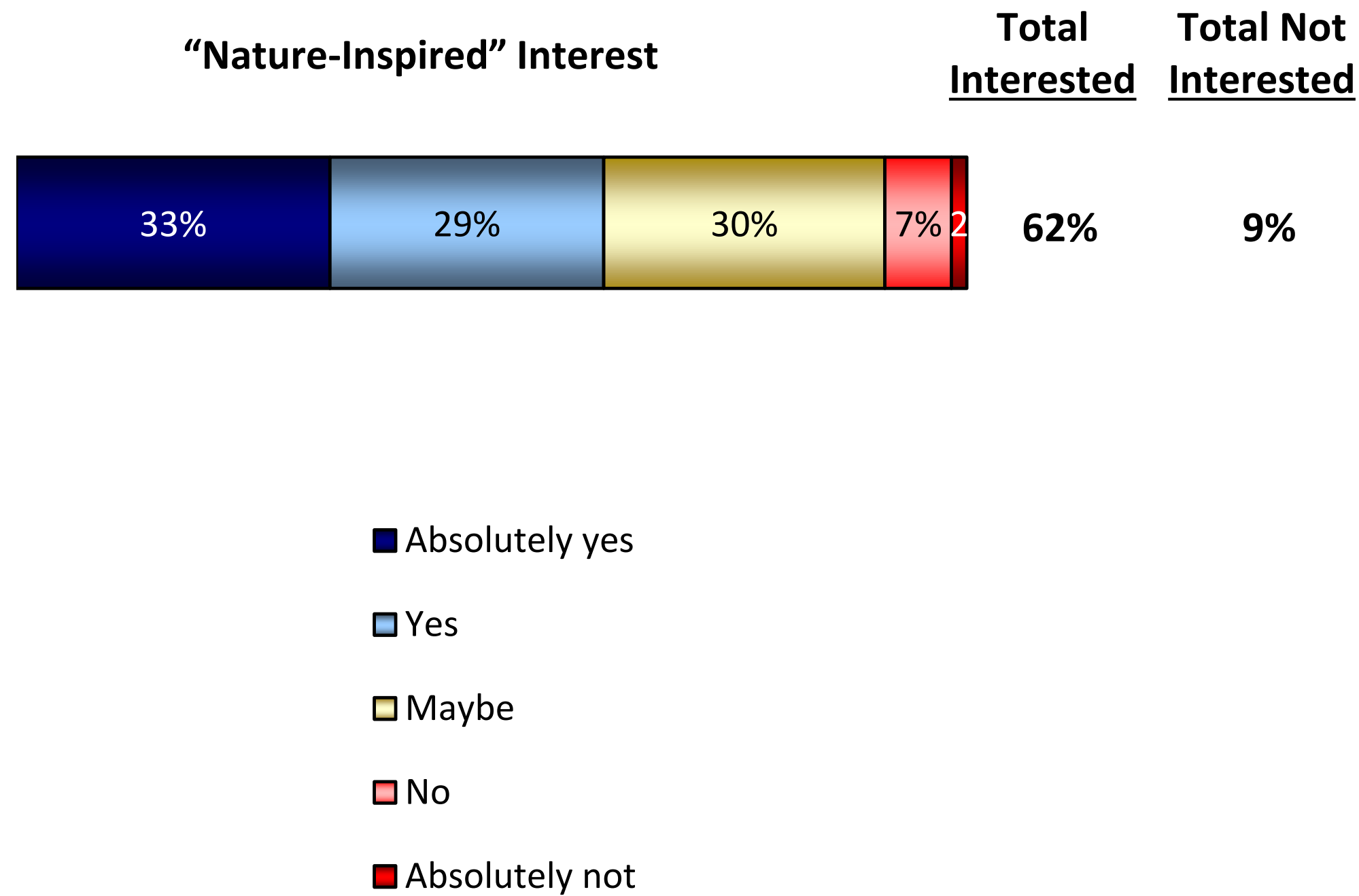
➤ Infrastructure Requires Most Up-grades



Base: Total (n=500)

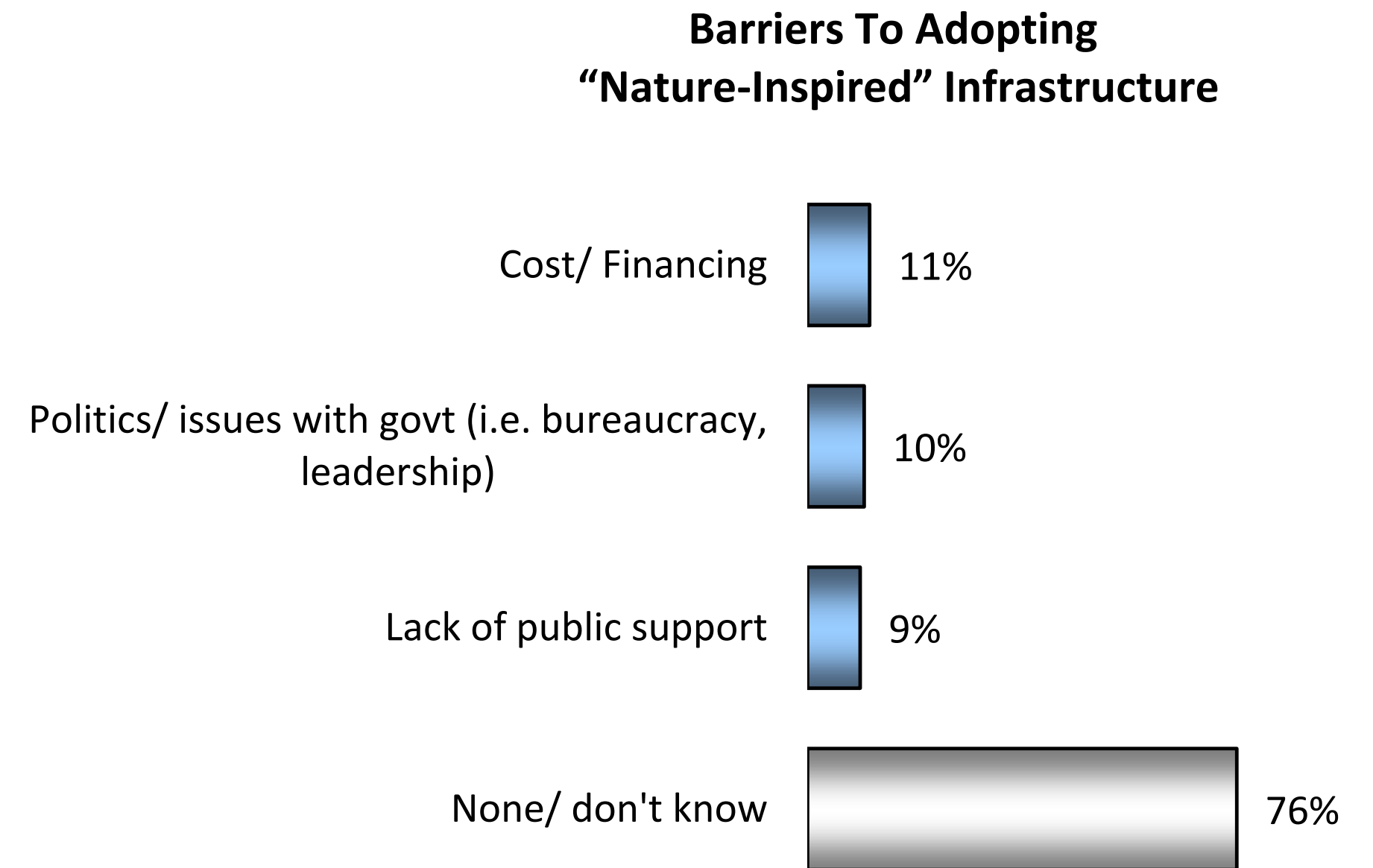
Q.8) Of the following list, which type of infrastructure do you think requires the most upgrades in Houston?

Interest In “Nature-Inspired” Concept to Reduce Carbon Emissions and Barriers



Base: Total (n=500)

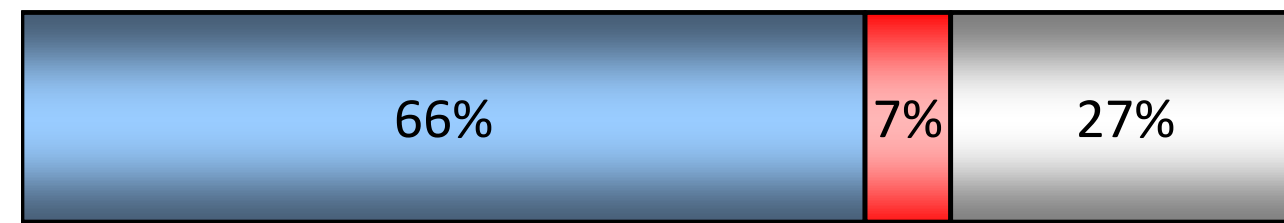
Q.9) Are you interested in the concept of nature-inspired design (such as vegetated/green roofs to aid stormwater management) as a tool to reduce carbon emissions?



Base: Total (n=500)

Q.10) Do you see any barriers to Houston successfully adopting nature-inspired infrastructure (such as restoring coastal marshes to absorb catastrophic storm surges)?

Use Of Federal Funds

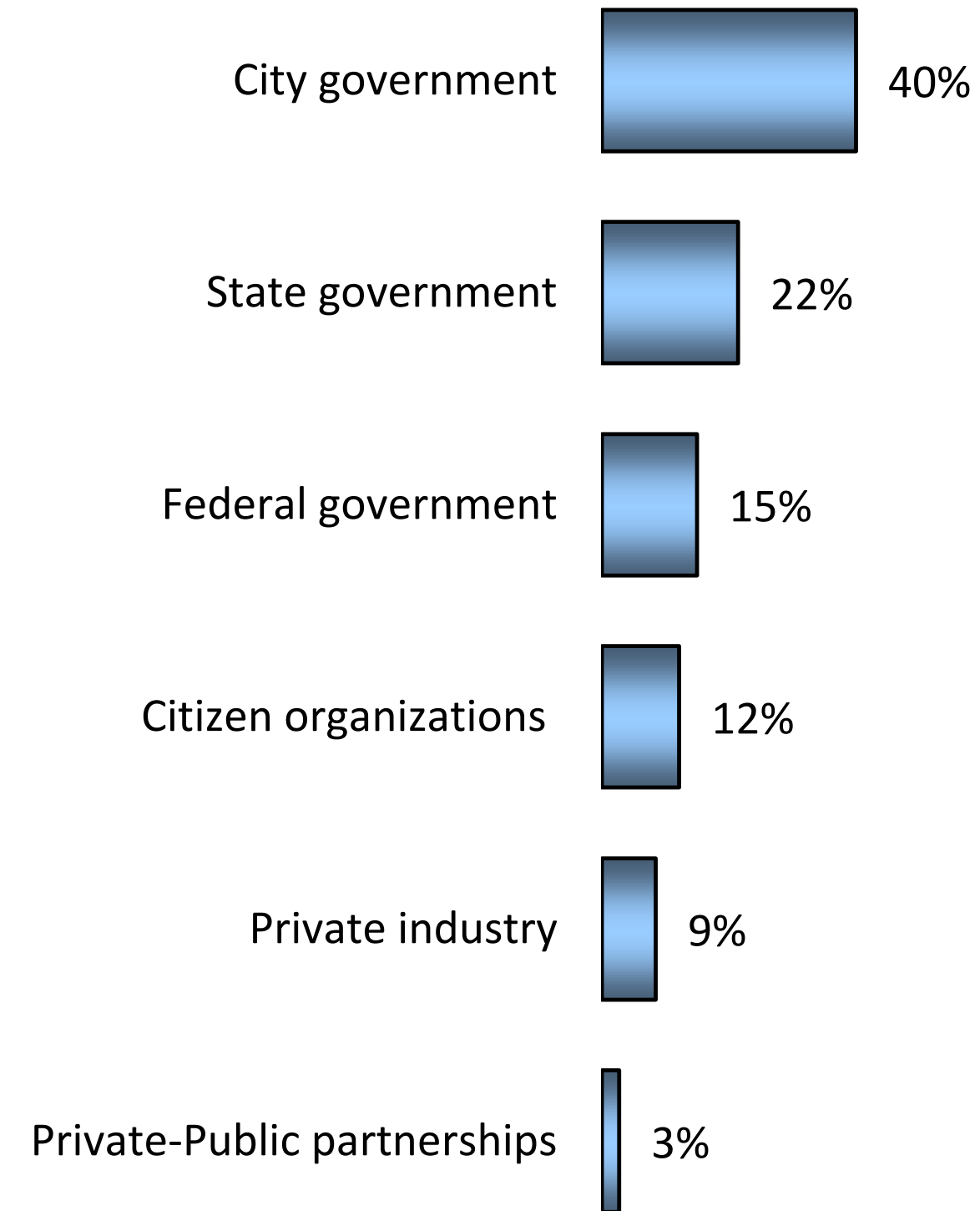


- Yes
- No
- Unsure

Base: Total (n=500)

Q.11) The City of Houston most likely will receive funds from the federal government's infrastructure bill. Should they be used to integrate nature-inspired designs into the city?

Lead In Implementing

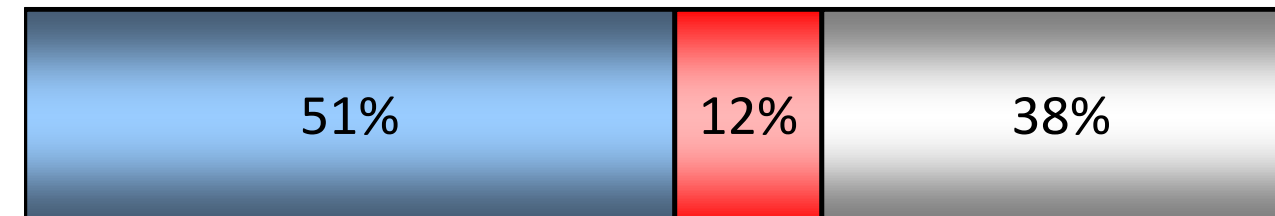


Base: Total (n=500)

Q.12) If Houston adopted this approach, who should take the lead in implementing it?

Fit into Houston's Pre-existing Strategies to Address Climate Change/ Resilience

Is Houston tuned into natural design?



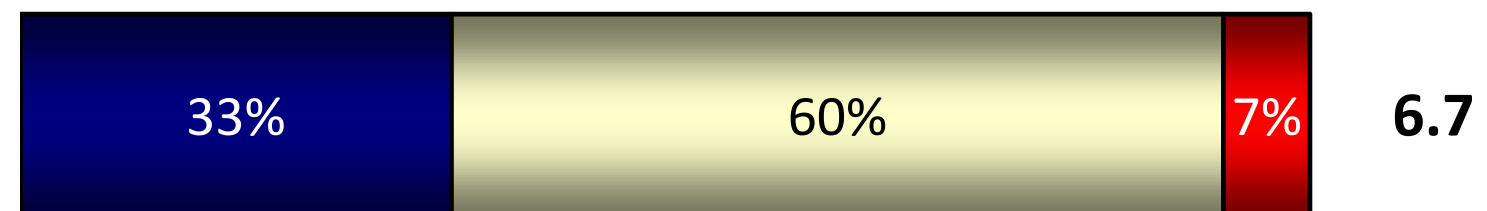
- Yes
- No
- Unsure

Base: Total (n=500)

Q.13) Do you think the idea of nature-inspired solutions fit into Houston's pre-existing efforts and strategies to address climate change and resilience?

Potential Solution To Climate Crisis

Average



■ 8 - 10 ■ 4 - 7 ■ 1 - 3

Scale: 1="No potential" and 10="High potential"

Base: Total (n=500)

Q.14) Do you think this concept has the potential to be a leading solution to our climate crisis? Rate on a scale of 1 to 10, with 1 being no potential and 10 being high potential.

How Quickly Should "Nature-Inspired" Design Be Implemented

Average



■ 8 - 10 ■ 4 - 7 ■ 1 - 3

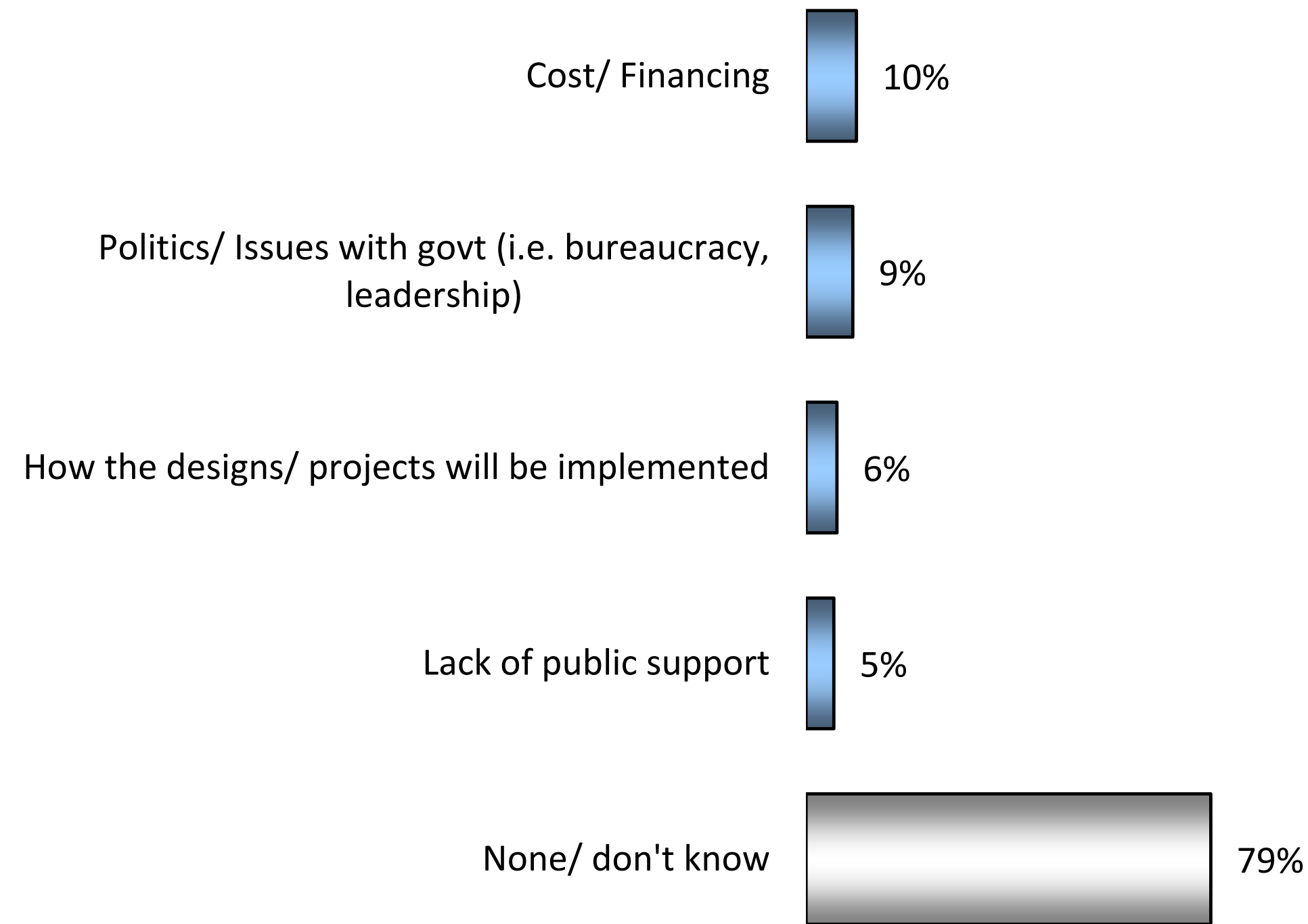
Scale: 1="Don't do it" and 10="Start immediately"

Base: Total (n=500)

Q.15) On a scale of 1-10 how quickly do you think the idea of "nature-inspired" design should be implemented in building Houston's future? (1 means don't do it, 10 means start immediately).

Concerns about Adopting Nature Inspired Solutions (Unprompted)

Barriers to natural design



Base: Total (n=500)

Q.16) What concerns do you have, if any (not stated elsewhere), about Houston adopting nature-inspired solutions?

Methodology

500 interviews were conducted online with random sample of Greater Houston residents, 18 years of age or over

Minor weighting was applied to match the sample to census data on the basis on gender, age and region (county)

Margin of error on a random sample of 500 is +/- 4.5% at the 95% level of confidence

Questionnaire used appended to report (which includes a description and examples of the concept/approach)

Detailed computer tabulations presented under separate cover with results presented by gender, age, area of residence, race, education and household income

Interviews conducted January 4-12, 2022

About CityAge Insights

We partner with leading research firms to deliver original insights into the issues and trends

impacting our urban planet. These bespoke reports, which CityAge develops with our own research team and trusted partners, can be commissioned on request.

Contact:

info@cityage.com