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100 RESILIENT CITIES

Getting real about resilience

How cities can build resilience thinking into
PPPs infrastructure projects

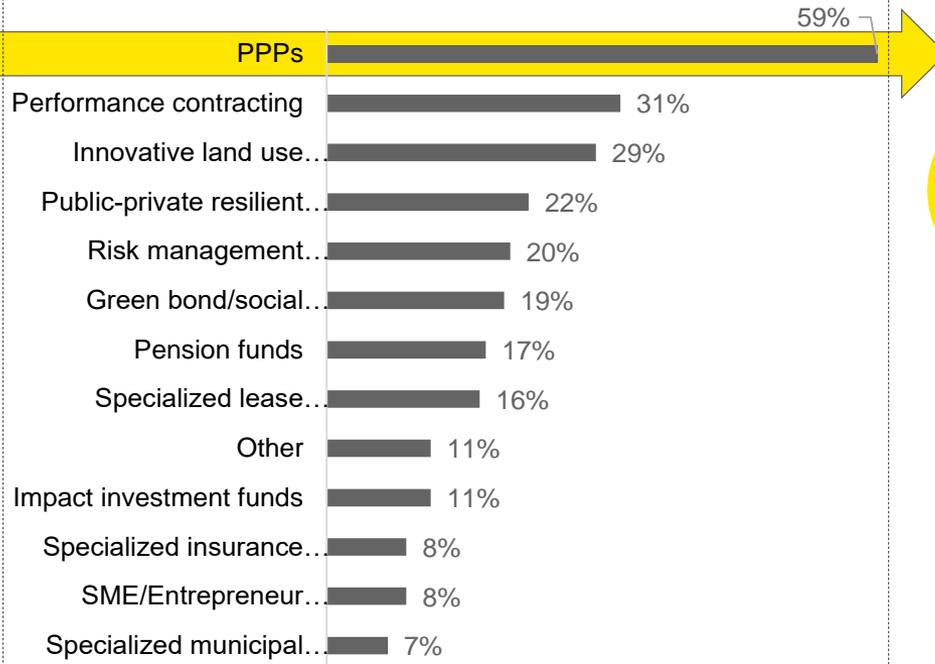
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Based on EY's analysis, PPPs are the most highly used financing mechanism for smart, resilient infrastructure in cities

PPPs can make use of other alternative financing options in their own structuring, including direct pay taxable bonds, tax-exempt qualified private activity bonds.

What are the current financing options?



Where PPPs are working today

Mobility. Cities are utilizing PPPs for new transit, urban congestion pricing and mobility-as-a-service by tapping into private financing, volume payments and user fees



Renewables. Cities are investing in solar, renewables, and battery storage PPPs through blended finance, multilateral development banks, grants and equity

Water. Cities are upgrading water infrastructure through PPPs that leverage blended finance, multilateral development banks and private capital



Digital/ICT infrastructure. PPPs enable cities to invest in 5G networks and digital infrastructure by tapping into private funding, capital markets and monetizing assets

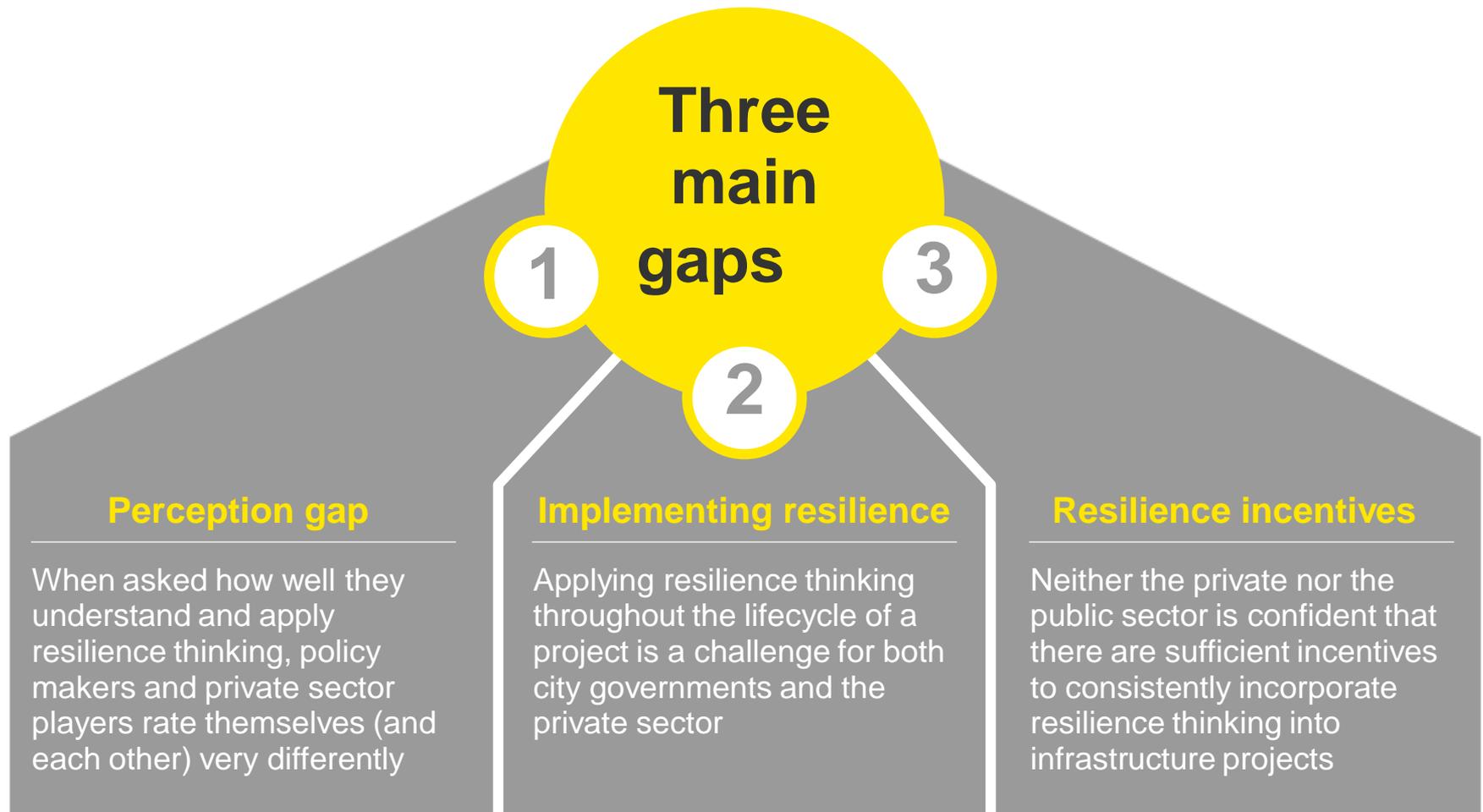
What is resilience thinking and the connection with PPP infrastructure?

Resilience is a city's ability to respond, grow and thrive in the face of shocks, such as floods and terrorist attacks, and stresses, such as unaffordable housing and pressure on public services. Much of this burden is borne by infrastructure.

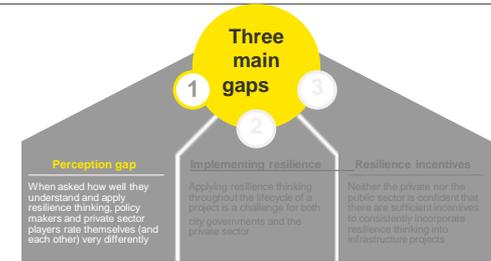


Cities that build resilience into their infrastructure projects do five things:

Three main gaps: perception between public and private players, implementation and incentive gap

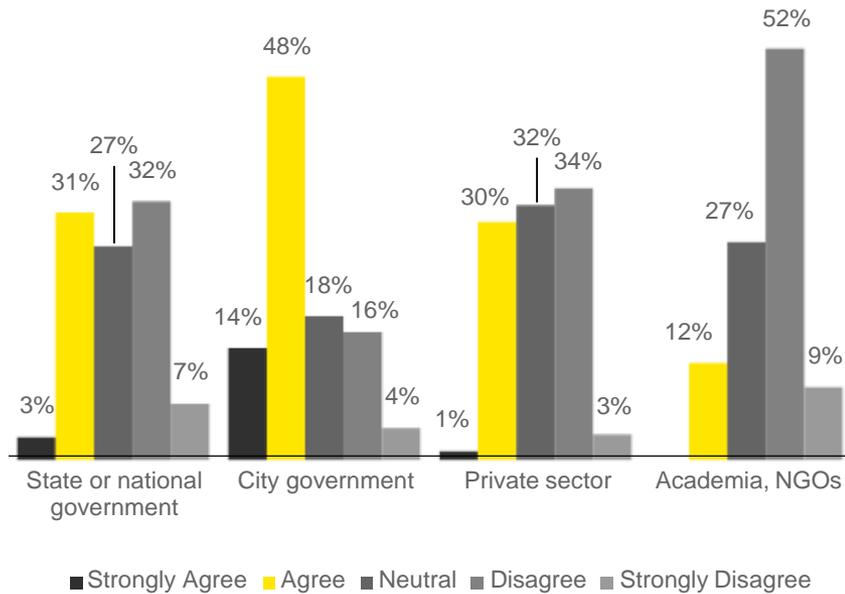


City governments are relatively confident of their ability to understand and capture resilience thinking



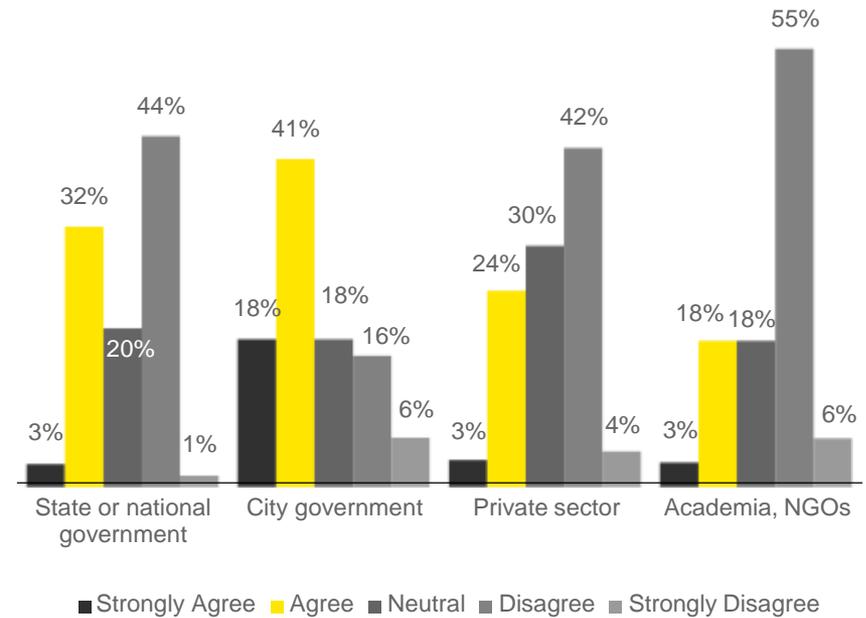
City governments think they understand the challenges of urban resilience much better than their stakeholders think they do

In your opinion, do municipalities understand the urban resilience challenges they face?

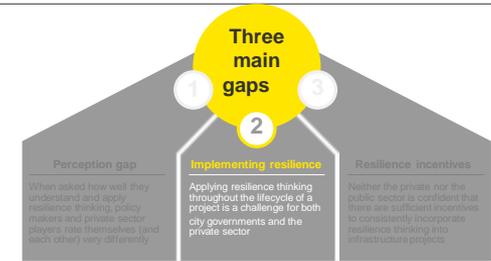


This perception gap extends to how well city governments think they build resilience thinking into their decision-making — and what everyone else thinks

In your experience, do city governments typically incorporate resilience thinking into their decision-making around infrastructure projects?



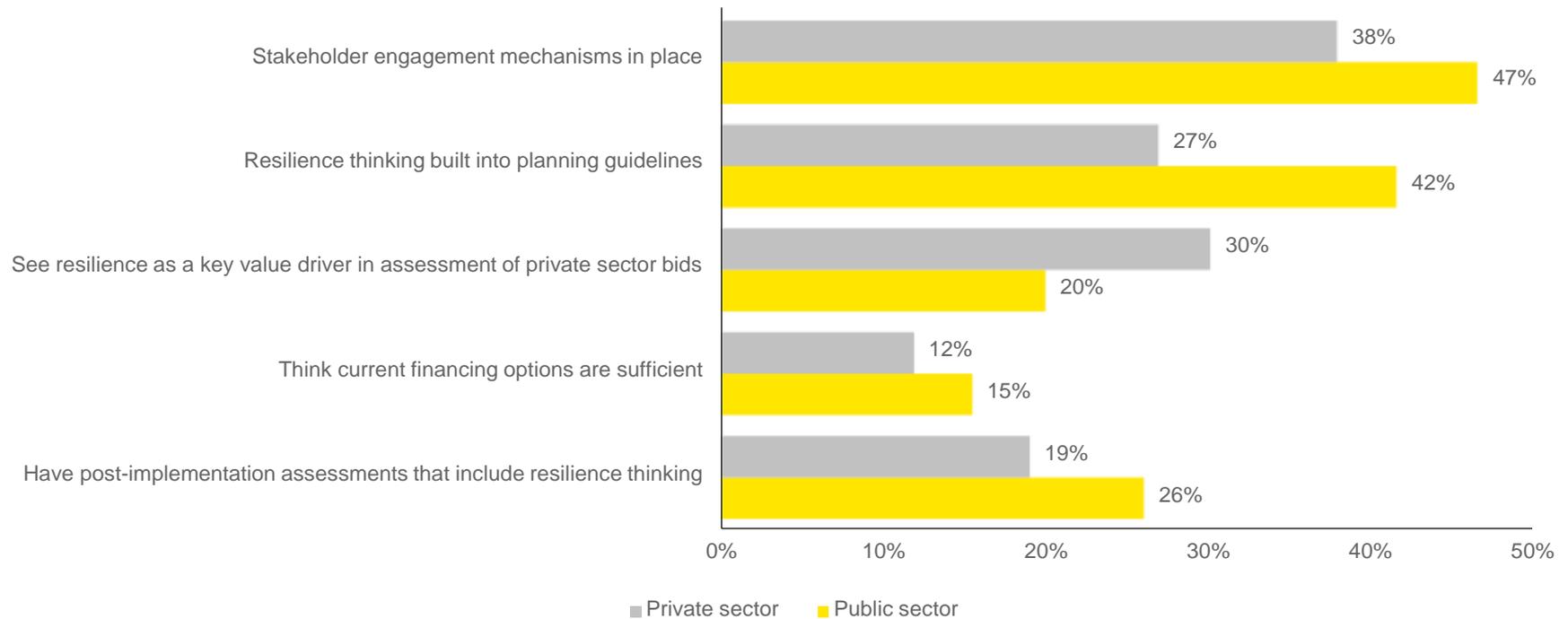
City governments and the private sector are stronger and weaker at different stages of the cycle



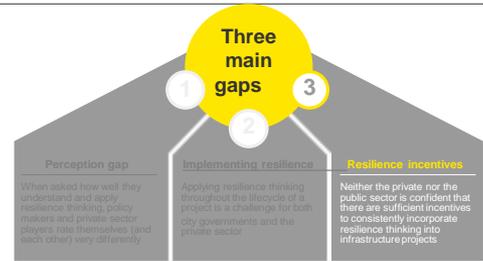
Overall, resilience thinking is strongest at the earliest stages of the infrastructure project lifecycle. After that, it drops off — with financing as the weakest point

Respondents rated how well city governments and the private sector build in resilience thinking across the various stages of the project lifecycle: stakeholder management, planning, procurement, financing and measurement.

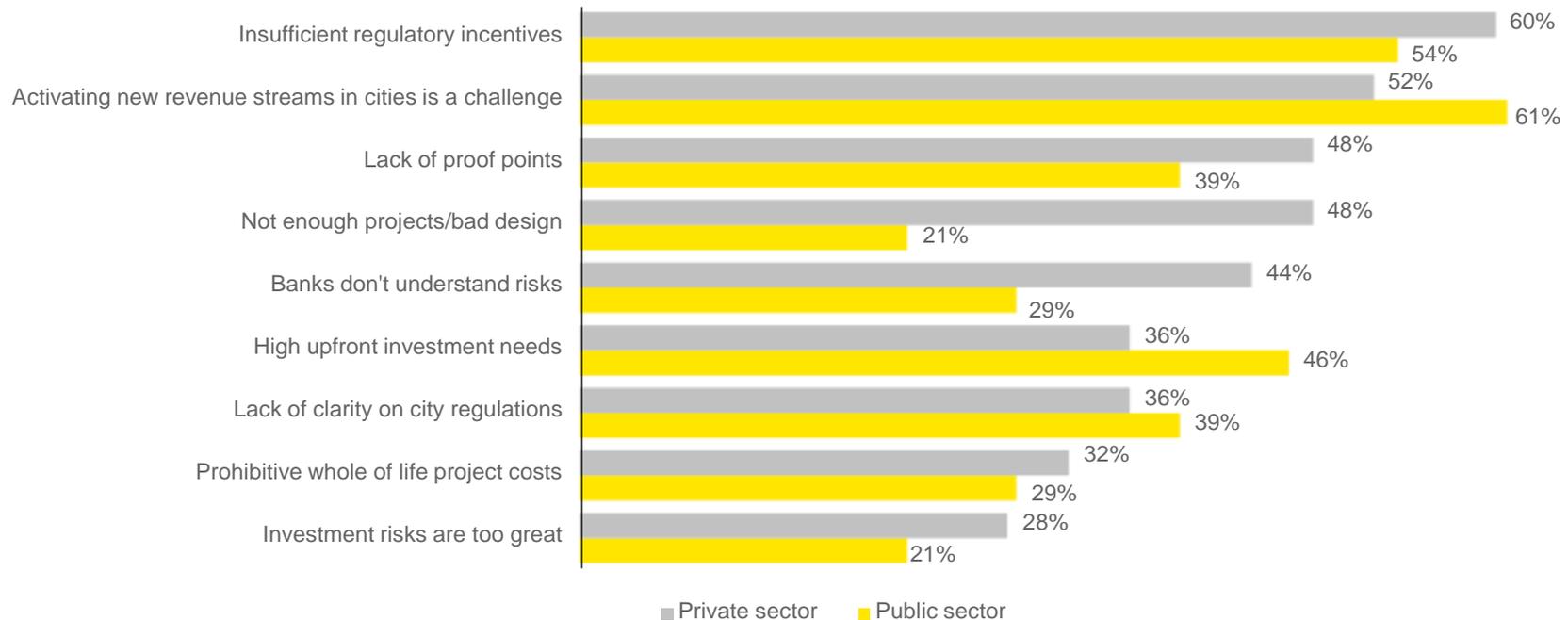
% of respondents who agree:



Insufficient regulatory incentives and activating new revenue streams are key deterrents

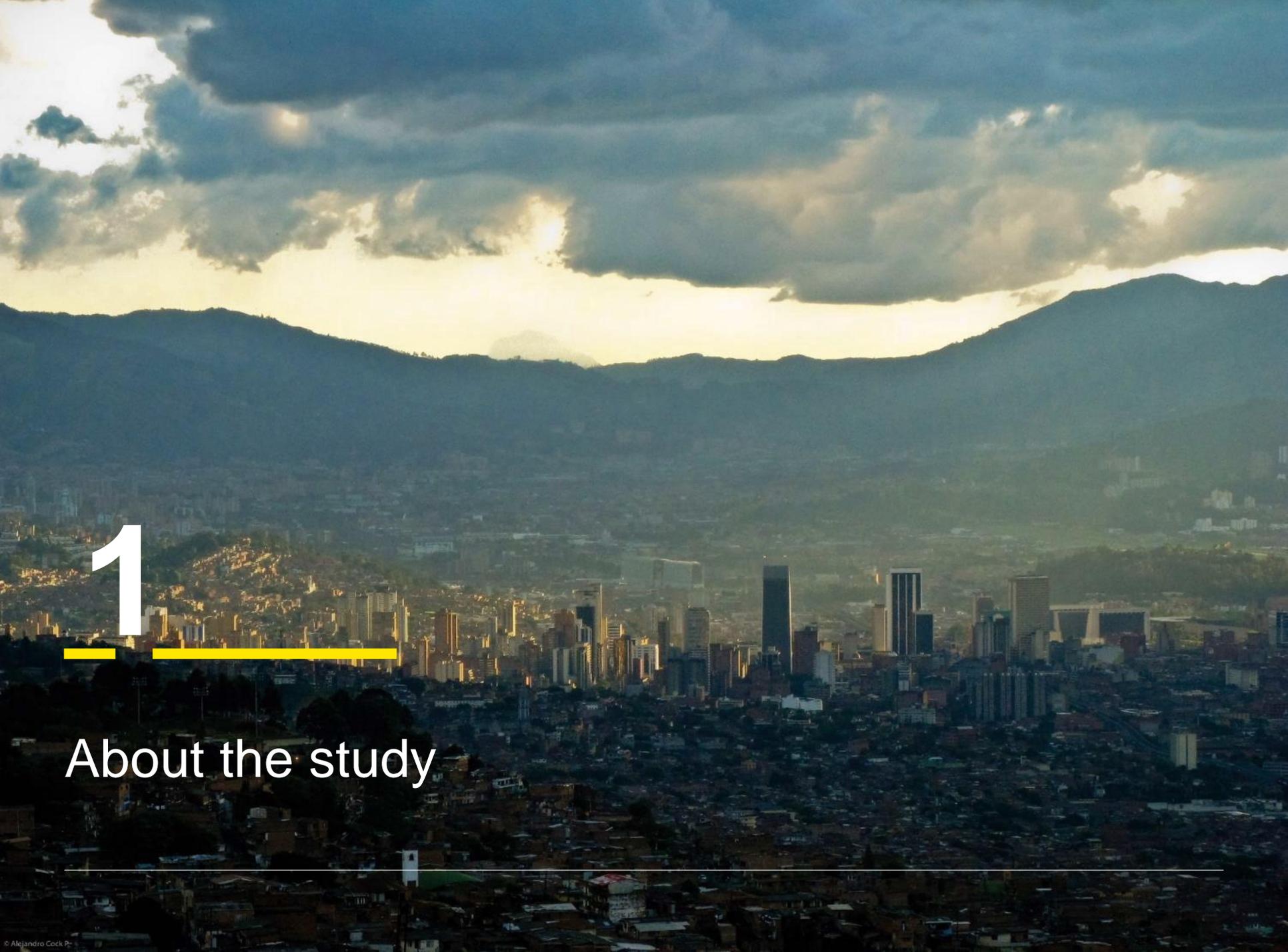


What are the constraints for financing solutions?



The EY/100RC view

- ▶ Substantiating a business case for investment deters private sector actors from getting involved with resilient resilience-building infrastructure projects. Resilience-building projects need to be viewed as revenue generators
- ▶ Not understanding the benefits and risks properly is another common block, which ultimately leads to lack of investor confidence

An aerial photograph of a city, likely Bogotá, Colombia, taken during the "golden hour" of sunset. The sky is filled with large, dark, dramatic clouds, with a bright glow of light breaking through near the horizon. The city's skyline is visible, featuring several prominent skyscrapers. The foreground shows a dense residential area with many smaller buildings. A large, white, stylized number '1' is overlaid on the left side of the image, with a thick yellow horizontal line extending to the right from its base.

1

About the study

A shared vision: the why, what, when and who of the joint EY/100RC study

100RC — EY partnership

- ▶ 100 Resilient Cities (100RC) helps cities around the world become more resilient to the physical, social and economic challenges of the 21st century.
- ▶ At EY, we believe that our experience in infrastructure, as well as our commitment to building a better working world, makes us an ideal partner to help achieve this goal. So in 2016, we committed to becoming one of 100RC's platform partners for five years.

Objective

- ▶ To establish what good looks like, and recommend how city governments and the private sector could get there by exploring:
 - ▶ How government and the private sector currently build urban resilience thinking into their infrastructure programs
 - ▶ How those groups could engage with each other better to plan, procure, deliver, finance and measure the costs and benefits of these types of investments

Methodology

- ▶ Online survey of our combined networks in the public and private sectors (April–May 2017)
- ▶ Interviews with Chief Resilience Officers and other people from our networks (June–July 2017)
- ▶ In both the survey and the interviews, we asked our respondents about the role, issues and opportunities for resilience thinking through the infrastructure project lifecycle.

Participants

- ▶ 400 people from EY/100RC's networks in 10 regions
- ▶ 48% public sector respondents from city, state or national governments, including Chief Resilience Officers (CROs) in the 100RC network
- ▶ 3% private sector respondents, including entrepreneurs and private enterprises
- ▶ 9% people from non-government organizations (NGOs)
- ▶ 5% people from academia

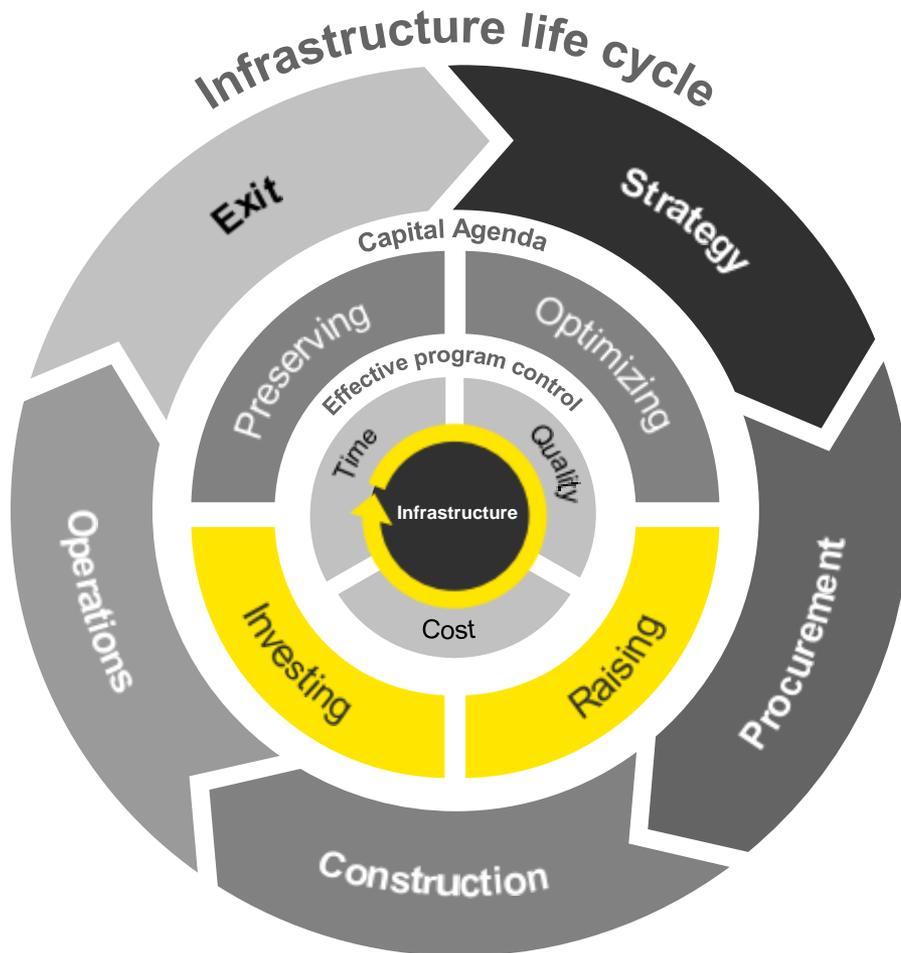
Percentage split for N=292, where respondents disclosed their sector

An aerial photograph of a city, likely Bogotá, Colombia, taken during the "golden hour" of sunset. The sky is filled with large, dark, dramatic clouds, with a bright glow of light breaking through near the horizon. The city's skyline is visible in the middle ground, featuring several prominent skyscrapers. The foreground shows a dense residential area with many smaller buildings. The overall mood is atmospheric and high-contrast.

2

The infrastructure lifecycle

EY takes an end-to-end approach across the entire infrastructure life cycle for a successful delivery



Working with a single provider across the entire project enables our clients to achieve consistency, operational efficiency and accountability while reducing their risk.

Our approach to infrastructure services focuses on the entire infrastructure life cycle. It incorporates a key understanding of capital agenda needs and program control necessary to deliver successful project outcomes.

- ▶ Our infrastructure services focus on supporting infrastructure development through five phases of the life cycle, from strategic planning to exit.
- ▶ The EY Capital Agenda is a robust framework to deliver infrastructure projects that balances time, cost and project quality with the availability of capital and competing projects.
- ▶ The program control framework establishes and identifies the potential risks in delivering complex infrastructure projects, and implements an effective strategy across the business and program environment to manage them.

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About EY

EY is a global leader in assurance, tax, transaction and advisory services. The insights and quality services we deliver help build trust and confidence in the capital markets and in economies the world over. We develop outstanding leaders who team to deliver on our promises to all of our stakeholders. In so doing, we play a critical role in building a better working world for our people, for our clients and for our communities.

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