

# Alternative business models for investing in Smart Cities

**2017 APN Conference Infrastructure Investment for  
Sustainable Growth: The Role of PPP and  
Challenges Ahead**

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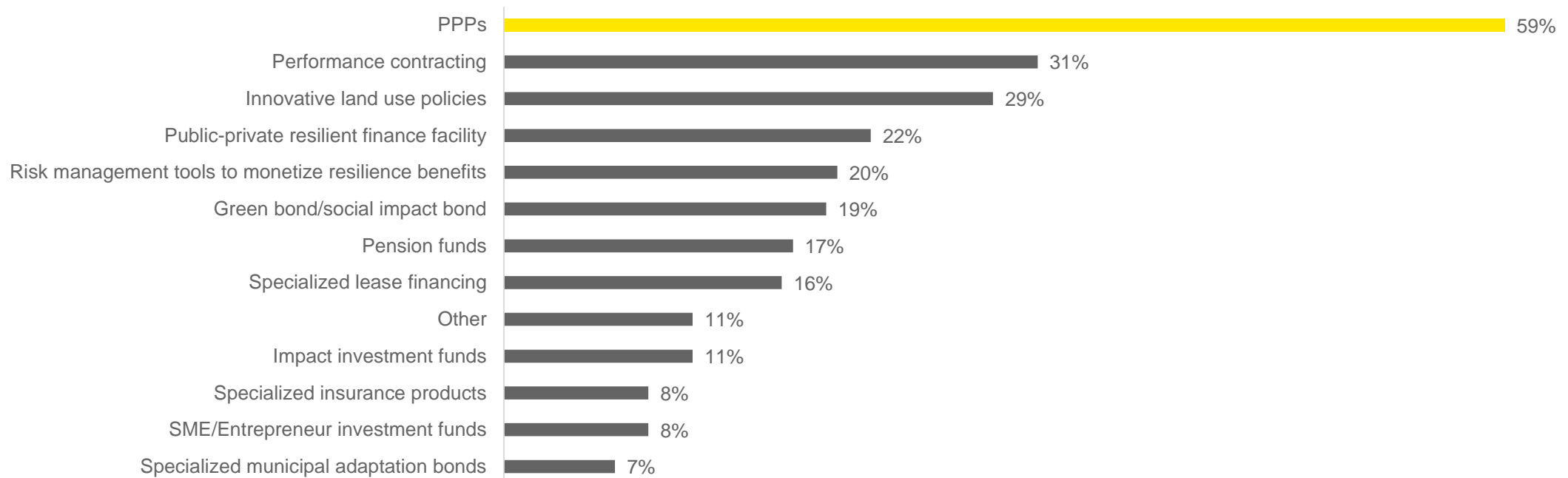


Building a better  
working world

# A recent EY analysis shows that PPPs are the key financing mechanism for resilient infrastructure investment

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?



Source: EY, 100RC, July 2017

# Smart assets drive some unique needs for creating and deploying new funding mechanisms

## There are new business models emerging

For example, new data-driven “**utilities**” coming up with the evolution of smart cities.

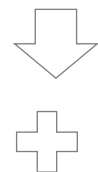
## Conventional infrastructure assets are getting a refresh

Existing assets/asset classes are being revamped through introduction of **sensors and internet-enabled connectivity.**

## Monetization for transforming infrastructure assets

Data monetization — **direct** (assets are transformed through data, and the data itself can be used to generate additional revenues) and **indirect** (data can be used to improve the effectiveness of infrastructure asset)

Appropriate revenue sharing



Effective risk sharing

# Private investors need to be able to monetize smart assets

The focus is on establishing a revenue stream, or top-line benefit, from “smart” technologies and the data they generate

**New York City LinkNYC Kiosks** — private sector capital and expertise, new revenue sources through data collection and citizen engagement



**7,500** digital kiosks through NYC

Each Link provides **superfast, free public Wi-Fi**, phone calls, device charging and a tablet for access to city services, maps and directions

**Sensors** to monitor environmental data, provide free Wi-Fi and also information/mapping services

Funded through a consortium of companies (including Qualcomm, Intersection), that install the kiosks (at no taxpayer cost)

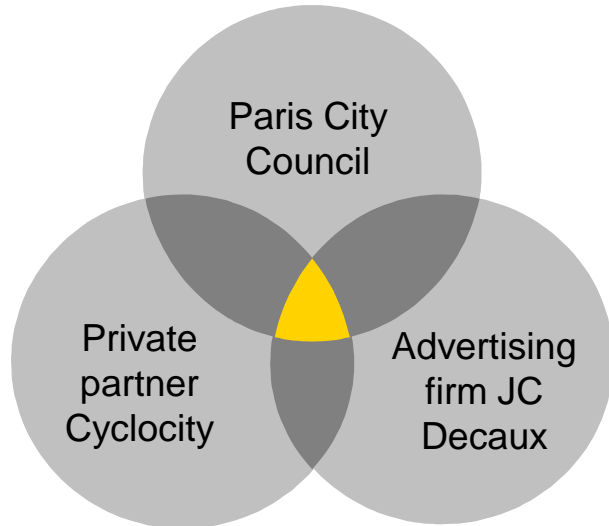
They collect advertising revenue, which is shared with NYC at an agreed rate

Data collected from kiosks can be monetized. Estimates suggest ~\$500m in ad revenue in the 12-year implementation period

# Innovative Financing Mechanisms deliver appropriate revenue sharing and effective risk sharing

Global PPP examples show risk and reward can be structured, and are attracting private sector capital

## Mobility in Paris



~1,500 stations, more than  
**20,000 bikes**

**Build-finance-operate**  
model, over a ten-year term

Firms get paid through a combination of user based fees, as well as the rights to manage advertising bill boards in Paris. Firms pay the city royalties, receive 12% of income on all rental bikes

## Smart street lighting in Surrey (UK)

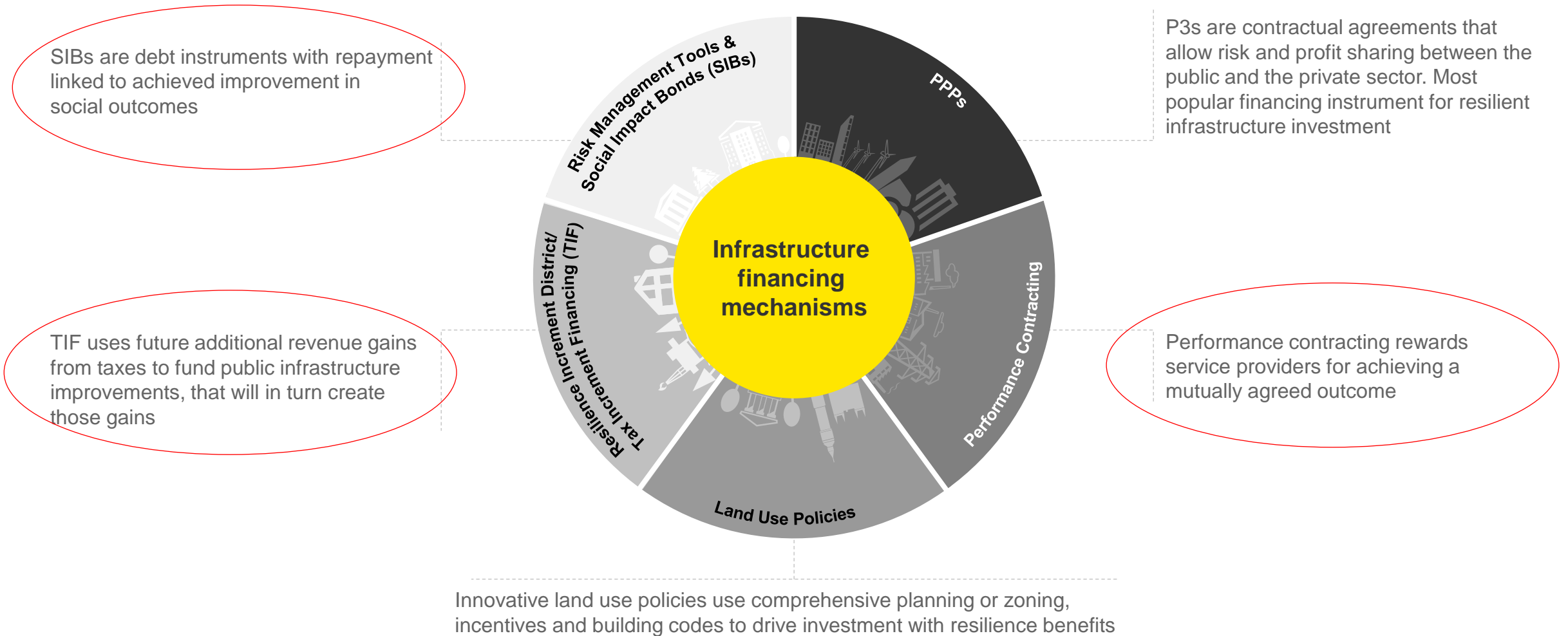
**Private Financing Initiative**, conducted by a consortium (Skanska Laing Consortium)

Replacement program for **90k street lighting columns**

**Design, build, finance and operation**, for 25 years

Energy savings — >5.3 GWh and >750 tonnes of CO2 emissions annually  
Cost savings — US\$550k per annum  
Energy and cost savings are shared between public and private

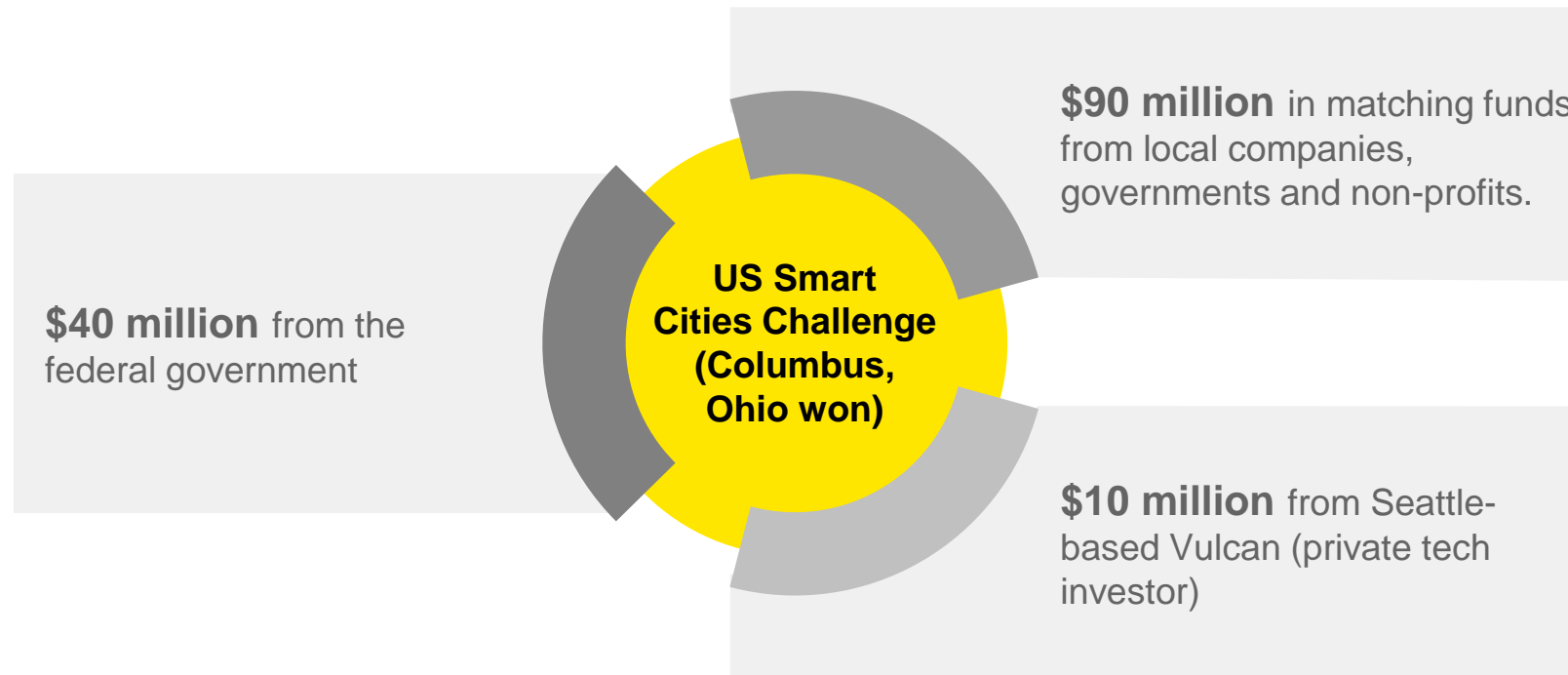
# Outside of PPPs, there are other alternative financing options



# There is an important potential role for federal government to drive private capital into smart infrastructure investment

For capital-intensive projects that leverage newer technologies, mitigating project risks can be challenging. It also risks higher capital costs to the city if not managed. Federal support can assist.

## Initial grant funding



## Promote incremental investment

Federal grant program could focus on one intervention (eg. Smart lighting, buses)

Potential accessible funding through private sector asset finance for smaller-scale investments is estimated at **>\$30 billion in the US** alone

Incremental investment could be a **gateway to more investment** and a larger PPP, down the track

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