



## The virtues of value capture

Understanding the value that public sector investment can generate, and capturing a fair share of that value, can dramatically increase success for project funding and financing



## Understanding the value that public sector investment can generate, and capturing a fair share of that value, can dramatically increase success for project funding and financing.

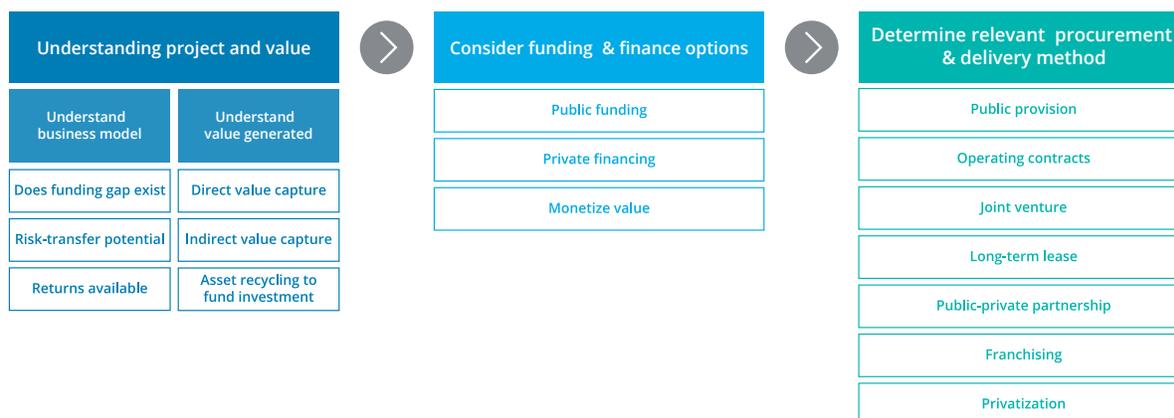
An infrastructure investment can generate value directly (e.g., ability to charge usage fees) and indirectly (e.g., land value increases in adjacent areas). Government should try to capture a portion of this value to help fund and finance the specific project or future expenditures. However, if it does not plan to do so from the outset, the capture of value becomes far more difficult following the announcement of the planned infrastructure. Other forms of value capture include the sale of government-owned assets (asset recycling) and utilizing these funds to pay for investments.

Value can be generated directly and indirectly by new projects. Capturing value means taking advantage of the increase in value that occurs when someone makes an improvement or investment. If a government builds a new rail line, for example, that investment creates direct economic value, through the money expended and fares collected. It also creates indirect benefits, as the improvement increases the value of the surrounding real estate and the new services stimulate wider economic activity. Ideally, the government will capture a share of that increased value as well. It can then use that value to fund that or other public infrastructure.

As a result of increased urbanization, a greater focus on sustainability, and tighter public budgets around the world, governments need to take advantage of every possible opportunity to capture value. As we explain below in the Deloitte Funding & Financing Methodology, a government should consider the potential value that a project will generate and define mechanisms for capturing that value early in the project-planning phase. The project can capture value directly, indirectly, or by recycling existing assets. The common mistake of not focusing on value created until later in the project life cycle must be avoided to ensure the public sector gets a fair share of the wider benefits created.

Projects throughout the world have used a variety of mechanisms to capture value. Any time a government plans to introduce new infrastructure, it should consider how it can utilize these mechanisms to benefit the project and the wider government program.

Figure 1. Model for delivering a successful project



# Cities are getting creative

To help them meet infrastructure demands within their budgetary constraints, cities are fostering creative partnerships with the private sector, encouraging increased private sector participation.

Consider, for example, a city that decides to build a new light rail line through an undeveloped district. The city may or may not own land in the district. Because this location lacks transportation infrastructure, property values there are likely to be lower than in other parts of the city, and there probably has been little property development. Experience shows that infrastructure investment in such districts tends to increase land values and encourage new property development. It also shows that when given advance warning, the private sector is very agile in positioning itself to benefit from value increases, particularly when it comes to land. As part of its mandate to serve the needs of citizens, the government has a duty to deliver necessary infrastructure, such as the light rail line. As it delivers this benefit, however, the government should also seek to gain a share of the new value that the rail line will create. That way, citizens in general—not just local landowners—will share in the value created by the development project.

To capture value in situations such as this one, cities are getting creative, using various mechanisms such as levies on development, increased rates, sale of public land at enhanced prices, joint ventures with land adjoining public lands, sale of development rights for and around train stations, and joint venture structures that allow the public sector to share risk and reward on their investments.

Value capture strategies, and public-private partnerships aimed at capturing value, usually take one of three forms, each based on a different technique—direct value capture, indirect value capture, or asset utilization or recycling.





# Direct value capture



In the case of direct value capture, a government seeks to generate revenues from the use of an infrastructure asset. One simple form of direct value capture is tolling: the government builds a bridge or highway and charges a fee each time a motorist uses that facility. The revenue helps to offset the cost of construction, operation, and maintenance. In some cases, the public sector can pass off all the costs to the private sector in exchange for revenue generated from the specific asset. Ultimately, the project must be viable and financially stable to allow for all these risks to transfer. However, it is clear that maximizing revenue is a desirable goal for any project. It should be noted that in some cases the delivery of social infrastructure may not be aimed at maximizing revenue but ensuring access to the required infrastructure such as schools, hospitals, and so on.

In some public-private partnerships, it becomes difficult to share demand/revenue risks because there may be a level of uncertainty relating to the level of potential revenue streams. One solution to this is for the government to partially underwrite a portion of the revenue stream, to ensure that the private partner will derive at least some benefit from the project, at least to support the underlying senior debt levels. For example, the government might partially guarantee revenues from a tolled highway, so that even if very few motorists use the facility and pay the tolls, the private partner will still receive some income. This kind of guarantee helps the private partner to obtain lower-cost debt than it could otherwise.

Besides charging for the use of a physical facility, a government using direct value capture may gain revenue by imposing user fees on a wider basis, in a kind of utility model where monies are collected from all citizens and utilized to fund specific services or assets. While this can look like a tax, the ring-fencing for specific expenditures makes this different from general taxes.

For example, city leaders in Toronto decided to raise money to offset a \$500 million budget deficit by imposing additional fees linked to a range of services, but to be utilized for a different function. For example:

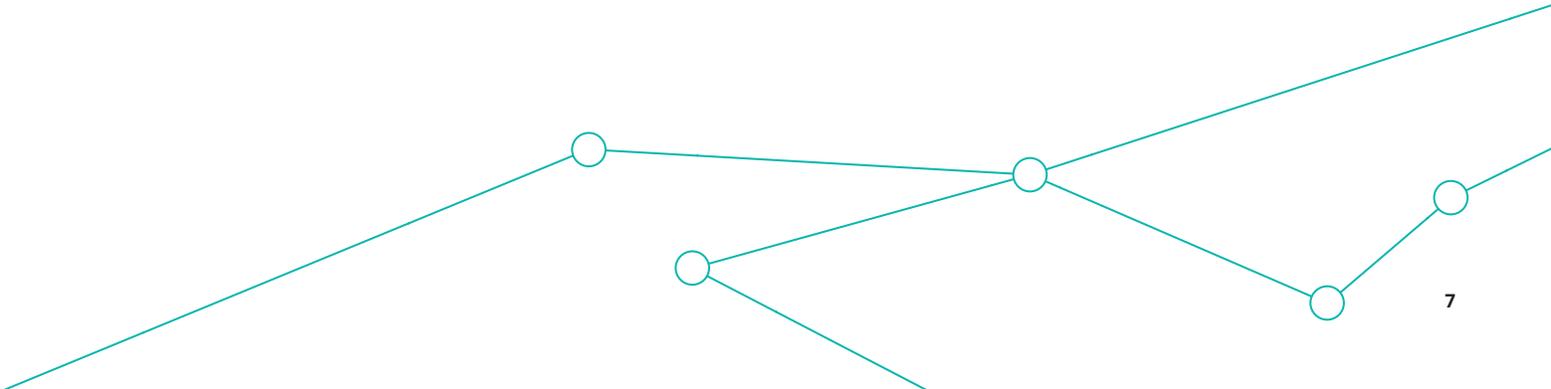
- A resident who wanted to pay a parking ticket by phone or online would pay a \$2 service fee, up from the previous fee of 50 cents.

- A resident who needed to create a property tax account after buying a new home would pay a \$50 fee.
- Those who wanted to make changes to existing property tax accounts would pay \$50, up from the previous fee of \$35.
- A family would pay \$50 to sign up for city recreation programs.

Along with fees for the use of a public facility or service, a government may directly capture value by charging an impact fee. A developer pays an impact fee to offset the cost of capital improvements a city makes to accommodate the development.

Fort Collins, Colorado, imposes impact fees on developers to cover the cost of “street oversizing.” This practice is based on the principle that when a new development brings more people and vehicles into an area, traffic increases and the city must expand nearby roads to accommodate the extra volume. City engineers base the fee for a particular development in part on the number of lanes and miles planned for the new street network. The city revisits these fees on a regular basis and recalibrates them, depending on changes to its Master Street Plan network.

As a matter of good contracting, a government should also seek to capture value directly through any Private Sector Participation contract, where it is important to obtain a fair share of any gains achieved in excess of those originally projected. These contractual arrangements generally stipulate that the government will get a share of any windfall gains, such as gains achieved through refinancing, profit gain sharing, and revenue sharing. The goal is not to reduce returns to the private sector, but to ensure that when the project achieves more profit than expected, the government receives some share of that excess. Of course, when a private partner agrees to this arrangement, it also expects the government partner to assume some downside risk. In designing a contract, it is important to apportion the risks and rewards to meet the goals of both partners.



# Indirect value capture



Beyond the value that it generates directly, a project conducted by the public sector may also generate additional, indirect value. For example, when a city expands its public transit system, that will typically raise the value of properties in the corridor along the new line, and also create opportunities for new development (public and private). Although it is not always possible to monetize the benefits that such projects create, governments should look for opportunities to capture some of this new value. The government could reinvest any funds it gains in the areas where it collected the money, or it could add the new money to its general funds.

Opportunities for indirect value capture can take several different forms:

**New fees or taxes:** The government can levy new fees or taxes, or increase existing ones, connected with land surrounding the new asset. The increase in services provided, thanks to the new asset, should justify higher rates or service charges in specific districts. In some cases, existing fees or rates will not change, but the infrastructure investment will stimulate new development that will incur fees or rates, creating a new revenue stream.

**Land value enhancement:** The government can take advantage of the fact that when it invests in infrastructure, those changes may enhance the value of land in the vicinity. To recover some of the cost of improvements in the area, the government might turn to the people and businesses that will enjoy new benefits. It could, for example, impose taxes, make levies—perhaps related to planning permission for development—or charge directly for infrastructure access.

An example in Ireland involves Development Contributions, which are payable on all new developments (commercial, residential, and industrial). The government ring-fences these contributions for investment in enabling and community infrastructure in the defined area. A base-level contribution is payable on all new development across the Council-defined area. The government can also introduce additional contributions specific to certain districts and/or Purchasing Power Parity (PPP) projects. In one light rail project in Dublin, the government required a project-specific contribution of €55,000 for each new residential unit built within 1.5 kilometers of the rail line. Subsequently it was found that proximity to the rail line added, on average, €155,000 to the value of each property in that area, clearly demonstrating that the public sector and local home owners were sharing the value produced by the rail line.

Kansas City, Missouri, used a similar strategy when it established the Transportation Development District (TDD), an area around a proposed two-mile streetcar route where people and businesses would directly benefit from the new transit line. The local government then asked the public to vote on whether to create a land value capture, or “real estate tax,” on properties within the TDD. In December 2012, residential and commercial property owners within the TDD voted in favor of the land value capture to contribute funds toward the construction of the Downtown Kansas City Streetcar.

**Selling development rights:** Another form of indirect value capture is the sale of development rights, including air rights. This can be a viable option for projects such as a rail expansion that includes new stations. Bringing large numbers of commuters to a new rail station creates opportunities for retail and commercial development, and it makes sense to consider the value under, over, and surrounding the new asset. By selling rights, creating a joint venture, or establishing an operating contract—depending on the government’s appetite for risk and the availability of funding—the public sector may recoup much of the cost of the new infrastructure.

The city of São Paulo cannot raise revenue by selling land because it owns little land with development potential. To generate funds for infrastructure without increasing its already-considerable debt, São Paulo has instead turned to selling air rights. By auctioning Certificates of Potential Additional Construction (CEPACs), the city can allocate limited air rights according to market needs, at a price to be fixed by market demand.

**Monetizing data collected from the asset:** A significant element of smart development includes technology and the gathering of various data fields. This data can have a significant commercial value. However, there is ongoing conflict over what data can be shared or monetized, and how. A government should consider what data is being collected under its control, how willing and able it is to release and monetize such data, and the potential value of that data in a commercial setting. Some cities have adopted no-release policies. Others have built open platforms that make specific data available. Still others have sought to monetize the data by selling access on a tender basis.

In certain cases, cities have sought to offset infrastructure project costs by selling the data used to help manage those projects. Traffic information, for example, is valuable to would-be advertisers who want to know the most effective placements for their billboards.

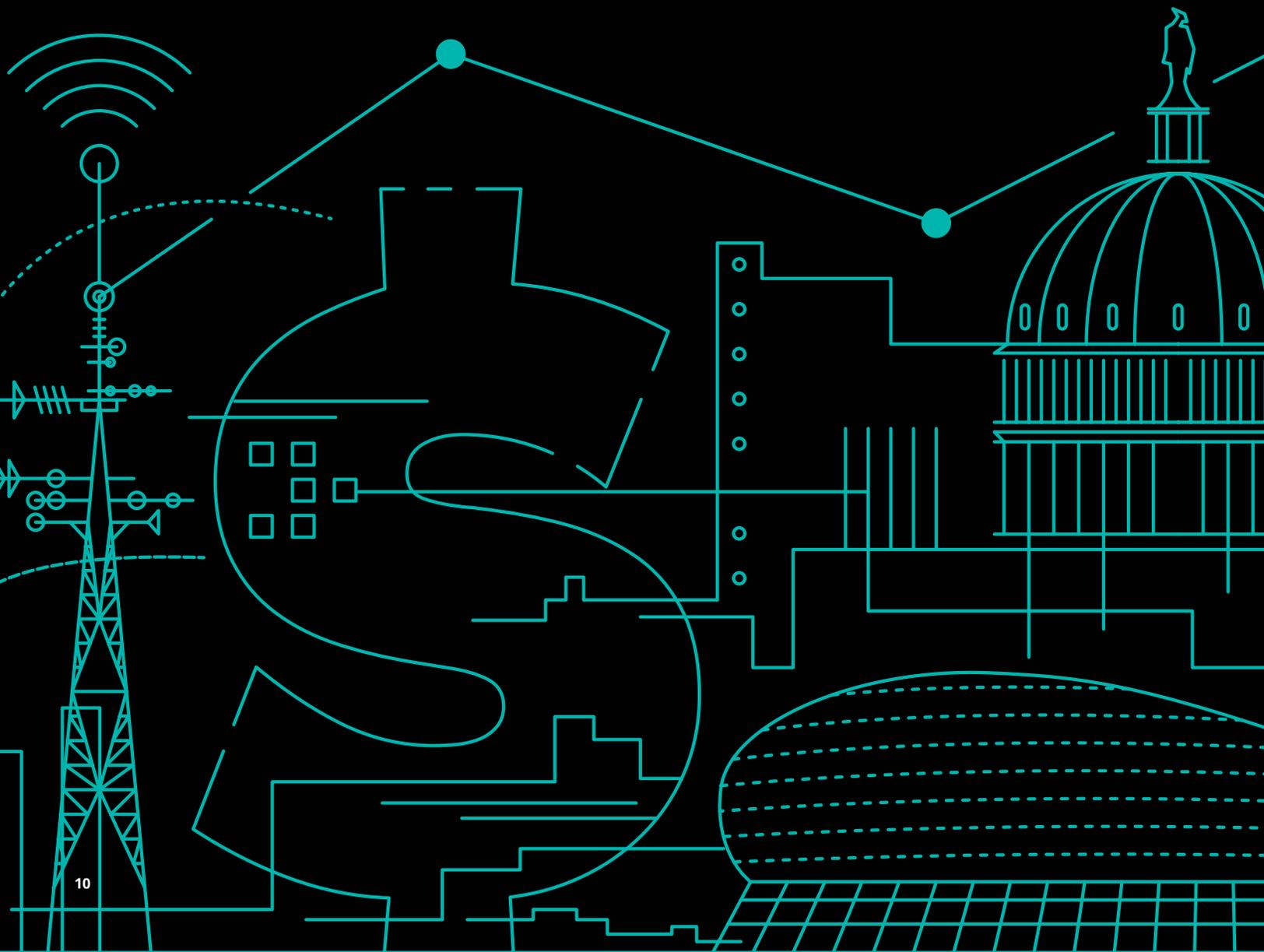
In Toronto’s Smart City project, backed by Sidewalk Labs, an Alphabet company, the government is including data collection devices, such as sensors and connected cameras, as it develops underused land within the city. These devices will collect data about everyday activities, from commuting to garbage disposal; the city will then use the data to help create efficiencies for public services. Such a project is too big and experimental for the city to undertake alone. Alphabet’s participation not only helps keep public outlays down, but also ensures that a part of the city that has been dormant for years will receive new life. It also benefits from development profits from the area.

Authorities need to understand that there is a market for the information they are collecting—and how they can offset the costs of gathering that data. They should also remember that the more foresight they exercise in city planning, the greater the value the city might gain. For example, a city that shares traffic data with advertisers could also, one day, use that same information to help private companies decide where to invest in charging stations for electric vehicles.

**Profit sharing linked with the project:** A government can take advantage of land it owns to enhance its share of any value uplift, and the profit generated can be used to help fund new infrastructure. The public sector land may be attractive for development; however, it may have no ability to complete such development itself. If the government enters into an arrangement with a private sector partner to develop the land, the partners can share the associated profit and the government can use its share to fund new infrastructure investment.

One example of this strategy is found in the Greystones Harbor project in the Republic of Ireland. There, the local government asked private sector partners to upgrade the harbor (at a cost of €60 million) and operate it for 35 years. In exchange, developers gained the opportunity to develop real estate surrounding the upgraded harbor. Essentially, the government claimed a share of the profit from the private partners’ real estate venture. But instead of taking that profit in cash, it took it in the form of services—the private partners’ work to upgrade and operate the harbor. Although the private element of this project got caught in the 2009 financial crisis, in line with the agreement, the harbor was fully redeveloped in advance of the start of commercial development.

# Asset utilization or recycling



Some assets owned by a government might not always produce as much value as might otherwise be achieved if the asset was owned/managed differently. For example, the government might determine that another user could extract more value from the asset than the government is doing currently. Or the government might determine that if it can monetize the value of the asset in question, it can invest that money in another project, which will produce even more value.

Instead of owning an asset outright, the government might do better to sell it (in full or in part)—although this is not always acceptable to citizens, who see it as “selling off the family silver.” A government might, instead, use an asset it owns to securitize revenue, swap it for a different asset, or contract with a private partner to operate the asset. Although governments often hold on to assets to make sure they can operate them as they want, a strong contract with a public sector partner can achieve the same goal.

In addition, a government may have only limited use for some of the assets in its portfolio, while private sector partners could derive much more value from those assets. Unlocking this value could help to fund future infrastructure programs.

Strategies that involve asset utilization or recycling include:

**Asset sale/privatization:** When a government sells assets outright, it may devote money gained through the sale to a specific purpose, such as infrastructure development, or add it to the general fund. Recent asset sales in Canada have generated funds for new infrastructure projects.

**Sale and leaseback:** The government can sell an asset but then pay to continue using it for the long term. This strategy may make sense if the capital payment received on the sale is greater than the net present value of the lease payments. Australia has typically used this kind of long-term lease model rather than sale or privatization. It provides the government with maximum value in the short term. The government can write the lease agreement to give it maximum control over the asset's operation and maintenance during the lease period. The agreement may also stipulate that the asset will revert back to the government at the end of the lease period.

**Joint venture:** Under this strategy, a public sector partner and a private sector partner form an agreement to complete a project, using an asset owned by the public sector. The private partner often brings greater efficiency and economies of scale to the partnership.

**Assets swap:** If the government owns assets that are attractive to a private sector entity, and the private partner owns assets that could benefit the government, the two parties might trade ownership. The agreement might include the stipulation that the private partner will perform certain tasks, potentially including developing infrastructure.

**Revenue securitization:** In securitization, a private partner makes a cash payment to the government in exchange for the right to take the income stream from a piece of public infrastructure for a defined period. This arrangement works well when government officials are unwilling or unable to sell the asset itself.

One example of asset recycling occurred in the United Kingdom, where the government decided to relocate 10,000 inmates from aging prisons and sell those properties. The government would use proceeds from the sale to build nine new correctional facilities. Because it costs less to operate modern facilities than to run buildings that date from the Victorian era, the government expected the new buildings would save the prison system £80 million per year. Also, the sale would make the sites of the old buildings, in London, available for developers to build approximately 3,000 new homes and improve the streetscapes. This would create opportunities for Londoners to own homes that were well serviced by amenities.

In another example, the Sydney Harbour Foreshore Authority (SHFA) in Australia decided to sell certain assets that did not offer the government any long-term strategic benefit. SHFA estimated that the sale would generate AU \$200 million, which would go into an infrastructure fund operated by the government of New South Wales. The state could then use that money to fund planned upgrades to Sydney's Circular Quay wharves.

The Canadian province of Ontario has used asset recycling as well. Its Ministry of Finance sold assets on Queen's Quay, along the Toronto waterfront, to a partnership of private developers for \$260 million. As part of the deal, the developers agreed to work with the city of Toronto to develop affordable housing, public spaces, heritage conservation, and high-rise office buildings, including a new office for the Liquor Control Board of Ontario. The province is using proceeds from the sale for transportation and infrastructure projects.

# Taking the long view

When government officials plan an infrastructure project, they often start by choosing the form of procurement they will use. Questions about how to capture value from the project tend to arise much later, often not until construction has started. This is unfortunate. By the time a project reaches this stage, any value the government might have captured has either evaporated or gone to other parties, and there is limited opportunity to revisit the question in the future.

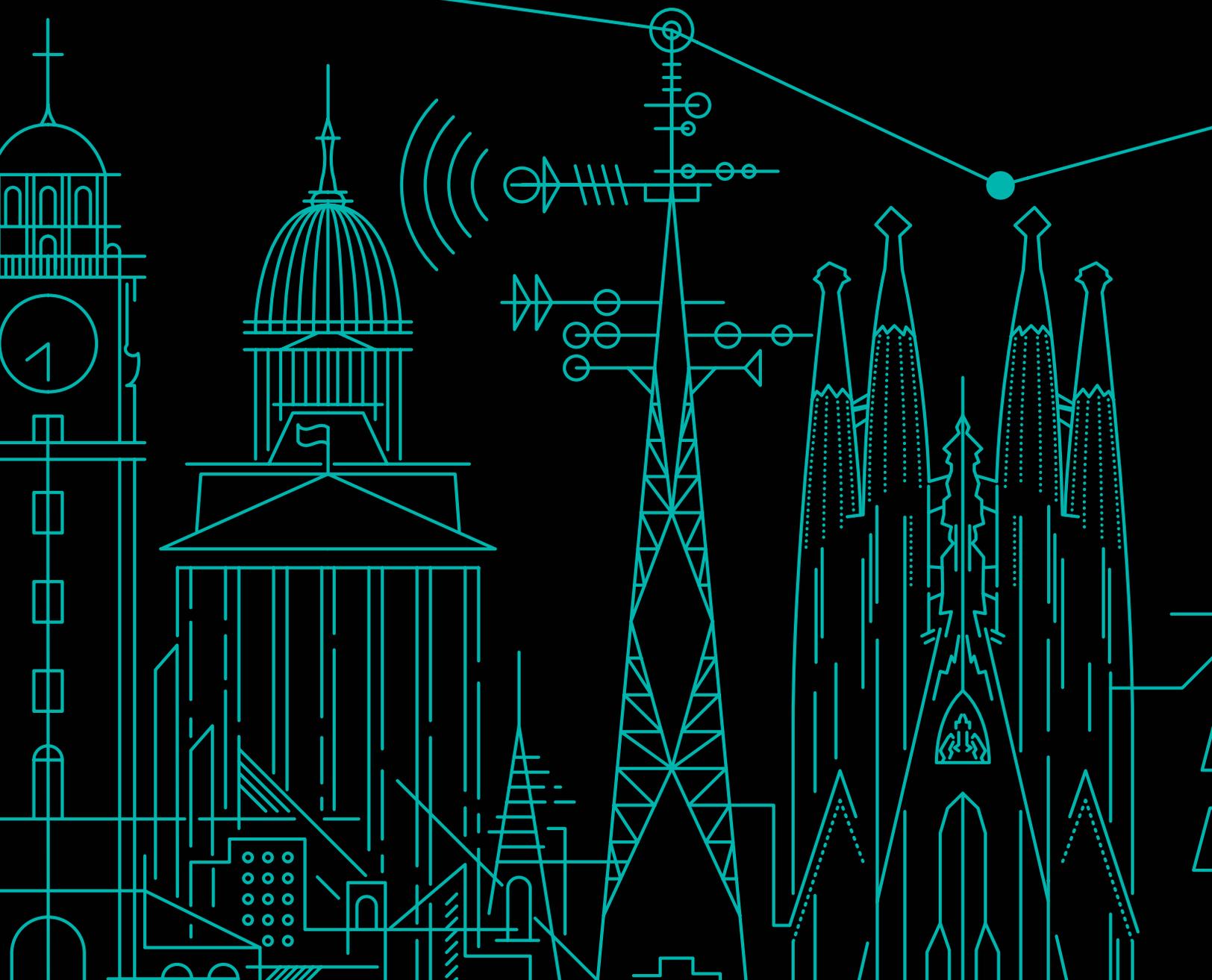
Rather than focus on procurement at the start of an infrastructure initiative, a government should focus on value that can be generated from particular projects, which then drives the business case for the project, and for its value capture and financing strategies. The value capture mechanisms described above can help a government obtain a share of the benefit the new asset will create for other parties. The captured value can help the government finance the new infrastructure project or provide funding for other projects. The procurement structure will follow the business case, value capture mechanisms, and appropriate funding, financing sources, and structures.

It takes imagination to extract value from a city's infrastructure plans, in both the near and the long term. Today's project can produce today's—and tomorrow's—revenue stream as long as cities have the vision and sense to work with the private sector and capture that value.

## Endnote

1. McKinsey & Company, McKinsey Global Institute, "Bridging global infrastructure gaps," June 2016, <https://www.mckinsey.com/~/media/McKinsey/Industries/Capital%20Projects%20and%20Infrastructure/Our%20Insights/Bridging%20global%20infrastructure%20gaps/Bridging-Global-Infrastructure-Gaps-Full-report-June-2016.ashx>.





## Author

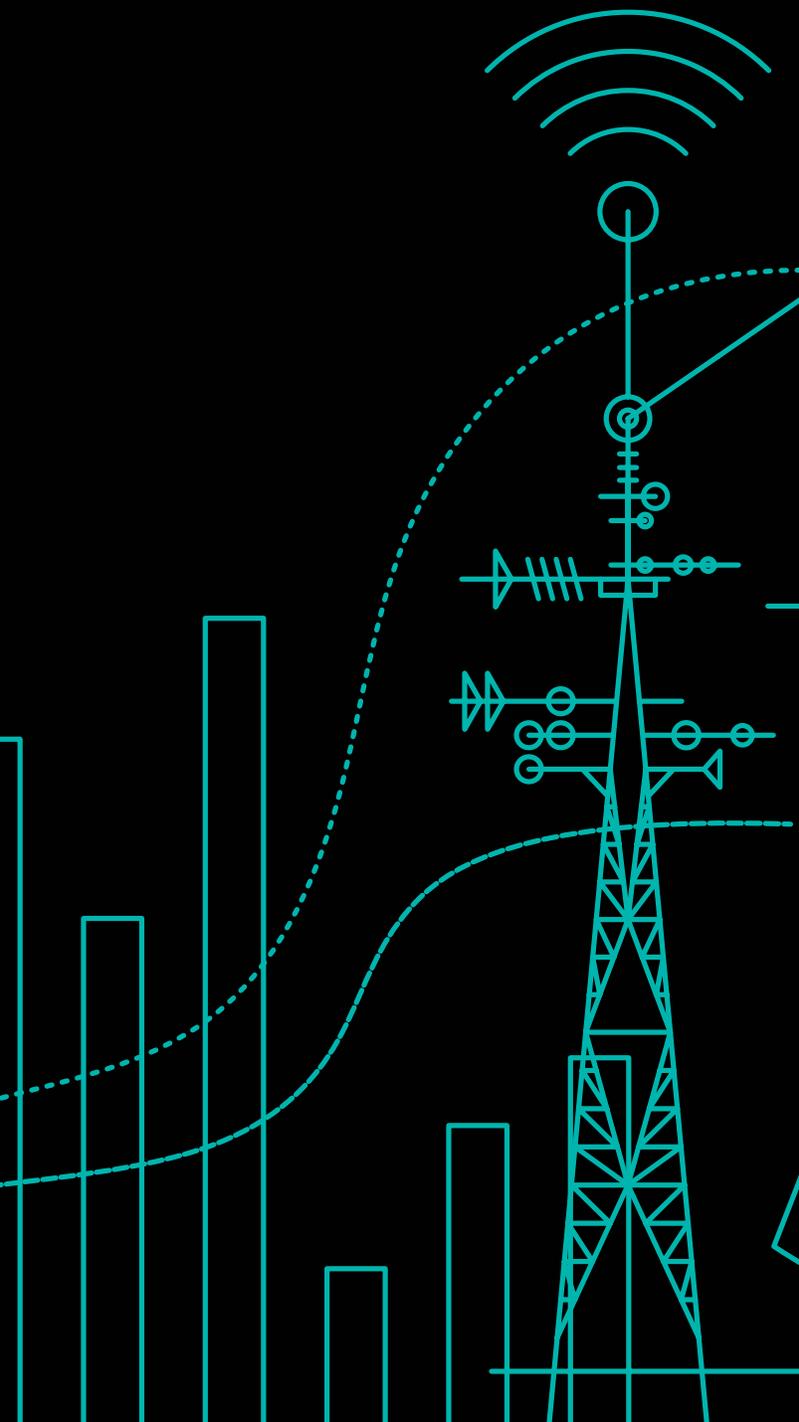


### Michael Flynn

Deloitte Ireland  
Global Leader, Government & Public Services  
Financial Advisory  
micflynn@deloitte.ie

Michael is the Global Government & Public Services Financial Advisory Leader and is the Infrastructure & Capital Projects EMEA Leader and Global Infra Advisory Co-Leader. He has led the Deloitte focus on funding and financing smart cities working with public, private, and banking sectors on government and infrastructure (including PPP), Project finance, and public sector-related transactions. His role also involves advising on business case development, value capture, new financing, refinancing, and restructuring of funding positions in corporate and infrastructure projects. He has advised across a variety of sectors including smart cities, sustainability, energy, renewables (wind, biomass, solar, and storage), education, health care, transport, water, waste and energy, regeneration, smart cities, and real estate.

Michael is a member of the United Nations Economic Commission for Europe (UNECE) PPP Business Advisory Board and an elected Irish council member of the International Project Finance Association. Michael has led the Deloitte Global focus on smart cities funding and financing including the development of a published eminence series.



## Contacts



### Phil Adam

Deloitte UK  
Partner, Corporate Finance Advisory  
pdadam@deloitte.co.uk



### Raj Kannan

Deloitte Indonesia & South East Asia  
Partner, Strategy and Operations  
rajkannan@deloitte.com



### Rikke Beckmann Danielsen

Deloitte North West Europe  
Partner, Financial Advisory Services  
rdanielsen@deloitte.dk



### Miguel Laserna

Deloitte Spain  
Partner, Infrastructure Advisory  
mlaserna@deloitte.es



### Robin Butteriss

Deloitte Middle East  
Partner, Corporate Finance Advisory  
robutteriss@deloitte.com



### Nick Prior

Deloitte UK  
Global Leader, Infrastructure  
& Capital Projects  
nprior@deloitte.co.uk



### Elias de Souza

Deloitte Brazil  
Brazil Leader Partner, Government  
& Public Services  
elsouza@deloitte.com



### Mehdi Serghini

Deloitte France  
Partner, Head of Infrastructure & Capital  
Projects Francophone Africa  
mserghini@deloitte.com



### Astrid Fernandez

Deloitte Colombia  
Partner, Infrastructure & Capital Projects  
Leader for Spanish Latin America  
asfernandez@deloitte.com



### Vicky Smith

Deloitte UK  
Partner, Real Estate  
victoriasmith@deloitte.co.uk



### Patrick Fung

Deloitte China  
Partner, Infrastructure & Capital Project  
Advisory Service Leader  
pfung@deloitte.com.hk



### Ryo Tsujimoto

Deloitte Japan  
Partner, Infrastructure & Capital Projects  
ryo.tsujimoto@tohatsu.co.jp



### Steve Hamilton

Deloitte US  
Senior Manager, Infrastructure  
and Capital Projects  
shamilton@deloitte.com



### Vishwas Udgirkar

Deloitte India  
India Leader Partner, Government Utilities  
and Infrastructure Development  
vudgirkar@deloitte.com



### Luke Houghton

Deloitte Australia  
APAC Leader Partner, Infrastructure  
& Capital Projects  
lhoughton@deloitte.com.au

# Deloitte.

This publication contains general information only and Deloitte is not, by means of this publication, rendering accounting, business, financial, investment, legal, tax, or other professional advice or services. This publication is not a substitute for such professional advice or services, nor should it be used as a basis for any decision or action that may affect your business. Before making any decision or taking any action that may affect your business, you should consult a qualified professional advisor.

Deloitte shall not be responsible for any loss sustained by any person who relies on this publication.

## **About Deloitte**

Deloitte refers to one or more of Deloitte Touche Tohmatsu Limited, a UK private company limited by guarantee (“DTTL”), its network of member firms, and their related entities. DTTL and each of its member firms are legally separate and independent entities. DTTL (also referred to as “Deloitte Global”) does not provide services to clients. In the United States, Deloitte refers to one or more of the US member firms of DTTL, their related entities that operate using the “Deloitte” name in the United States and their respective affiliates. Certain services may not be available to attest clients under the rules and regulations of public accounting. Please see [www.deloitte.com/about](http://www.deloitte.com/about) to learn more about our global network of member firms.

Copyright 2019. Association of Government Accountants. AGA® and the Journal of Government Financial Management® are registered trademarks. Republished with permission. All rights reserved.

Copyright © 2019 Deloitte Development LLC. All rights reserved.