

## POLICY PAPER

### **Delivering urban development: PPPs and other procurement options for urban infrastructure and services**

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Fast-growing cities need urgent investments in infrastructure and services – but expertise and resources to deliver these are limited, and governments are exploring new ways to leverage private sector partnerships. This paper brings together research and cross-country experience to highlight trade-offs policymakers face in deciding between a spectrum of different delivery options and in making the most of procurement in the delivery of essential urban infrastructure and services.

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# Contents

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<b>1. Introduction</b>	<b>3</b>
<b>2. Who should provide urban infrastructure and services?</b>	<b>6</b>
2.1. Private provision	7
2.2. Public provision: direct provision and traditional procurement	9
2.3. Public-private partnerships (PPPs)	11
<b>3. Policies to encourage successful PPPs</b>	<b>21</b>
3.1. Strong regulations and institutions for managing PPPs	21
3.2. Systems for sharing risk between public and private parties	24
3.3. Effective monitoring	28
3.4. Clear and reasonable terms for renegotiation	29
<b>4. Achieving value for money in tenders</b>	<b>31</b>
<b>5. Concluding remarks</b>	<b>35</b>

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# 1. Introduction

**Fast-growing cities in low-income countries need urgent investments in infrastructure and services that can meet the needs of their populations. Across different sectors – including roads, water, and public transport – a pressing question for local and national governments is therefore: how best can these be delivered?**

There are a wide range of options for the provision of urban infrastructure and services. These range from direct public provision by state employees – as seen in Addis Ababa, for example, where large public buses are operated directly by Anbessa, a state-owned company - to private provision such as *matatu* minibuses in cities in Uganda and Kenya which are regulated by government. In between these are different types of public-private partnerships (PPPs), where governments and private partners work together to manage and deliver such projects. PPPs have been instrumental in the delivery of a water treatment plant in Kigali, for example, as well as a bus rapid transport (BRT) system in Dar es Salaam.

Across countries, cities use a mix of these delivery mechanisms, and each of these comes with different trade-offs. While profit motivation can mean private companies are more efficient in the delivery of services, private providers may also be unwilling or unable to provide certain goods at the quantity that would be best for all citizens, as these would be unprofitable. Public involvement can overcome these concerns and help coordinate investments, but projects can also become politically motivated, require significant public investment or borrowing, and can be subject to limited oversight and maintenance over time.

Public-private partnerships (PPPs) have become an increasingly popular policy option, with the promise of leveraging private sector finances and expertise towards projects that are in the public interest. Under these arrangements, the government will contract some or all aspects of financing, design, construction, and operation and maintenance of infrastructure and services to private companies for a particular period.

PPPs have strong appeal: they can allow the costs of public infrastructure projects to be financed by the private sector rather than through government budgets, while also tapping into private sector efficiencies in overall project design and delivery. A study in India found that roads built under PPPs were of higher quality and lower cost over their life cycle.<sup>1</sup> The possibility of involving private capital is particularly important given mounting infrastructure deficits: the African

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1 Singh, R. (2018). "Does choice of procurement matter for cost and quality of infrastructure? Comparison of quality and cost of roads." IGC Working Paper S-89209-INC-2.



**The African Development Bank estimates that infrastructure investment gaps on the continent are now at over US\$ 100 billion a year.**

Development Bank estimates that infrastructure investment gaps on the continent are now at over US\$ 100 billion a year.<sup>2</sup>

However, evidence on the effectiveness of PPPs is mixed. While private involvement can lower certain costs, private finance is often more expensive, and private partners need to be further compensated for the risk they take on in project management. Without adequate public oversight, private companies can also prioritise cost minimisation over quality, reducing the social benefits of public infrastructure.

Both developing 'bankable' PPP projects and effectively monitoring quality over the project life cycle requires significant state expertise, which usually goes beyond the capacity of city governments alone, particularly in low-income countries. At the same time, PPP contracts are often renegotiated, typically at the government's expense. In Latin America, 69% of all transport PPPs were renegotiated between 1988 and 2004 — to benefit private sector partners.<sup>3</sup>

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2 Africa Development Bank (2022. 2 February) *African Development Bank sets course to close infrastructure gap with Board approval of its first public private partnerships strategic framework*, <https://www.afdb.org/en/news-and-events/press-releases/african-development-bank-sets-course-close-infrastructure-gap-board-approval-its-first-public-private-partnerships-strategic-framework-48875>

3 Guasch, J.L. (2007). Negotiating and renegotiating infrastructure PPPs and concessions: Key issues for policymakers. <https://www.imf.org/external/np/seminars/eng/2007/ppp/pdf/jlg.pdf>

Crucially — PPPs **do not reduce the overall financial burden** of public infrastructure projects on governments in the long run, as these projects must eventually be paid for through government transfers, or by foregoing revenues from user fees (which the private partner will collect instead). If governments face budgetary constraints in delivering infrastructure, addressing this head on will be necessary — PPPs are not a solution to a borrowing problem.

PPPs are therefore by no means a silver bullet for infrastructure and service delivery for developing countries. Instead, they are a tool that can be used well — or badly.<sup>4</sup> Evidence suggests that success depends on a range of factors, including the selection of appropriate projects for this type of arrangement, strong regulations and institutions for designing and monitoring PPPs contracts, appropriate risk-sharing between public and private parties, and the inclusion of clear and reasonable terms for renegotiation in the contract itself.

Whether governments choose to undertake PPPs or traditional procurement, effectively working with private partners relies on a transparent and competitive tender process. Clear rules for awarding bids, along with separate management of project evaluations, can limit opportunities for wasted public funds. The level of discretion that can be afforded to procurement agencies is closely linked to the ease with which public agencies can engage in corruption.

This paper considers procurement options for the delivery of urban infrastructure and services. **Section 2** outlines trade-offs associated with different options for the delivery of infrastructure and services, while **Section 3** provides evidence on best practice in the use of PPPs at different stages of the project life cycle. **Section 4** discusses cross-country evidence on promoting value for money in managing private project bids, and **Section 5** concludes.

**If governments face budgetary constraints in delivering infrastructure, addressing this head on will be necessary — PPPs are not a solution to a borrowing problem.**

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<sup>4</sup> Roehrich, J.K., Lewis, M.A. and George, G.( 2014). Are public–private partnerships a healthy option? A systematic literature review. *Social science & medicine*, 113, pp.110-119.

## 2. Who should provide urban infrastructure and services?

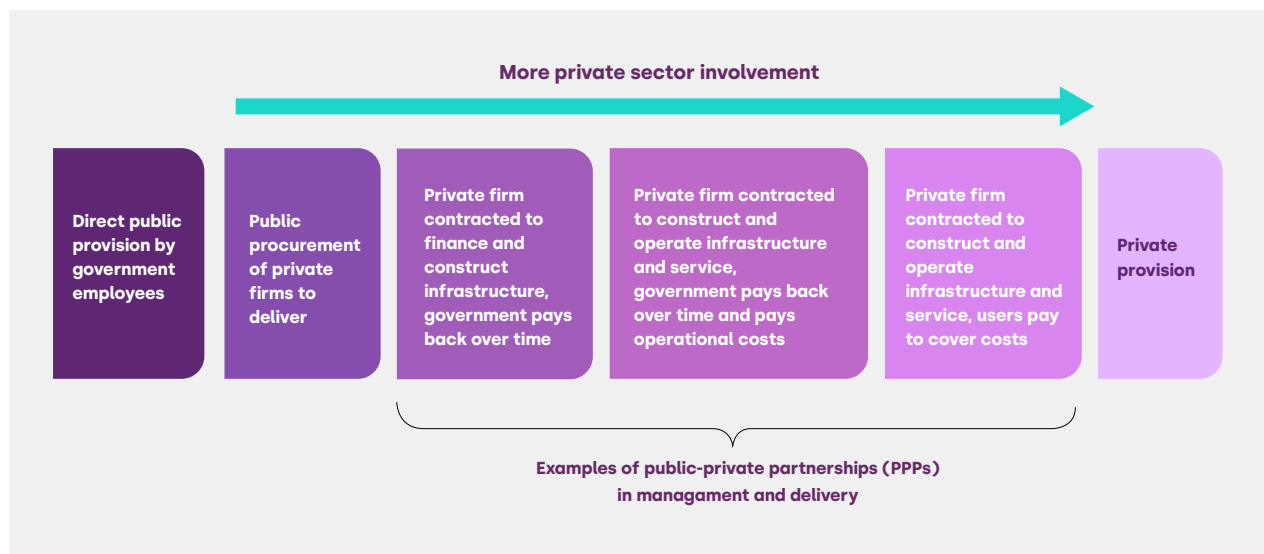
A crucial decision for policymakers is **who engages in long-term planning** to decide what public infrastructure and services is needed in a city and how they should be coordinated, and who actually **provides** these.

Long-term planning for necessary infrastructure and services is likely to require some state involvement, to ensure urban development goals are being pursued in line with public interests.

Long-term planning for necessary infrastructure and services is likely to require some state involvement, to ensure urban development goals are being pursued in line with public interests. In London, for example, the public sector agency Transport for London (TfL) oversees strategic planning for new transport links in the city, coordinates fares and payment across different transport options, and sets specifications for transport performance. However, this does not mean that public services must be provided by the government. While TfL is directly responsible for running the city's underground train system, the delivery of bus and tram services are contracted out to the private sector.

There is a spectrum of options for public and private involvement in the provision of infrastructure and services:

**Figure 1: A spectrum of delivery options for urban infrastructure and services**



## 2.1. Private provision

In many low- and middle-income cities, private firms play an important role in the provision of small-scale infrastructure and services. Minibuses in cities such as Kampala, Accra, and Lagos, for example, are primarily run by private operators.

- ✓ Private providers often fill gaps in public provision of services and goods based on demand from citizens. This is especially true where private providers can easily exclude people who don't pay for services, like those providing transport and electricity supply.
- ✓ Through profit motivation and competition, private firms are more likely to be incentivised to enhance efficiency and lower costs of provision. In several countries, governments have privatised state-owned enterprises in the hope of increasing efficiency. Evidence from low-income settings suggests that while this can have positive effects on firm performance, benefits are not automatic, and significant state capacity is still needed to effectively regulate and monitor the privatised industry.<sup>5</sup>

However, unregulated private provision is unlikely to always be in the best interests of the public at large, and of low-income communities in particular:

- ✗ Private provision of infrastructure and services is likely to result in an **under- or over-supply of services** when compared to what would benefit urban citizens most. Many of these services impact people who do not provide or use the service directly. For example, in many cities private transport providers opt for the use of high-emission vehicles that contribute significantly to urban pollution, because they are cheaper, and providers do not face the costs of these emissions – that are instead largely born by urban residents. At the same time, services such as urban sanitation are often underprovided by the private sector, because individual users are not willing to pay for them, despite the significant city-wide health benefits they bring.
- ✗ Similarly, ensuring access to goods and services by **low-income households** in order to address inequality in cities may require active government involvement to subsidise usage by particular groups or in particular areas. Evidence from Cape Town suggests that subsidising private minibus operations in the city would significantly reduce wait times for low-skilled workers, resulting in an overall increase in the wellbeing of urban citizens.<sup>6</sup>

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5 Estrin, S. and Pelletier, A. (2015) "Privatisation in developing countries: What are the lessons of recent experience?", *World Bank Research Observer* 33(1): pp. 65-102; Parker, D. and Kirkpatrick, C. (2007). "Privatisation in developing countries: A review of the evidence and the policy lessons", *The Journal of Development Studies* 41(4): pp. 513-541.

6 Conwell (2023). *Subways or minibuses? Privatised provision of public transit*. Available at SSRN: <https://ssrn.com/abstract=4489658>

- X Some urban services and infrastructure, such as street lighting or pavements, are challenging for the private sector to provide, because it is difficult to restrict who can and cannot use them. At the same time, there is no reason to exclude people from using these, because one person's use of a streetlight does not impact the lighting available for others. The provision of these **public goods** is therefore best managed by the government and paid for through public funds.
- X Some infrastructure and services are **natural monopolies** – they tend to be provided by only one company, because of very high fixed costs to provision that naturally exclude other companies from entering the market after one company has set up. This includes, for example, the building of railway tracks or water pipes. Government regulation and/or ownership of the monopoly is therefore needed to ensure that these services are provided at prices that are widely affordable.
- X There is an important role for government coordination between different types of infrastructure and service providers in a city. A BRT system, for example, is only as effective as the road infrastructure it runs on, while there may be significant cost savings in providing water, sewerage and other cables under roads at the same time.

### What role do NGOs play?

Non-government organisations (NGOs) can also provide a valuable source of funding and expertise for the provision of urban services and infrastructure in low-income cities. Because these organisations are not profit motivated, they may not be as incentivised to lower costs, and are more inclined to provide goods and services at socially beneficial levels. In Kenya, for example, NGOs play a pivotal role in infrastructure and service delivery in urban areas, including the rehabilitation of school classrooms and the provision of anti-retroviral medications.<sup>7</sup> However, the goals of these organisations may not always align with government plans, and they are unlikely to have the capacity or funding that would allow them to replace state-led provision of public goods. As such, public policy will still play a valuable role in directing and coordinating individual NGO activity.

As such, even with private provision of certain goods and services, there is an important role for governments taxes, subsidies, and regulations to promote the supply of essential goods for all. At the same time, government involvement is needed in providing public goods and coordinating private and public service delivery.

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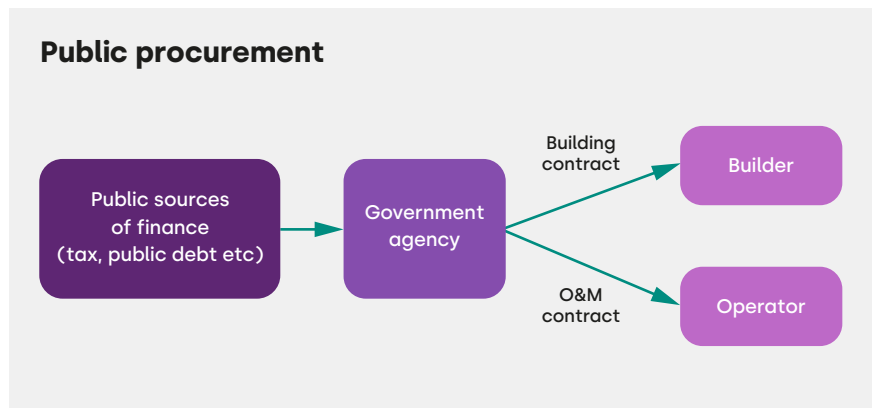
<sup>7</sup> Brass, J. N. (2020). "NGOs and public service provision", in Cheeseman, N., Kanyinga, K., and Lynch, G. (eds), *The Oxford handbook of Kenyan politics*, pp. 513-530.



## 2.2. Public provision: direct provision and traditional procurement

Public provision of infrastructure and services is typically done through direct **public procurement**, where the design, building, operation, and financing of a project is managed by a government body, who then contracts out delivery of different aspects of this to one or more private companies.

**Figure 2: Contracting infrastructure provision under conventional government provision**



Adapted from Engel and Galetovic (2014)

However, some core public services are provided directly by state employees – for example, policing and fire departments – to ensure state-regulated supply of essential services. Generally, direct public provision is more suitable for sensitive or essential services. By contrast, procurement can be valuable in allowing governments to tap into specialised expertise for goods and services that are also provided by the private sector.

As soon as governments are working with private partners, this opens the door for corruption in the assignment, design, and monitoring of contracts (see Section 4).<sup>8</sup> Where large public subsidies are required to provide core infrastructure, direct provision has the appeal of avoiding this problem (see Section 4).<sup>9</sup>

8 Glaeser, E. (2001). *Public Ownership in the American City*, Working Paper 8613, National Bureau of Economic Research.

9 Glaeser, *Public Ownership in the American City*.

## Public works programmes

Many governments also provide urban infrastructure and services through public works programmes. Under these programmes, employment in services and infrastructure provision is offered by governments at a certain wage to otherwise unemployed individuals. For example, in Ethiopia, an Urban Productive Safety Net Programme was introduced in 2017 to provide 60 days of employment to beneficiary households in small-scale neighbourhood improvements.

**Figure 3:** In Kampala, public employees are responsible for street and drainage cleaning in the city.



Source: KCCA news

These programmes provide an important safety net for households whose income and employment are subject to cycles and shocks, with evidence of higher wages both for beneficiaries as well as positive knock-on effects on private sector wages.<sup>10</sup> However, the success of such programmes in delivering services and infrastructure relies on government capacity and accountability to ensure programme objectives are being met.<sup>11</sup> At the same time, there is limited evidence of long-term benefits of these programmes for employees, beyond the direct wage benefits they provide.<sup>12</sup> As such, it is important to weigh the benefits of these programmes against other possible channels for public spending.

10 Franklin, S. et al. (2023). *Urban public works in spatial equilibrium: Experimental evidence from Ethiopia*, Working Paper 957, Queen Mary University of London; Imbert, C. and Papp, J. (2020). "Short-term migration, rural public works, and urban labour markets: Evidence from India", *Journal of the European Economic Association* 18(2): pp. 927-963.

11 Subbarao, K. et al. (2013). *Public works as a safety net: Design, evidence, and implementation*. World Bank

12 GIZ and University of Passau (2019). *Do public works programmes work? A systematic review of the evidence in Africa and the MENA region*.

### 2.3. Public-private partnerships (PPPs)

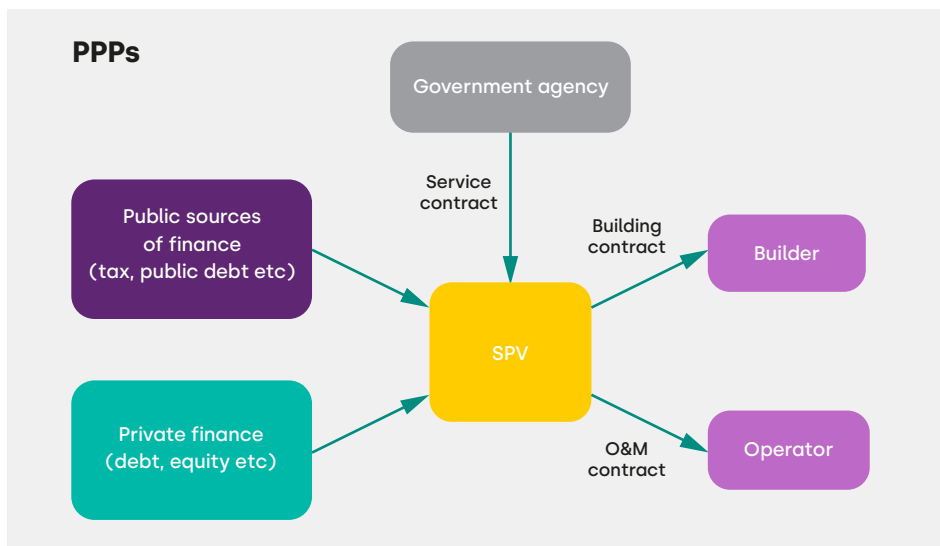
Under public-private partnerships (PPPs), a private partner takes on the management of some or all aspects of design, construction, operation, maintenance, and financing of infrastructure and services. In effect, PPPs offer an opportunity for governments to partner with the private sector, to share the responsibility and risk for the delivery of a specific project or service.

Normally, a government will outline a set of performance specifications for a project that combines infrastructural investment and service provision into a single long-term contract, usually ranging between 10 to 30 years.<sup>13</sup> The firm (or firms) that win the contract form a project company or 'special purpose vehicle' (SPV) that:

- Sub-contract the various aspects of the contract to private companies and attract investors. Key sub-contractors are usually those firms who make up the SPV and sponsor the bid.
- Manage contracted aspects of building, designing, operating and/or maintaining the infrastructure for a specified period, after which assets are typically given to the government.

In most cases, at least some of the financing used to cover initial investments is provided by companies that form the SPV, either using their own capital, or by issuing debt and equity. Critically, the difference between private provision and a PPP is that in the latter, the government is still responsible for identifying the project and its timeline, and for absorbing some of the risk associated with the project.

**Figure 4: Contracting infrastructure provision under private-public partnerships**

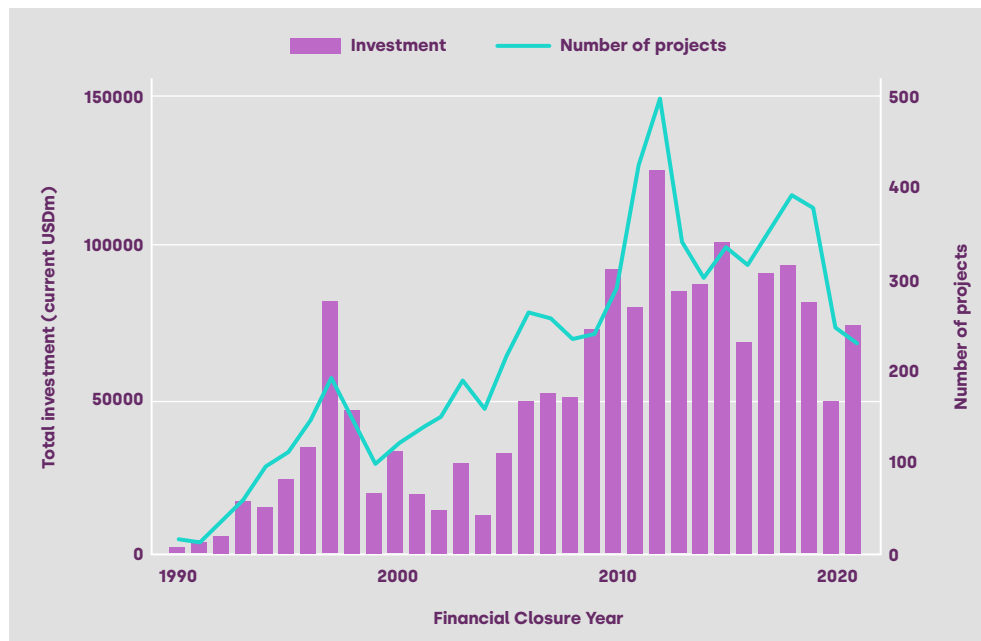


Adapted from Engel and Galetovic (2014)

<sup>13</sup> Engel, E., Fischer, R., and Galetovic, A. (2013). "The basic public finance of public-private partnerships", *Journal of the European Economic Association*, 11(1), pp.83-111.

PPPs grew in popularity in the 1990s, as many countries sought to work with private partners in an effort to reduce costs and increase efficiency in infrastructure and service delivery, and have remained an important tool for policymakers over the last two decades. These partnerships have primarily been leveraged in the transport sector - particularly in the provision of roads.<sup>14</sup>

**Figure 5: New PPP investments and projects agreed annually in low- and middle-income countries.**



Source: World Bank, Private Participation in Infrastructure Projects Database (<http://ppi.worldbank.org/>)

### 2.3.1. When should governments opt for PPPs?

PPPs offer several potential advantages over traditional procurement:

- ✓ **'Bundling' for overall cost efficiency.** By integrating the management of different aspects of design, construction, operation, and maintenance in an SPV, investments made at each stage are likely to account for costs at other stages as well, thus allowing for cost reductions and reduced delays across the life cycle of the PPP.<sup>15</sup> By contrast, under traditional procurement, various disconnected contracts with the private sector can result in incomplete initial designs and limited coordination between tasks, leading to cost overruns and construction delays.<sup>16</sup>

14 Engel, E., Fischer, R.D. and Galetovic, A. (2020). *When and how to use public-private partnerships in infrastructure: Lessons from the international experience*. Working Paper No. 26766, National Bureau of Economic Research.

15 Engel, E., Fischer, R., and Galetovic, A., (2009). "Public-Private Partnerships: When and How," Documentos de Trabajo, Centro de Economía Aplicada, Universidad de Chile.

16 Siemiatycki, M., (2012) "The Theory and Practice of Infrastructure Public-Private Partnerships Revisited: The Case of the Transportation Sector,"; Siemiatycki, M (2009). "Delivering transportation infrastructure through public-private partnerships: Planning concerns" *Journal of the American Planning Association* 76, no. 1: pp. 43-58; Allen Consulting Group (2007). *Performance of PPPs and traditional procurement in Australia*.

A study to compare the quality and cost of 313 highway roads under different procurement models in India found that while construction costs are higher for PPP projects than traditional procurement, this is largely because PPP contractors invest in higher quality building, to reduce long term maintenance costs and overall lifecycle costs. In this context, they find that roads constructed under PPPs are of a higher quality and last longer.<sup>17</sup> Similarly, a study of power projects in Indonesia found no difference in costs of projects delivered under PPPs, but higher quality of service in terms of operating availability.<sup>18</sup>

**A study of power projects in Indonesia found no difference in costs of projects delivered under PPPs, but higher quality of service in terms of operating availability.**

- ✓ **Greater incentives to reduce costs and deliver on time.** As PPP projects often involve the direct contribution of private finance, this can allow for greater scrutiny and accountability of project management by financiers. With user fees and government payments contingent on timely delivery of infrastructure, PPP projects may also be more likely to be delivered on time (which in turn reduces costs). There is some evidence of this in Australia, where a study comparing 21 PPP projects and 31 traditional procurement projects found that on average, PPP projects tended to be completed on time, while traditionally procured projects tended to take significantly longer than scheduled.<sup>19</sup> The above study of power projects in Indonesia found that projects delivered under PPPs were more likely to be delivered on time than their traditionally procured counterparts.<sup>20</sup> By contrast, in publicly managed and funded projects, projects are often planned by government bodies that are not responsible for raising the public funds needed to pay for them (for example, through national taxes). As such, those in charge of managing projects may not have strong incentives to reduce costs.
- ✓ **Greater incentives to improve maintenance of existing systems.** As PPP contracts often include both the construction and operation of infrastructure and services, firms managing the infrastructure and services usually have greater incentives to build for the long-term and maintain systems so that they can preserve revenues through user fees and/or conditional government transfers. Under conventional procurement, political incentives to invest in new projects mean that maintenance is often neglected.
- ✓ It may be **easier for PPPs to charge user fees** to recover the costs of urban services. Conventional government provision of infrastructure and services may lead to user fees being set too low, driven by their need to satisfy political demands. In the US, the Indiana Toll Road had tolls that were unchanged in nominal terms for over 20 years, resulting in falling real revenues, until the road was contracted to be

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17 Singh, "Does choice of procurement matter for cost and quality of infrastructure? Comparison of quality and cost of roads."

18 Atmo, G., et al. (2017). "Comparative performance of PPPs and traditional procurement projects in Indonesia." *International Journal of Public Sector Management* 30(2): pp. 118-136.

19 Raisbeck, P., Duffield, C. and Xu, M. (2010). "Comparative performance of PPPs and traditional procurement in Australia", *Construction Management and Economics* 28(4): pp. 345-359

20 Atmo et al, "Comparative Performance of PPPs and Traditional Procurement Projects in Indonesia."

operated as a PPP in 2006. Under this new arrangement, tolls were doubled and linked to inflation over time, accompanied by significant investments in road improvements for users.<sup>21</sup>

- ✓ **PPPs can overcome short term credit constraints.** If harnessing private investment contributions, governments may be able to invest in urban service provision even when severely credit constrained. However, it is important to note that this will only apply where income streams from the project are sufficiently credible to assure private investors they will obtain returns on their investments in future, despite a credit-constrained government. This may be most applicable in cases where government credit-constraints are short-term.

### Funding vs financing of infrastructure and services

Many government agencies have attempted to use PPPs as a way to move costs of infrastructure off the public budget, because initial costs are usually covered (at least in part) by the private sector. As the former head of Peru's Budget Committee stated in 2017, "The private sector raises the money so PPPs are free to the state. We don't even consider them in budget discussions."<sup>22</sup>

However, it is important to make a distinction between the **financing** and **funding** of a project. Financing refers to the method by which investors obtain capital to make investments in a project (for example, by issuing debt), whilst funding refers to how the infrastructure and/or service is ultimately paid for over its life cycle (for example, through government transfers or user fees) – see **Box 1** for an example of this distinction.

While working with a private partner can provide additional sources of financing for initial lump-sum investments, it does not necessarily provide additional funding for a project. If investments can be recovered from private collection of user fees, then this is money foregone by the government in the future. If they cannot, government transfers to private partners will be needed in the long run. To limit unsustainable budget commitments, and to prevent the initiation of projects becoming susceptible to political cycles, it is wise to **include the future costs of PPPs in government intertemporal balance sheets** that are subject to monitoring and transparency from Ministries of Finance. In some countries, laws are in place to prevent misuse of PPPs: in Brazil, the federal budget commitment to PPP projects is limited by law to 1% of net current government revenue.<sup>23</sup>

21 Engel, E., Fischer, R., and Galetovic, A., (2009). "Public-Private Partnerships: When and How," Documentos de Trabajo, Centro de Economía Aplicada, Universidad de Chile.

22 Quotation from an interview by Alisha Holland – for further details, see [https://www.law.nyu.edu/sites/default/files/Holland%2C%20Alisha\\_The%20Fiscal%20Illusion\\_How%20Public-Private%20Partnerships%20Evade%20Regulations\\_NYU2.8.23.pdf](https://www.law.nyu.edu/sites/default/files/Holland%2C%20Alisha_The%20Fiscal%20Illusion_How%20Public-Private%20Partnerships%20Evade%20Regulations_NYU2.8.23.pdf)

23 OECD (2008). Public-private partnerships: In pursuit of risk sharing and value for money, OECD Publishing, Paris, <https://doi.org/10.1787/9789264046733-en>

## BOX 1: FINANCING AND FUNDING FOR BOGOTA'S TRANSMILLENIO

Bogota's TransMillenio is a public-private partnership, where the government is responsible for delivering the infrastructure for the Bus-Rapid Transit system, and private partners – selected by competitive tender – invest in the rolling stock, ticketing system, and feeder buses.

The bus lanes and stations, provided through traditional procurement, were funded by a combination of national government funds (20%), World Bank loans (6%), local revenues (28%), and taxes levied on gasoline use in the city of Bogota (46%)<sup>24</sup>. In this way, private vehicle use cross-subsidised public transportation to improve access and sustainability of urban transport.<sup>25</sup>

The operation of TransMillenio services by the private sector is funded entirely by user fees which not only cover costs but allow operators to make a profit<sup>26</sup>.

However, there are also several potential disadvantages associated with using PPPs as a method of procurement:

**X Cost minimisation over welfare.** Given that private firm decisions are largely driven by profit maximisation, this can in some cases result in efforts to minimise costs at the expense of government goals of long run quality, user welfare, or sustainability, especially when these aspects cannot be easily written into a contract.<sup>27</sup> In Liberia, a PPP programme called the Liberian Education Advancement Partnership (LEAP) was set up in 2016 to outsource the management of over 200 schools to a set of private companies, in an effort to inject capital into the sector and leverage private sector expertise. Research to evaluate the impact on 93 of these schools found moderate learning gains on average, but very different effects among the different private operators. The effects on the overall wellbeing of students and teachers have also been called into question. Improvements in student test scores by one operator were accompanied by the mass expulsion of students to reduce class sizes.<sup>28</sup>

24 UNDP Special Unit for South-South Cooperation (2012) Bogota, Colombia bus rapid transit project - TransMillenio.

25 Cervero, R. (2013). Bus rapid transit (BRT): An efficient and competitive mode of public transport. Working Paper No. 2013-01, University of California Institute of Urban and Regional Development.

26 Lee (2003) "TransMillenio Bus Rapid Transit System of Bogota, Colombia." **Asia-Pacific Environmental Innovation Strategies (APEIS) Research on Innovative and Strategic Policy Options (RISPO)**

27 See Hart, O., Shleifer, A., and Vishny, R.W. (1996). *The proper scope of government: Theory and an application to prisons*, Working Paper 5744, National Bureau of Economic Research, for a discussion of this trade-off as applied to the management of US prisons.

28 Romero, M. and Sandefur, J. (2022). "Beyond short-term learning gains: The impact of outsourcing schools in Liberia after three years", *The Economic Journal* 132(644): pp. 1600-1619. Working Paper 521.

PPPs may also compromise the welfare of employees who would have otherwise benefited from stable public employment (which often include benefits such as public pensions, and involve union membership to protect workers' rights). During the COVID-19 pandemic, the same company contravened government directives in cutting teacher salaries by up to 90%, despite being paid by the government.<sup>29</sup>

- ✘ If there are minimal cost savings from private involvement, PPPs can become more expensive to the government, as they include a **'private premium'**. This private premium consists of both higher cost of private finance from debt/equity over public debt (often 2-3 percentage points higher<sup>30</sup>) and the additional payment required to compensate the private sector party for the risk they take on.
- ✘ PPPs are **highly complex contracts** that require time and a high degree of public capacity to effectively design, negotiate, and to monitor the performance of the private party. This means that many city governments – particularly in low-income countries – are unlikely to have the capacity to effectively manage these projects alone, and will instead have to work with national authorities on contract developments and negotiations. An audit of twelve PPPs in Europe found that one third of these projects suffered from considerable delays at the procurement stage.<sup>31</sup> In Latin America, 69% of all transport PPPs were renegotiated between 1988 and 2004 – to the benefit of the private sector partner.<sup>32</sup> Where renegotiation of contracts is not possible, experience of PPP contracts in the UK, US, and Australia highlight the potential for costly **legal action** between private and public actors, because of disagreements over compliance with PPP contracts.<sup>33</sup>

Many city governments – particularly in low-income countries – are unlikely to have the capacity to effectively manage these projects alone.

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29 European Network on Debt and Development (2022). *History RePPPeated II: Why public-private partnerships are not the solution*.

30 See Siemiatycki, M. (2019). *Strategies for effective procurement and public-private partnerships in the transport sector*. Policy Paper, International Growth Center, for successful examples from Bogota and Vancouver

31 European Court of Auditors (2018). *Public private partnerships in the EU: Widespread shortcomings and limited benefits* [https://www.eca.europa.eu/Lists/ECADocuments/SR18\\_09/SR\\_PPP\\_EN.pdf](https://www.eca.europa.eu/Lists/ECADocuments/SR18_09/SR_PPP_EN.pdf)

32 Guasch, *Negotiating and Renegotiating Infrastructure PPPs and Concessions*.

33 Siemiatycki, "Delivering transportation infrastructure through public-private partnerships: Planning Concerns"



In practice, **evidence on the effectiveness of PPPs is mixed** – while in some cases, PPP arrangements allow governments to achieve policy goals in a more cost-effective and timely manner<sup>34</sup> (see **Box 2**), in others, contracts are poorly allocated, often renegotiated, and quality is subject to minimal monitoring (see **Box 3**). In many cases PPP projects, just as with traditional public procurement, go over-budget and run late.<sup>35</sup> Critically, PPPs are often seen to leverage private finance without due consideration of the long-term costs to the public sector.

It is important to note that, to an extent, some of these costs and benefits of PPPs can cancel each other out. A study of road construction prices in Europe suggests that while PPP projects are 24% more expensive than comparable traditional procurement projects in their *ex ante* costs, traditionally procured projects experience a similar sized increase in *ex post* cost overruns.<sup>36</sup>

## **BOX 2: RECYCLING WASTE WATER IN DURBAN, SOUTH AFRICA**

One example of a successful PPP project can be seen in the Durban Water Recycling Project in South Africa. In the 1990s, Durban was facing shortages in sewerage capacity and was looking at alternatives to building an expensive and ecologically damaging marine pipeline. Under this project, the city of Durban worked with private investors to successfully implement a 20-year PPP aimed at recycling wastewater for industrial purposes. Financing for the project was provided by the private sector, with revenues obtained from long term contracts with two major industrial consumers.

This project has prevented the need for costly infrastructure investment, reduced potential water pollution, and freed enough water to serve 400,000 people in the city.<sup>37</sup> By combining the different stages of this project into one contract, the SPV could ensure that water was treated in such a way that it was of value to industrial customers.

34 See Siemiatycki, *Strategies for effective procurement and public-private partnerships in the transport sector*, for successful examples from Bogota and Vancouver, and less successful examples from Johannesburg.

35 European Court of Auditors, *Public private partnerships in the EU: Widespread shortcomings and limited benefits*; World Bank (2013). *Planning, connecting, and financing cities - now: Priorities for city leaders*.

36 Blanc-Brude, F., Goldsmith, H., and Vällilä, T. (2009). "A comparison of construction contract prices for traditionally procured roads and public-private partnerships". *Review of Industrial Organisation* 35 (1/2): pp. 19-40.

37 World Bank Water Global Practice (2018). *Wastewater: From waste to resource*. The case of Durban, South Africa <https://documents1.worldbank.org/curated/en/770121521179248609/pdf/124334-19-6-2018-13-8-54-W.pdf>

### BOX 3: FAILURES IN PERFORMANCE IN PPPS FOR WATER SUPPLY IN JAKARTA, INDONESIA

In 1998, the municipality of Jakarta enlisted private sector involvement in the delivery of water to the city of Jakarta. Two 25-year PPPs were formed to deliver water to east and west Jakarta, each involving an international company and local company as private partners. The aim of the PPPs was to expand access to water across the city, reduce leakages, and to improve the quality of water supply.

Crucially, neither foreign nor domestic partners were selected through a competitive bidding process.<sup>38</sup> The firms were to receive a fee based on the quantity of water supplied, in order to cover costs and repay loans in such a way that incentivised them to also deliver water to the poor. Limited capacity by the public partner i.e., the publicly-owned municipal water utility company, meant that the initial contracts did not include specific and monitorable goals, and the body was unable to effectively monitor performance.<sup>39</sup> Investments were not contractually outlined and fell well below initially-planned levels over the initial 10-year period.

As a result, over a decade later, new connections were well below contractual targets, and there had been limited improvements to quality despite higher costs of water supply. In particular, access to water by poorer residents remained a significant issue, as the companies mainly targeted middle-income and wealthy households.<sup>40</sup> The government was reticent to raise water tariffs in pace with inflation as initially planned, and as payments from the government to the private partners were pegged to the US dollar, the devaluation of the rupiah meant that the municipality was becoming increasingly indebted and struggling to keep up with payments to the private companies. In 2015, the contracts were annulled by the Central Jakarta District Court on the basis that the PPPs were "negligent in fulfilling the human right to water for Jakarta's residents".<sup>41</sup>

Both the costs and the benefits of PPPs are more likely to be strongly felt in low-income cities. Limited (short-run) local government resources and low capacity to coordinate different aspects of a project mean that PPPs can offer large gains in cost-effective provision of infrastructure and services. However, the private premiums associated with projects in a low-income environment, as well as the capacity needed to manage

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38 Braadbaart, O. (2007). "Privatising water: The Jakarta concession and the limits of contract." in Boomgaard et al (Eds.), *A World of Water*

39 Braadbaart, Privatising water: the Jakarta concession and the limits of contract; UNDP Special Unit for South-South Cooperation (2012) *Jakarta, Indonesia Case Study (Water)*: [https://www.esc-pau.fr/ppp/documents/featured\\_projects/indonesia.pdf](https://www.esc-pau.fr/ppp/documents/featured_projects/indonesia.pdf)

40 Bakker, K. (2007). "Trickle Down? Private sector participation and the pro-poor water supply debate in Jakarta, Indonesia.", *Geoforum* 38(5): pp. 855-868; Jensen, O. (2005). "Troubled partnerships: Problems and coping strategies in Jakarta's water concessions." *4th Conference on Applied Infrastructure Research* 8 (10); UNDP Special Unit for South-South Cooperation. *Jakarta, Indonesia Case Study (Water)*.

41 CETRI (2015, 26 March) Jakarta court cancels world's biggest water privatisation after 18 year failure. <https://www.cetri.be/Jakarta-Court-cancels-World-s?lang=fr>; <https://www.thejakartapost.com/news/2015/03/24/court-decision-ends-privatization-water-jakarta.html>

and monitor complex contracts, means that PPPs may also be more challenging to implement in this context.

Cross-country evidence suggests that PPPs are typically better suited:

- **Where private actors are incentivised to maintain quality, or where objective quality standards can be defined, measured, and enforced.**<sup>42</sup> Where projects are funded through user fees and users have alternatives available, the incentives of private investors to maximise returns on their investment are aligned with promoting mass access to quality infrastructure. Where user fees are not possible or desirable, incentives of private financiers can still be aligned with government aims by making government payments for projects contingent on the quality and timing of project delivery. However, services where quality is hard to measure (such as healthcare) may be less well suited to PPP provision than, for example, the construction of roads.
- **Where the service and infrastructure is extensive enough to justify the costs associated with designing and managing the complex contracts.** Typically, PPPs are best suited to projects that cost at least US\$ 50 million.<sup>43</sup> This may rule out smaller scale urban investments, but also suggests that there may be value in designing contracts for service delivery across different municipalities.
- **Where responsibility and risks can be clearly allocated between the public and private partner.** PPPs are more difficult to manage when the performance of the project is contingent not only on the actions of the private partner but also on other private companies and/or the government. For example, managing a PPP contract to deliver a BRT service may be more challenging than for building a road, due to the impact of other actors on the performance and revenues of this service.
- **In cases where services pay for themselves.** If a PPP project can reliably pay for itself, for example, through user fees and cross-subsidisation, this makes the project a much less risky prospect for both government and private investors, while also limiting the potential for negotiations of overinflated government transfers. However, this may be difficult to predict *ex ante*.
- **Where there is unlikely to be a need for changes to the contract over time.** This makes PPPs less suitable to industries such as medical care, where it is likely that requirements for care will change drastically over a 20-year period.<sup>44</sup>

Typically, PPPs are best suited to projects that cost at least US\$ 50 million.

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42 Engel, Fischer, and Galetovic, "The economics of public-private partnerships: A basic guide."

43 Siemiatycki, *Strategies for effective procurement and public-private partnerships in the transport sector*.

44 Ross, T.W. and Yan, J. (2015). "Comparing public-private partnerships and traditional public procurement: Efficiency vs. flexibility." *Journal of Comparative Policy Analysis: Research and Practice* 17(5): pp. 448-466.

**Table 1: A summary of delivery options**

	Strengths	Shortcomings	Best suited for?	
<b>Private provision</b>	<ul style="list-style-type: none"> <li>✓ Leverages private investment and expertise for low-cost services and infrastructure</li> </ul>	<ul style="list-style-type: none"> <li>✗ Doesn't take into account the effects on non-users</li> <li>✗ Low-income households may be excluded</li> <li>✗ Some products can't be provided by the private sector</li> <li>✗ Limited coordination between private providers</li> </ul>	<ul style="list-style-type: none"> <li>• Filling gaps in public provision for households that can afford these services.</li> <li>• Goods and services that have limited wider benefits or negative effects beyond their direct users (or that can be subsidised/taxed easily).</li> <li>• Services whose use can easily be limited to those who pay for them</li> </ul>	
<b>PUBLIC PROVISION</b>	<b>Traditional public procurement</b>	<ul style="list-style-type: none"> <li>✓ Can ensure adequate supply of public goods, as well as infrastructure and services with wider social benefits</li> <li>✓ Can actively target infrastructure and services to low-income households</li> <li>✓ Leverages private sector expertise in delivery</li> </ul>	<ul style="list-style-type: none"> <li>✗ Projects can be politically motivated, with limited focus on long-term maintenance</li> <li>✗ Limited incentives to cut costs</li> <li>✗ Challenges of corruption in procurement</li> </ul>	<ul style="list-style-type: none"> <li>• Delivery of infrastructure and services that offer city-wide benefits.</li> <li>• Public goods such as street lighting.</li> <li>• Essential goods and services for low-income households.</li> <li>• Natural monopolies.</li> <li>• Goods and services also provided in the private sector</li> </ul>
	<b>Direct public provision</b>	<ul style="list-style-type: none"> <li>✓ Can ensure adequate supply of public goods, as well as infrastructure and services with wider social benefits</li> <li>✓ Can actively target infrastructure and services to low-income households</li> <li>✓ Avoids challenges of corruption in private procurement</li> <li>✓ Public works are a source of stable wages for vulnerable households</li> </ul>	<ul style="list-style-type: none"> <li>✗ Projects can be politically motivated, with limited focus on long-term maintenance</li> <li>✗ Limited incentives to cut costs</li> <li>✗ Requires government capacity to deliver cost effective and quality infrastructure and services</li> </ul>	<ul style="list-style-type: none"> <li>• Delivery of infrastructure and services that offer city-wide benefits.</li> <li>• Public goods such as street lighting.</li> <li>• Essential goods and services for low-income households.</li> <li>• Natural monopolies.</li> <li>• Essential/sensitive services for example,, policing</li> </ul>
	<b>Public-private partnerships</b>	<ul style="list-style-type: none"> <li>✓ Cost and time efficiencies from bundling and private scrutiny</li> <li>✓ Greater incentives to maintain infrastructure than public provision</li> <li>✓ More politically feasible to charge user fees</li> <li>✓ Helps overcome short term public finance constraints</li> </ul>	<ul style="list-style-type: none"> <li>✗ Highly complex contracts (usually beyond the capacity of city governments)</li> <li>✗ Cost cutting at the expense of welfare</li> <li>✗ Can be more costly given private premiums</li> <li>✗ Challenges of corruption in private procurement</li> </ul>	<ul style="list-style-type: none"> <li>• Delivery of infrastructure and services that offer city-wide benefits.</li> <li>• Public goods such as street lighting.</li> <li>• Essential goods and services for low-income households.</li> <li>• Natural monopolies.</li> </ul> <p>AND</p> <ul style="list-style-type: none"> <li>• Where quality standards can be incentivised / enforced</li> <li>• Where projects are extensive enough to justify contracting costs</li> <li>• Where there can be a clear division of risks between private and public partners</li> <li>• Where services pay for themselves</li> </ul>

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## 3. Policies to encourage successful PPPs

As noted above, **not all projects are suitable for PPPs**, and some are best provided directly by government and/or through traditional procurement methods. Selecting appropriate projects for this procurement method will be instrumental to their success.

With this in mind, cross-country experience in implementing PPPs to deliver urban infrastructure and services suggests four related enabling conditions for success, across all stages of the PPP project life-cycle:

1. Strong regulations and institutions for managing PPPs
2. Appropriate risk sharing between public and private parties
3. Effective monitoring
4. Clear and reasonable terms for renegotiation

### 3.1. Strong regulations and institutions for managing PPPs<sup>45</sup>

#### 3.1.1. A comprehensive and stable legal framework

A comprehensive PPP law can create certainty and reduce set-up costs for private investors, by creating a credible legal framework for these arrangements. Countries with track records of successful PPPs – such as South Africa, Chile, and South Korea – have developed robust legislative frameworks to support such partnerships.<sup>46</sup> At the same time, by providing a basis for PPP arrangements in law, it is less likely that private partners will be able to renegotiate terms in their favour.

Clear guidelines for the design of PPP contracts are particularly useful in dealing with unsolicited PPP offers by the private sector. While these offers can help to identify commercially attractive projects that can be procured through PPPs, it is not always clear that these proposals will line up with government priorities for limited public budgets. They could result in poor value for money, and if not handled transparently can open up opportunities for corruption. In general, unsolicited proposals can exacerbate the problems of ordinary PPPs, with public actors less well-informed about details of the project than the private companies that propose them.<sup>47</sup>

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45 For more details on institutional decisions associated with PPPs, see Chaponda, T. (2013) *Key institutional decisions in public private partnerships*. Policy Brief 43012, International Growth Centre.

46 Mohammed, N., et al (2023). *How can public-private partnerships (PPPs) be successful?* Brief, The World Bank.

47 Stiglich, M. (2021). "Unplanning urban transport: Unsolicited urban highways in Lima." *Environment and Planning A: Economy and Space*, 53(6): pp. 1490–1506. <https://doi.org/10.1177/0308518X211007867>

As such, governments need a pre-determined process to deal with unsolicited proposals, which allow for competition and alignment with urban strategies. Some countries disallow unsolicited proposals altogether, whilst others have clear guidelines to deal with these proposals. For the latter, unsolicited proposals usually go through a process of approvals with the relevant government agency to ensure it serves the public interest, after which the project is put out to a competitive bid (where typically the project initiator is given some kind of preference in selection).<sup>48</sup>

### 3.1.2. Expertise in PPP design

Procurement using a PPP requires government agencies to have the capacity to design and/or evaluate the initial feasibility of a project before it goes to tender, manage the bidding process, design the contract, and oversee the project execution. This all requires significant skills and resources, which are generally more limited in city governments – see **Box 4**. A particularly important but often underfunded aspect of PPP design is evaluating a project's initial financial feasibility - both in terms of public funding and potential private investment, as well as long-term funding potential<sup>49</sup>.

#### **BOX 4: FAILURES IN DESIGN OF A WASTE MANAGEMENT PPP IN SAIDA, LEBANON**<sup>50</sup>

In 2002, the Municipality of Saida in Lebanon signed a 20-year PPP agreement to finance, build, operate, and maintain a solid waste treatment plant capable of treating 250 tons of solid waste per day. Under the contract, the municipality would collect and transfer waste to the treatment facility.

However, the government-managed waste delivery company did not collect waste in the manner initially required by the treatment plant, preventing the initial contract from being fulfilled. Changing the waste collection process would have involved a complex and comprehensive overhaul of the sector across multiple public agencies. As a result, the treatment plant was shut down for three years, and the contract had to be renegotiated to incorporate a different waste treatment technology.

48 See Georgina, D., and Hodges, J.T. (2007). *Unsolicited infrastructure proposals: How some countries introduce competition and transparency*. Gridlines No. 19, The World Bank. for more details on the processes used in different countries.

49 Chaponda, T., and Lishman, D. (2013). *PPPs and missing markets in sub-Saharan Africa: A study on project preparation funding*. Working Paper S-43009-UGA-1, International Growth Centre; Fischer, R. (2011). *The promise and peril of public-private partnerships: Lessons from the Chilean experience*. Working Paper S-38018-RWA-1, International Growth Centre.

50 For more details, see Straub, S. (2019). *Lessons from public private partnerships in Lebanon*. Final Report S47419-LBN-1, International Growth Centre.

However, not all of these aspects have to be managed in one department:

- In many countries, a **dedicated PPP** unit has been established to consult with different departments and local governments, and to implement consistent procedures in the selection and design of PPP projects.<sup>51</sup> This can help to centralise expertise in the development of these types of contracts, while – crucially – still involving local government and/or line ministries with subject-specific expertise and strategies, who can monitor these projects over time.
- However, because of the conflicting roles and responsibilities these units often take on (in PPP promotions, evaluations and oversight), central PPP units have been prone to becoming promoters of PPPs. There has been a growing trend to instead establish **infrastructure delivery agencies** that can provide specialised support to other government agencies, regardless of the procurement model selected.<sup>52</sup>

Hiring external expertise or consultants for these agencies may be necessary – many PPP units across Africa have failed to develop successful projects due to lack of practical, hands-on staff experience.<sup>53</sup>

**There has been a growing trend to establish infrastructure delivery agencies that can provide specialised support to other government agencies, regardless of the procurement model selected.**

### **BOX 5: LOCAL GOVERNMENT PPP FRAMEWORK AND UNIT IN PHILIPPINES**

The Philippines has a dedicated PPP law and associated guidelines which provide the framework for different government units to undertake procurement via PPPs. There is specific guidance provided for local governments on the use of PPPs for local infrastructure and services<sup>54</sup>

The government has also established a Public-Private Partnership Center that acts to coordinate and monitor PPP activity in the country. Given the importance of service delivery at the local government level, this Center has a specific local PPP strategy, and is part of a “Local Government Unit PPP for the People” programme, which is an inter-agency collaboration through which the Center provides support to local governments and the Department of Interior and Local Government.

51 For a list of PPP units throughout the world, see: <https://ppp.worldbank.org/public-private-partnership/overview/international-ppp-units>

52 Examples include the Infrastructure and Projects Authority in the UK, Nigeria's Infrastructure Delivery Coordinating Unit, the establishment of an Infrastructure Central Delivery Unit in Kosovo, and 'Projects NSW' unit in New South Wales, Australia

53 Chaponda and Lishman, *PPPs and missing markets in sub-Saharan Africa: A study on project preparation funding*.

54 Ricote, E.E. (2018). *The Philippine PPP program*, Presentation as part of 1st Meeting of the PPP and Infrastructure Financing Network of Asia and the Pacific [https://www.unescap.org/sites/default/files/1.%20PPT\\_UNESCAP%20China%20Event\\_PPP%20Network\\_rev.pdf](https://www.unescap.org/sites/default/files/1.%20PPT_UNESCAP%20China%20Event_PPP%20Network_rev.pdf)

### 3.2. Systems for sharing risk between public and private parties

Critical to the success of a PPP is that risk is appropriately shared between the public and private parties. Risks associated with a PPP project can be divided into two broad types:

- Risks related to the costs of **construction and operation** of infrastructure and services according to agreed-upon timelines. These costs can vary and may be difficult to predict, and therefore often differ from projected costs. Overruns can be significant: for example, the US\$ 2.5 billion Malaysia North-South highway suffered a 75% cost overrun, largely due to inadequate allowances being made for inflation and unplanned additional work.<sup>55</sup>
- Risks related to **revenues**. When revenues are obtained from user fees, such as tolls on urban roads, they can be difficult to predict. Demand forecasts can be extremely unreliable, particularly when forecasts go beyond the short run (of 3-5 years).

The higher the risk borne by the private sector, the greater the premium that will need to be paid to the private partner to encourage them to take on this risk. It makes sense to allocate risk according to the ability of private and public actors to better manage this risk.

The higher the risk borne by the private sector, the greater the premium that will need to be paid to the private partner to encourage them to take on this risk. However, if no risk is borne by the private sector, they will not be incentivised to reduce costs and/or maintain quality to boost demand.

It makes sense to **allocate risk according to the ability of private and public actors to better manage this risk**, so that these risks can be minimised overall. In the case of PPPs for infrastructure, the private sector would therefore be (largely) responsible for handling the risk of construction and operating overruns - aside from in cases where government policy directly affects costs in an unforeseen way. For example, the costs of operating infrastructure could increase dramatically with a sudden removal of government subsidies on energy production. **Box 6** provides an example of the challenges presented by construction cost risk.

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<sup>55</sup> Walker, C.T., and Smith, A.J. (Eds.), (1995). *Privatised infrastructure: The build operate transfer approach*. Thomas Telford.



## BOX 6: CONSTRUCTION COST RISKS IN THE DELIVERY OF LAGOS STATE'S LEKKI-EPE EXPRESSWAY

Faced with a rapidly growing population, Lagos State in Nigeria has attempted to use PPPs as a way of accelerating infrastructure delivery and overcoming short term budget constraints, with mixed results. One such project was the rehabilitation of the Lekki-Epe Expressway. In 2008, the government signed a concession agreement with the Lekki Concession Company to upgrade, expand and maintain a 50km of the Lekki-Epe expressway, with tolls to enter greater Lagos city. The project was partly financed by the African Development Bank, with construction and operational costs to be recovered largely through use of toll fees.<sup>56</sup>

While construction was projected to take 3 years and the PPP was originally intended to run for 30 years, the government re-acquired the concession rights in 2014 after only 30% of the road had been completed.<sup>57</sup> This followed requests from the private company to raise toll prices in response to rising interest rates and a devaluing currency that increased costs of construction.

In any case, tolls have since been increased under government control. As of September 2022, the project was "almost 95 percent complete" accordingly to the Special Adviser to the State Governor on Works and Infrastructure.<sup>58</sup>

At the same time, it would make sense for the public sector to **cover at least some of the revenue risk** that results from demand for these services. This is because both the SPV and government have a role to play in stimulating demand – the SPV through the quality and maintenance of infrastructure and services provided, and the government through wider policy affecting incomes and demand. Demand for the PPP-delivered Croydon Tramlink in London, for example, was significantly affected by a Transport for London policy to reduce competing bus fares.<sup>59</sup> In Bangkok, the private company working with the city to provide the SkyTrain transit system through a PPP has faced significant financial difficulties because of inaccurate demand forecasting, in part due to government subsidies provided to ordinary trains.<sup>60</sup> By making both parties responsible for demand risk, both parties can play their part in managing this risk.

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56 Halia, I., (2008, 22 October) Nigeria's *Lekki-Epe Expressway* PPP <https://www.ijglobal.com/articles/51850/nigerias-lekki-epe-expressway-ppp>

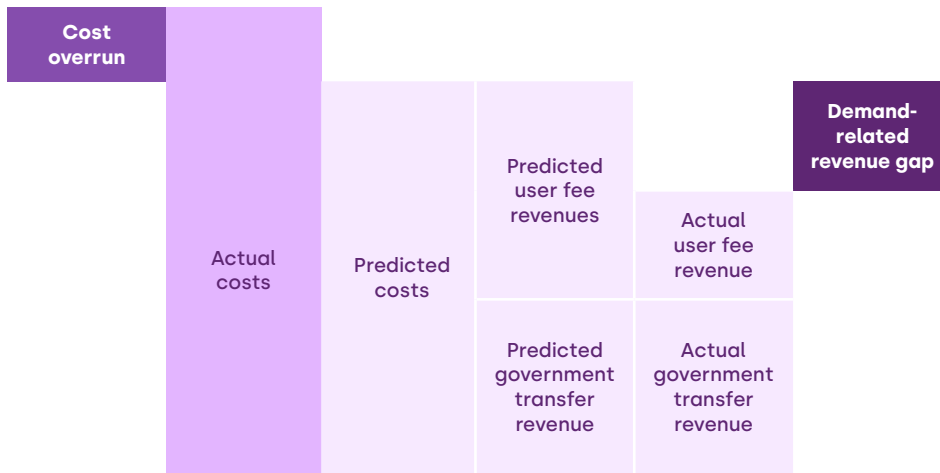
57 Obanikoro, M., (2013, 25 October) *Beyond the Veil of the Lekki-Epe Expressway Concession right* <https://www.premiumtimesng.com/opinion/147310-lekki-epe-expressway-concession-right-buy-back-badly-put-together-cover-musiliu-obanikoro.html>

58 Ayeni, V., (2022, 23 September) *Lekki-Epe road construction 95% complete – Lagos govt* <https://punchng.com/lekki-epe-road-construction-95-complete-lagos-govt>

59 Siemiatycki, "Delivering transportation infrastructure through public-private partnerships."

60 Verougstraete, M., and Enders, I. (2016) *Traffic demand risk: The case of Bangkok's Skytrain (BTS)*, Public-Private Partnerships Case Study No. 1, UNESCAP.

**Figure 6: Cost and revenue risk under PPP contracts**



### 3.2.1. Reducing demand risk for private partners

In determining what level of demand risk should be shared with private companies when revenues are in part based on user fees, policymakers must weigh the costs of transferring risk to the private sector (in terms of higher costs of finance, and higher chances of attempted contract renegotiation), and the benefits of lower guarantees that have to be paid by the state.

In order to make PPP contracts more attractive to private firms, some governments have provided **minimum guarantees on revenues**. Under this system, private firms can bid for projects stating the minimum revenues they would require (or 'bands' of minimum and maximum revenues, where revenues over the maximum revenues are shared with government) and can be compared on this basis. However, such guarantees can be extremely risky. For example, by overestimating demand in 1990, the Colombian government paid US\$ 2 million on guarantees by 2005. Similarly, in Korea, government guarantees on a privately-financed road between Seoul and Incheon alongside lower-than-expected demand meant that the government has paid tens of millions of dollars every year for a 20-year project.<sup>61</sup>

Another way to limit demand side risk for private partners is through **variable term present-value-of-revenue (PVR) contracts**. In these types of contracts, private companies bid by specifying a particular present value of total revenue they require from the project in order to invest. The contract does not have a specific end date, but instead lasts until the project is able to collect this minimum revenue.

<sup>61</sup> World Bank, *Planning, connecting, and financing cities - now: Priorities for city leaders*.

## Limiting risks versus limiting policy freedom

Some of the policy-induced effects on costs or revenues can be mitigated by contracts that restrict government policy for example, by preventing building a competitive road route to a toll road, so that user fee revenues from the toll road can be maintained. However, this **comes at the cost of limiting policy freedom** over time.

In contracting a PPP to build and operate the SR 91wExpress Toll Lanes, for example, the Orange County Transportation Authority in the US allocated all demand risk to the private SPV by withholding responsibility for covering any shortfalls in revenue. In exchange, policymakers agreed to limit threats to revenues for the project under consideration. This prevented the state from providing competitive services or to enforce regulation on the PPP in response to changing government priorities, such as to reduce pollution on the toll road<sup>62</sup>. Eventually, the government had no choice but to buy out the toll lanes at major expense.<sup>63</sup>

Policymakers therefore face a trade-off between reduced demand risk for private firms (which can reduce the cost of accessing finance) and reduced policy freedom over the contract period. If, however, there are effective systems for renegotiation (see **Section 2.3.**) whereby the effect of new government policies can be adequately addressed as part of a renegotiated contract, it is possible to have greater freedom for government policy alongside lower costs of accessing finance for private demand risk management.



62 Siemiatycki, "Delivering transportation infrastructure through public-private partnerships: Planning concerns".

63 Siemiatycki, *Strategies for effective procurement and public-private partnerships in the transport sector*.

## BOX 7: KIGALI BULK WATER: SHIFTING RISK TO DONORS AND GOVERNMENT<sup>64</sup>

In an effort to address growing water supply problems in the city of Kigali, the government of Rwanda has recently utilised a PPP to develop a large-scale water treatment plant for urban residents<sup>65</sup>.

The project leveraged a package of blended finance, combining long-term loans from the African Development Bank with investments from private developer Metito. At the same time, the state-owned Water and Sanitation Corporation (WASAC) benefited from donor funding and support in the preparation of the project and its competitive tender, as well as in subsidising up-front costs of the project. When it was identified that it would be more cost effective for the municipality to deliver some aspects of the necessary infrastructure financed through a separate loan, the project scope was reduced. In these ways, a significant amount of the project risk was shifted onto donors and the government, which reduced the costs of private involvement.

While this arrangement allowed for the successful development of the treatment plant, private investment was only 14% of total investments for the project<sup>66</sup>. Given the small proportion of private funding and high contracting costs of engaging in a PPP, it is unclear if it would have been more cost effective to engage in traditional procurement.

### 3.3. Effective monitoring

Crucial to the success of PPP agreements is effective monitoring of agreed upon services and their quality. This will involve more capacity for some projects than others (see **Section 1.2.1.**) but is critical to the success of any PPP. Effective monitoring involves:

- **Identifying key performance indicators and evaluation timelines.** Best practice suggests that these indicators are most effective when they are quantifiable, achievable, and generally based on outputs rather than inputs and processes, to allow private partners room to innovate. By establishing interim points for evaluation, government agencies can identify early stages of performance failure.
- **Allocating resources towards monitoring capacity.** The core monitoring team needs to be equipped with the technical skills that are needed to understand the project. Where possible, continuity of some personnel from initial contracting stages – who have a clear

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<sup>64</sup> <https://blogs.worldbank.org/ppps/kigali-water-lessons-one-sub-saharan-africa-s-first-water-ppps>

<sup>65</sup> Leigland, J. (2020), "Case study: Kigali Bulk Water—how much blended finance is too much?", in Leigland, J. (2020) *Public-private partnerships in sub-Saharan Africa: The evidence-based critique*, pp. 267-295

<sup>66</sup> Leigland, "Case study: Kigali Bulk Water—how much blended finance is too much?"

idea of the contract objectives and plans – throughout the PPP life cycle can be extremely valuable in effective monitoring.<sup>67</sup>

- **Where appropriate, involving end-users in the monitoring of performance:** A useful indicator of performance of the SPV can be the satisfaction and feedback of end-users.

### 3.4. Clear and reasonable terms for renegotiation

As much as clear and monitorable contractual terms are needed to effectively enforce a PPP project, proactive and reasonable conditions for renegotiation as just as important in preventing costly legal battles and unfair changes.

It is crucial that government and private partners have recourse to adjust their agreement when policy changes, environmental changes, or errors in the original design of the PPP contract emerge – see **Box 8**. However, the conditions for this flexibility should ideally be outlined in the initial contract, so that private parties are not able to abuse their monopoly power in renegotiating more favourable terms after having won the contract.

To achieve this, procuring agencies need to balance flexibility and rigidity. This includes:

- Establishing an independent panel of experts to monitor the terms of contract renegotiations, to help prevent opportunistic renegotiations.<sup>68</sup>
- Planning for contract termination through 'off-ramp' clauses. These provide clear formulas for paying off existing debt and equity if the length of the contract is shortened based on renegotiation.

**Conditions for renegotiation should ideally be outlined in the initial contract, so that private parties are not able to abuse their monopoly power in renegotiating more favourable terms after having won the contract.**

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67 Burnett, M. (2013). "Public private partnership contract management – still in need of more attention?" *European Procurement & Public Private Partnership Law Review* 8.3: pp. 217-30.

68 Engel, E., Fischer, R., and Galetovic, A., (2009). "Public-Private Partnerships: When and How," Documentos de Trabajo, Centro de Economía Aplicada, Universidad de Chile.

## BOX 8: THE NEED FOR RENEGOTIATION IN THE DEVELOPMENT OF QUITO'S AIRPORT

In 2005, the government of Ecuador entered into a PPP contract with a consortium of foreign firms to build, finance, operate, and maintain a new airport in Quito, the largest city in the country. This project was to be privately financed, with costs to be recovered through airport tariffs. However, after two-thirds of the construction of the airport was complete, the Constitutional Court of Ecuador ruled that airport tariffs were state property, which threatened the financial viability of the project, and brought private investment and construction to a halt. This project was successfully completed only after extensive renegotiations that took 18 months.



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## 4. Achieving value for money in tenders

Whether policymakers choose to procure urban infrastructure and services through traditional procurement or by a PPP, they are likely to face a number of challenges in managing tenders from private companies. Procurement in low-income countries is often plagued with issues of collusion between private and public actors to keep government subsidies and payments high, and weak incentives on the part of government agents to make the most of public finances.<sup>69</sup> When contracts are allocated on the basis of political connection, not only may the winning companies be less able to deliver high quality services, but there are also lower incentives by public officials to monitor their performance.

There is a trade-off faced in regulating the tender process: while procurement agencies do need clear laws and regulations on what to buy and how much to pay, there is also value in allowing agents discretion to obtain the best value. A study of procurement in road resurfacing across 187 countries suggests that the appropriate level of regulation depends on the capacity of the public agency in question. In poorer countries, where corruption is less costly to engage in, stricter laws are associated with better procurement outcomes. However, as public sector capacity increases and corruption is more difficult, strict laws limit valuable insights from procurement agents, and are associated with worse outcomes.<sup>70</sup> In Pakistan, providing procurement officers greater autonomy over procurement decisions reduced the prices of goods procured by 9% without reducing quality.<sup>71</sup>

### **Second lowest bidders: a trade-off between corruption and quality**

In some countries, procurement agencies are authorised to bypass the lowest bid and select the second-lowest bidder if the lower price is deemed to come at the cost of quality. However, this opens up opportunities for corruption in subjective assessment and selection, and so in countries such as the US, this practice is not allowed; public agencies are required to award contracts to the lowest bidder.

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69 This differs from delivery by a publicly-owned company that is not profit motivated, and therefore less likely to collude for excess government subsidies and/or high prices for goods and service delivery.

70 Bosio, E. *et al.* (2022). "Public procurement in law and practice." *American Economic Review* 112(4): pp. 1091-1117.

71 Bandiera, O. *et al.* (2021). "The allocation of authority in organisations: A field experiment with bureaucrats", *The Quarterly Journal of Economics* 136 (4): pp. 2195–2242, <https://doi.org/10.1093/qje/qjab029>

With this in mind, evidence from a number of countries suggests some best practices in promoting value for money when managing project bids:

Enhancing competition is not just about inviting more bidders. It also means making sure bidding processes are not too onerous or costly to engage in, and not designing contracts and products for tender that are so specific that only one company can feasibly bid.

- 1. Some level of competition is key:** single-bidder auctions are extremely risky, as one company has an effective monopoly over a contract, and can dictate sometimes unreasonable terms in their favour. Having a pool of firms that can credibly bid for a project improves the chances of selecting the most efficient supplier, and reduces the ability of any one firm to charge high mark-ups (see Box 9). Evidence from Germany highlights that a shift from individual negotiations with an incumbent supplier to procurement auctions (where potential suppliers bid for a contract) improved services and lowered procurement prices of regional train services (by about 20%). Analysis of these reforms suggests that this is both the result of allowing more efficient suppliers to participate in the auction, and of competitive pressures to reduce mark ups.<sup>72</sup>

Public notices and e-procurement can play an important role here. Evidence from Italy suggests that public procurement auctions that are publicised (through the Regional Official Gazette and two newspapers) induce higher competition as well as lower project costs.<sup>73</sup> In Bangladesh, local governments are responsible for public procurement, and bidding processes are often informally skewed heavily in favour of politically connected companies. By introducing an IT-based system for procurement, non-connected bidders were able to apply more easily and cheaply for government tenders, and the government was able to reduce the ratio of bid price to estimated cost by at least 10%.<sup>74</sup> E-procurement systems have also been associated with improvements in quality of services and delivery times in India and Indonesia respectively, in part by expanding the range of bidders to those located outside of the tender region.<sup>75</sup>

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- 2. Transparency** in the bidding process. In general, the more transparent and public the process can be, the more likely it is that specific individuals will not be able to take advantage of the system. At the same time, transparency encourages continued competition in future projects, if losing participants feel confident that contracts are awarded based on merit. This involves making

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72 Lalive, R., Schmutzler, A., and Zulehner, C. (2017). *The benefits of procurement auctions: Competitive pressure vs. selection of efficient suppliers*, Working Paper.

73 Coviello, D. and Mariniello, M. (2014). "Publicity requirements in public procurement: Evidence from a regression discontinuity design", *Journal of Public Economics* 109: pp. 76-100.

74 Abdallah, W. (2015). *Effect of electronic public procurement: Evidence from Bangladesh*. Working paper S-31107-BGD-1, International Growth Centre.

75 Lewis-Faupel, S. et al. (2014). *Can Electronic Procurement Improve Infrastructure Provision? Evidence from Public Works in India and Indonesia*. Working paper 20344, National Bureau of Economic Research.



public all relevant details of tenders and final contracts awarded, as well as any changes that are made during renegotiations. Enhancing transparency between low-income countries by creating a **database of awarded private contracts** could be an extremely valuable step in ensuring governments know what prices to expect and can get value for money in tenders.

- 3. Separation of functions** in awarding and monitoring contracts. This can help to ensure monitoring is not done by individuals who may have an incentive to attract as much investment as possible and subsequently report high performance.<sup>76</sup>

### China's increasing involvement in infrastructure investment

Chinese state-sponsored investment has played an increasingly important role in infrastructure development and service provision across Africa and Asia. Significant infrastructural investments have been made since 2013 as part of the Belt and Road Initiative that involves loans from the Chinese government for infrastructure development, reaching an estimated US\$ 838 billion by the end of 2021.<sup>77</sup> However, there have been mounting concerns over the sustainability of debt issued, with interest rates on these loans close to market rates. In part because of these projects, countries such as Pakistan, Zambia and Ghana have taken on significant debt, and have either defaulted on loans or required IMF bailouts in order to address budget deficits.<sup>78</sup>

Following these developments, there have been an increase in the use of public 'private' partnerships involving state-owned Chinese firms to provide infrastructure and services. These partnerships have been responsible for the development of industrial parks in Ethiopia, the Orange Line Metro train in Lahore, the Mombasa-Nairobi Standard Gauge Railway, and Nigeria's Lekki Port, to name a few. While this investment has filled significant gaps in private finance, there have been concerns about lack of competition and transparency in tendering processes resulting in high costs, as well as the viability of large loan repayments and/or transfers needed for these projects.<sup>79</sup>

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<sup>76</sup> Fischer, *The promise and peril of public-private partnerships: Lessons from the Chilean experience*.

<sup>77</sup> McBride, J., Berman, N., and Chatzky, A., (2023, February 2) *China's massive belt and road initiative*, <https://www.cfr.org/background/chinas-massive-belt-and-road-initiative>

<sup>78</sup> McBride, J., Berman, N., and Chatzky, A., (2023, February 2) *China's massive belt and road initiative*, <https://www.cfr.org/background/chinas-massive-belt-and-road-initiative>; New York Times (2020, 18 May) *Poor countries borrowed billions from China. They can't pay it back*. <https://www.nytimes.com/2020/05/18/business/china-loans-coronavirus-belt-road.html>

<sup>79</sup> van Wieringen, K. and Zajontz, T. (2023). "From loan-financed to privatised infrastructure? Tracing China's turn towards public-private partnerships in Africa", *Journal of Chinese Current Affairs*; New York Times (2022, 7 August) *Jewel in the crown of corruption. The troubles of Kenya's China-funded train*, <https://www.nytimes.com/2022/08/07/world/africa/kenya-election-train.html>

## BOX 9: LACK OF COMPETITION AND LIMITED RISK SHARING IN A PPP IN MASERU, LESOTHO

In Lesotho, a 18-year PPP contract was signed in 2009 to build, finance, and operate the Queen Mamohato Memorial Hospital in Maseru city. The objective behind using a PPP was to enhance value for money in the provision of healthcare services.

New facilities were built on time and to budget under this project, and the quality of healthcare and patient outcomes have significantly improved when compared to the old hospital.<sup>80</sup> However, it is important to note that this has come at a high financial cost to government, resulting from challenges in its initial design<sup>81</sup>:

- There was extremely limited competition in the bidding process, with only two potential firms for the government to choose from
- The government took on all of cost and demand-side risk for this project. Under the agreement, patients pay the same user fees as in any other public facility, and the government pays the private provider an annual fee to repay capital investments and any further service delivery costs. This has meant there is limited incentive on the part of the private partner to manage costs. Over time, higher than expected patient numbers and expensive referrals for treatments in South Africa have meant significantly higher costs than anticipated for the government.
- At the final stages of contract negotiation, the private firm was able to negotiate a much higher annual fee payment. Annual fees are linked to the (high) rate of medical inflation in South Africa, rather than in Lesotho – and with every late payment comes penalty charges.
- There have been a number of renegotiations which have added to the cost of the project. Government officials have felt that loopholes in the contract and the private partner's experience has allowed them to more effectively renegotiate in their favour.
- There is limited government capacity and expertise in both, hospital operations and PPP contracts, to effectively manage and monitor the contract.

The costs of operation of this hospital have been far higher than anticipated (and of the old publicly run hospital), and this PPP alone now accounts for over half the country's health budget. At the same time, the project has yielded high returns to its private investors, projected to yield a six-fold return on investment for shareholders.

80 McIntosh, N. (2015). "A public-private partnership improves clinical performance in a hospital network in Lesotho" *Health Affairs* 34(6): pp. 954-962; Scott, N.A., et al. (2022). "Observational study of the clinical performance of a public-private partnership national referral hospital network in Lesotho: Do improvements last over time?" PLoS ONE, <https://doi.org/10.1371/journal.pone.0272568>; World Bank (2016, 19 February) *Lesotho Health Network Public-Private Partnership*, <https://www.worldbank.org/en/country/lesotho/brief/lesotho-health-network-ppp>; Hellowell, M. (2019). "Are public-private partnerships the future of healthcare delivery in sub-Saharan Africa? Lessons from Lesotho", *BMJ Global Health* 4(2): e001217.

81 Oxfam (2014). *A dangerous diversion: Will the IFC's flagship health PPP bankrupt Lesotho's Ministry of Health?* Briefing Note, Oxfam Policy and Practice.

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## 5. Concluding remarks

How governments deliver urban services and infrastructure is a critical policy question. Faced with limited budgets and rapidly growing urban populations, effectively leveraging public and private resources is critical in ensuring cities are both liveable and productive.

Given the importance of regulating private service provision and filling gaps in delivery for particular goods and citizens, public sector involvement will always play an important role in the delivery of infrastructure and services. Governments face a choice between delivering infrastructure and services through direct delivery, traditional procurement, or through public-private partnerships (PPPs) that can leverage private sector finance and expertise. When managed well, PPPs are useful in leveraging private expertise, efficiency, and upfront capital - but they are by no means a silver bullet. Cross-country evidence highlights that:

**Not every project is suitable for procurement via PPPs:** PPPs as a procurement tool are not appropriate for every urban service or infrastructure. While PPPs can offer benefits in terms of immediate financing and efficiency gains from bundling of construction, operation, and maintenance of infrastructure, they also have potential costs – including high private premiums and the potential for cost minimisation over quality.

**State capacity to design, monitor, and enforce PPP contracts, alongside clear mechanisms for renegotiation and dispute resolution, is critical for success.** Where PPPs are used as a tool to forgo building state capacity, they tend to fail. City governments will likely need the support and involvement of national partners to effectively manage these arrangements.

**Risk sharing is critical to get right.** If too much risk is absorbed by the government, it takes away the incentive for the private party to perform efficiently. On the other hand, government taking on too little risk will lead to low private sector willingness to participate in PPP arrangements, or to unaffordable private premiums. It makes sense to allocate risk according to the ability of private and public actors to manage this risk, so that these risks can be minimised by those able to do so.

**Governments working with the private sector introduces new avenues for corruption.** Creating competitive and transparent processes for managing project bids is a first step in avoiding wasted public funds and achieving value for money in these partnerships.



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Cities that Work is an International Growth Centre (IGC) initiative that seeks to translate economic research and practical insight into clear urban policy guidance. Cities that Work combines new evidence and analysis of urban economics with the hard-won knowledge of urban planning practitioners and policymakers. Our aim is to develop a policy-focused synthesis of research, and a global network of individuals with a shared vision for urban policy.

