

# LESSONS LEARNED/ PROJECT SUMMARIES

16 SEPTEMBER 2019



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# LESSONS LEARNED AND PROJECT SUMMARIES

## ➤ Module 20: Summary Practical Advice for Decision Makers

Project Summaries				
98 Projects - Brief Summary - Key Lessons Learned				
Sectors	Countries			
- Transportation: Multi-modal, Railways, Busses, Airports, Ports, Tunnels and Bridges	Afghanistan	Australia	Bhutan	Brazil
- Water & Sanitation: Water Supply, Water Treatment, Solid Waste Management	Canada	China	Colombia	Croatia
- Information and communication Technologies	Djibouti	France	Germany	Honduras
- Public Markets	India	Indonesia	Ireland	Italy
- Food Infrastructure	Kenya	Kosovo	Mexico	Nigeria
- Public Parking	Palestine	Peru	Philippines	Poland
- Government and Judicial Facilities	Portugal	Romania	Russia	Singapore
- Sporting, Cultural and Tourism Venues	South Africa	Rep. Korea	Spain	Tanzania
- Energy: Heating Supply, Renewable Energy; Street Lighting	Turkey	Uganda	United Kingdom	
- Urban Redevelopment	United States			
- Affordable Housing				
- Education				
- Health Care: Hospitals and Clinical Services				

## LESSON LEARNED: *SELECT PROJECTS PURPOSEFULLY*

Understand exactly what you want from the project (more access, investment, lower prices, etc.), and select accordingly

- Caution: Planning and forecasting need to reflect benefit to the government, through cost-benefit or VfM assessments. But such assessments tend to involve incentives for those performing them to emphasize benefits and de-emphasize costs, whether consciously or not. Be mindful of optimism bias.
- PPP is by nature flexible. Look first at what you need, then design your approach based on those needs. Do not look first at what others have done, as your context may be very different. That said, learn from the experiences of others. See Module 5: Managing Consultants, Section 2.2, box on “Optimism Bias or Bad Incentives - How Planning Goes Wrong.”

# CASE EXAMPLES

- **Municipal Waste Thermal Treatment Plant in Poznań, Poland:** In response to new European Union regulations on waste management, municipal authority decides to pursue a PPP for a waste-to-energy power plant due to its lack of experience in developing this type of project and related interest in having a seasoned partner manage the operation of the plant. (Project Summary No. 27)
- **Qiaoxi District Central Heating, China:** PPP for central heating infrastructure developed to address poor performance of state-owned heating company, including inefficiencies resulting from poor maintenance and monitoring as well as poor collection rates for installation fees and usage tariffs. Project is structured as a joint venture between the municipality and the private partner, to help ensure knowledge and technology transfer. (Project Summary No. 6340)

# REDEVELOPMENT OF LIBRARY AND FIRE STATION IN WASHINGTON, D.C., UNITED STATES

Washington, D.C. needed to refurbish the West End Library and West End Fire Station, and develop additional, centrally located low cost housing. The library and fire station were almost functionally obsolete; their renovations would be extremely costly. D.C. was able to acquire new, modern facilities while also providing affordable housing by leveraging the air rights above the library and fire station. The high-end family sized condominiums provided additional tax revenue.

D.C. awarded, through a competitive bid process, a concession to EastBanc WDC Partners. The proposal included US\$149 million of investment in a new fire station and library, approximately 150 condominiums, 52 low-cost rental units, and retail space. Financial assistance was provided by D.C. to build affordable units.

Source: [www.dmped.dc.gov](http://www.dmped.dc.gov); [www.dcclims1.dccouncil.us](http://www.dcclims1.dccouncil.us)  
Image sources: <https://alankarchmer.com/ten-arquitectos>



## LESSON LEARNED: *SELECT GOOD PROJECTS FOR PPP*

Ensure there is a clear and objective rationale for using a PPP approach.  
Garbage-in-garbage-out; just say “no” to bad projects

- A good selection process will maximize infrastructure development, by allocating projects with a high likelihood of success to PPP and thereby freeing up limited public resources for projects that need them. Select robust, viable projects for PPP, these are more likely to be financed on a competitive basis and are therefore more likely to provide value for money.
- A poor selection process is likely to lead to failure. A project might be selected based on political priorities, rather than economic or commercial. Projects suffering from bad design, dubious demand, or weak fundamentals are more likely to fail and may weaken the entire PPP program in the process.
- Avoid narrow focus on new build. Do not overlook opportunities for PPPs to expand, refurbish, or better manage existing assets.

# CASE EXAMPLES

- **Transportation Exchanger in Moncloa, Madrid, Spain:** PPP used to significantly expand and renovate exchange facility that integrates different public transit systems (i.e., railway, bus, and metro), more than doubling the number of users. (Project Summary No. 1)
- **Qiaoxi District Central Heating, China:** Responsibility for the operation, maintenance, and expansion of existing central heating infrastructure transferred to private company, resulting in significant improvements in efficiency, quality of service, collection rates, and user satisfaction, in addition to expanding the service coverage area and freeing up public capital for other projects. (Project Summary No. 63)

## LESSON LEARNED: *CONSIDER BUNDLING SMALL PROJECTS*

Small PPP projects present a number of challenges. Aggregating small projects (i.e., pooling or bundling them into one project), can leverage economies of scale to reduce total cost and speed development, while also making the investment larger and more attractive for more experienced investors and lenders

- **IT Network Integration, Barcelona, Spain:** Bundling a variety of information technology network infrastructure and services results in viable PPP for expanded and improved connectivity. (Project Summary No. 31)
- **PPPs for Parks in the State of California, USA:** Bundling three parks into one project results in a viable PPP for park operations. (Project Summary No. 59)
- **Varaždin County School Program, Croatia:** Construction or refurbishment and maintenance of 22 schools and 10 gymnasiums bundled into eight PPPs executed with three SPVs. (Project Summary No. 89)
- **Public School in Belo Horizonte, Minas Gerais, Brazil:** Construction and provision of non-educational services (e.g., maintenance, utility management) for 32 preschools and five primary schools bundled into one PPP project. (Project Summary No. 90)



# POOLING BRIDGES

The Pennsylvania Department of Transportation (PennDOT) needed to replace a series of small bridges spread throughout the state. It selected bridges based on the need for replacement and a series of deliverability considerations, including minimizing disruption to the public and minimizing changes to existing alignment.

Through this process, more than 2,000 bridges were screened and 558 were selected. PennDOT then aggregated the repair and maintenance of these bridges into a single PPP project under its old bridges' rehabilitation program.



While the average investment cost for each individual bridge was estimated to be as low as US\$2 million, the aggregated project was large enough to attract serious investors and significant competition, which would probably not have been the case with multiple small projects.

Source:

[https://github-webtools.s3.amazonaws.com/local-umbraco/media/1455/gih\\_showcaseprojects\\_penn-bridges\\_art\\_web.pdf](https://github-webtools.s3.amazonaws.com/local-umbraco/media/1455/gih_showcaseprojects_penn-bridges_art_web.pdf)

## LESSON LEARNED: PPPS ARE NOT 'FREE MONEY'

PPP always includes a source of revenue sufficient to cover all operating costs and bank loans, and a reasonable return on the investor's equity

- An adequate and predictable revenue stream is the lifeblood of a PPP project. This revenue will come from some combination of payments from (a) users of the service, (b) commercial revenues generated by the project, and (c) public sector. Understanding who will pay, and how much they must pay, is an essential step for the municipality before undertaking a PPP. Therefore, municipalities must always account for the fiscal risks arising from PPP
- *Consider all the possible revenue streams* and focus on maximizing revenues from beneficiaries of the project – direct and indirect. This includes considering the use of space within, above, below, and around the project site for additional, revenue-generating activities. Only after all options for deriving sustainable revenues from beneficiaries should the use of public money or guarantees be considered.

# PROJECT SUMMARIES

- **Hong Kong Mass Transit Railway Corporation:** Municipal-owned mass transit corporation leverages real estate developments around transit stops and lines to fund infrastructure investments. (Project Summary No. 2)
- **Sheberghan City Bus Terminal, Afghanistan:** Private developer constructs and leases retail space adjacent to bus terminal to recover its investment in the new terminal. (Project Summary No. 4)
- ~~**Construction of Bus Stops and Installation of Road Improvements in Indore, Madhya Pradesh, India:** Sale of advertising space used to fund PPPs for the construction of bus stops and installation of road improvements. (Project Summary No. 7)~~
- **Commercial and Landside Operations of I Gusti Ngurah Rai International Airport, Bali, Indonesia:** Incentive-based fee mechanism for private operation of airport's landside facilities significantly increases non-aeronautical revenues and the quality of service delivery. (Project Summary No. 12)
- **Underground Parking and Commercial Services Center in San Borja, Peru:** Parking facility to be built below a public park includes commercial space to increase project revenues. (Project Summary No. 45)

# PROJECT SUMMARIES

- **Street Lighting Project in Nasik, Maharashtra, India:** Private partner is paid a share of the municipality's energy cost-savings resulting from the project. (Project Summary No. 67)
- **Johannesburg City Improvement Districts, South Africa:** Private property owners may vote to establish City Improvement Districts, which then apportion the cost of urban improvement investments across the property owners in proportion to the value of each owner's property. (Project Summary No. 70)
- **Redevelopment of Library and Fire Station in Washington, District of Columbia, USA:** Rights to commercially develop adjacent properties fund private developer's construction of a fire station and public library. (Project Summary No. 73)
- **Sustainable Housing Project in Turin, Italy:** Energy efficient capital investments allow private developer to maximize rental income from affordable housing units while still keeping prices below market rates. (Project Summary No. 81)

# JAMES F. OYSTER BILINGUAL ELEMENTARY SCHOOL, WASHINGTON DC

In 1993, the school was in danger of closure due to an inadequate building and lack of public capital. Led by concerned parents, a PPP was formed between DC Public Schools and a national real estate development firm. They divided the school property in half to make room for a new school and a new residential development.

The District of Columbia issued a thirty-five-year, USD 11 million tax-exempt bond for the construction costs, to be repaid entirely with the revenue generated by the private apartment building. The private partner agreed to pay USD 804,000 a year for thirty-five years to repay the bond. The school facilities included a computer lab, library, gym and classrooms designed to accommodate the school's bilingual programme and office space.

(Project Summary No. 88)





# PARKING AREA UNDER RIVERA NAVARRETE AVENUE IN SAN ISIDRO, PERU

San Isidro is Peru's financial center and has an estimated deficit of 10,600 parking spaces, which led to widespread illegal parking that contributed to high levels of congestion.

The 30-year concession for a three-story underground parking area that could accommodate 822 vehicles along the main corridor of San Isidro, with an investment value of approximately USD 25 million. The project company would recoup its investment from parking fees collected over the concession period.

The parking facility is accessible by people with disabilities and includes ATMs, bicycle docks, automatic entrance and exit gates, and security cameras. The main avenue was renovated with eight-meter wide sidewalks, state-of-the-art street lighting, and additional urban furnishings, such as benches and traffic signals.

The municipality receives 10 percent of the monthly gross revenue generated by parking.

Source(s) <http://msi.gob.pe/portal/> accessed 15 January 2019.



# UNDERGROUND PARKING AND COMMERCIAL SERVICES CENTER, SAN BORJA, PERU

The District of San Borja, a vibrant center for commercial activity in Lima, Peru, suffered a high deficit of public parking. The proposed project covers a period of 32 years and has an estimated investment value of USD 13.5m to develop 14,320 square meters of underground space below a public park with 353 parking spaces (9160 m<sup>3</sup>) and commercial enterprises such as banks and pharmacies (5180 m<sup>3</sup>).



The proposed contract would entitle the municipality to an 8 percent share of the gross income, before sales tax, from the parking fees and rental income from commercial space. The private party would have the exclusive right to set and negotiate prices on both the parking and commercial rental operations.

Contract signature was planned for 18 December 2018, but is yet to be confirmed. Nonetheless, this project highlights the possibility of optimizing limited space in dense, urban areas by considering underground development projects.

Source(s) accessed on January 15, 2019

<http://www.munisanborja.gob.pe/index.php/component/search/?searchword=ecopark&%20ordering=&searchphrase=all>

## LESSON LEARNED: *BE CAUTIOUS OF OVERLY OPTIMISTIC FORECASTS*

Particularly with regard to demand and revenue projections, if a project seems too good to be true (for the municipality or the private partner), then it is probably too good to be true

- **Challenging Case 1: Yongin Everline Light Rail Transit, Seoul, Korea:** During construction, an independent demand assessment determined that the estimated passenger volume was less than one-fourth of the original estimate, due to competing transit options. Actual demand on commencement of operations proved to be even less, resulting in significant financial liabilities for the municipal authority. (Project Summary No. 3)
- **Bus Terminal-cum-Commercial Complex in Mohali, India:** Actual demand for use of the terminal fell far short of the forecasted amount, due to users and drivers continuing to use a pre-existing bus stand and thereby avoid the usage fee charged by the new terminal. (Project Summary No. 6)



# INTERCITY BUS TERMINAL - AMRITSAR, INDIA

Demolishing the existing terminal building and complex and development of a modern state of the art Intercity Bus Terminal.

Under operation by a private operator since 2005 after an initial construction period of 2 years with a concession period of 11 years and 5 months.

Revenue streams

- Collection of “adda fees” i.e. charges payable by buses for use of terminal facilities,
- Revenue from commercial rentals from shops located within Terminal complex
- Other sources of revenue - sale of advertising rights, parking fees.

Forecast 2000 to 3000 buses / day, actual average of 1,100 normal buses and 600 mini buses a day, about 80-100 buses are parked overnight. Some buses started operating from outside the bus terminal to avoid paying adda fee.



## LESSON LEARNED: *CONSIDER ALL STAKEHOLDERS*

PPP will have a direct influence on some (in particular employees and management) and may raise political or ethical concerns amongst many more

- *Engage and communicate with all stakeholders*, including to dispel common myths surrounding PPPs.
- **Udaipur Wastewater Treatment Plant, India:** Problems related to identifying a viable project site, land acquisition, and laying pipe in busy areas overcome through close engagement with local communities and agreement on marginal modifications to technical aspects of the project. (Project Summary No. 24)
- **Marine Sanctuary and Forest Preserve, Chumbe Island, Tanzania:** Support from local fishermen and communities proved instrumental in delivering a marine sanctuary and forest preserve project. (Project Summary No. 60)
- **Kruger National Park, South Africa:** Government agency's intervention to resolve conflict between private operator and workers over employment conditions preserves an otherwise successful PPP. (Project Summary No. 61)

# MANDALUYONG (PHILIPPINES) PUBLIC MARKET

The previous Mandaluyong (Philippines) Public Market was razed by fire. The lot remained idle, creating congestion, waste and flooding problems.

Public Market would cost Php 100 million, i.e. annual outlay of more than Php 10 million. The City Government ruled out huge loans.

The developer provided a public market at the ground floor under the control and supervision of the City Government. The City Government in turn leases the building except the Public Market to the developer, including parking, theatres, restaurants, bowling, etc.

The project provides for a Public Market controlled and supervised by the City Government and **additional income of 20 Million (instead of debt service of more than 10 million/annum)**

Employment through  
new commercial district  
Traffic, flooding, pollution  
and garbage problems  
solved.



# LESSON LEARNED: GOVERNMENT MONEY CAN BE USED EFFECTIVELY TO IMPROVE PPP PROJECTS

Government is a key partner in PPP and government support a key element in successful PPP

- Government support can improve financial viability and make a project more attractive for investors, but it will not turn a bad project into a good one.
- Use public support efficiently, in a targeted manner, to ensure government goals are achieved.
- Ensure funding mechanisms are properly resourced and incentivized to avoid political capture or inertia.
- *Be ready for challenges.* In any long-term relationship, change happens. PPP is above all a partnership, it needs to be designed with challenges, changes and resolution in mind. Problems need to be elevated to appropriate levels of management before they become disputes or worse. As much as possible, potential challenges should be preempted and addressed in the contract.

## PROJECT SUMMARIES

- **Municipal Solid Waste Treatment Project in Wenzhou, China:** PPP made feasible by publicly payable fee for disposal of solid waste, limited-term exemption from corporate income taxes, and permitting an immediate VAT refund. (Project Summary No. 28)
- **Tlajomulco Administrative Center in Tlajomulco Municipality, Jalisco, Mexico:** funded by fixed, monthly lease payments payable by the municipality. Municipality improved its creditworthiness by establishing a trust account and opening a contingent line of credit for the lease payments, guaranteed by federal funds. (Project Summary No. 49)
- **Aquanova America in Saint-Die-des-Vosges, France:** After a year of considering a basic concessional model, a performance-based availability payment scheme was designed to deliver viable PPP. (Project Summary No. 54)
- **Roof-top Solar Program in Gandhinagar, India:** made feasible with a minimal public subsidy of the tariff charged to the power purchaser. (Project Summary No. 64)

## PROJECT SUMMARIES

- **Croydon Council Urban Regeneration Vehicle, United Kingdom:** Innovative joint venture that uses public land contributions to leverage private capital and expertise for urban redevelopment projects. (Project Summary No. 72)
- **Varaždin County School Program, Croatia:** Availability payments, shared by the county and municipalities. (Project Summary No. 89)
- **Inkosi Albert Luthuli Hospital in KwaZulu-Natal, South Africa:** Mixture of public capital contribution and availability payments used to structure PPP for the provision of medical equipment and all non-clinical hospital services. (Project Summary No. 93)
- **Challenging Case 5: Queen Elizabeth II Medical Center Car Parking Project, Western Australia:** Delays in the government's completion of construction works related to the project (in-kind contribution) negatively impacts private partner's revenues and contributes to fiscal liabilities due from the public authority under the contract. (Project Summary No. 47)

# BHUBANESWAR STREET-LIGHTING PROJECT, INDIA

Private party finances and installs retrofits, operate and maintain the city's street-lighting system for 10 years for 20,000 street lights. **Total cost \$ 4.8 million.** IFC supported.

Public authority sets standards and specifications, monitors and verifies performance. Payments made based on the savings realized - 90% of energy savings realized plus an Operation and Maintenance fee for each light pole

**Annual savings to government of \$100,000** by way of decreased energy consumption, operation and maintenance costs and emissions savings.

The project needs to be large enough to be viable and to realize sufficient savings in energy.

Capacity issues at local level: government, equity investors, service providers and financiers, standardizing documents, process





## LESSON LEARNED: *DO NOT CUT CORNERS ON PROCUREMENT*

It may seem easier to enter into direct negotiations instead of using competitive procurement, but it is not. In general, it takes longer and costs more money. Maximizing competition through good, transparent, public procurement is one of the most important benefits of a PPP.

- *Be cautious when selecting the winning bid.* If a bid seems too good to be true (financially, technically or otherwise), then it probably is. Look carefully at the detail, whether it is a fixed and complete bid; if anything looks unconvincing it may be wise to reject it.
- *The municipality must regulate and monitor PPP.* This must be an integral part of project design. PPP or not, the public sector is always the final authority, and will be ultimately responsible for the provision of public services.



## PROJECT SUMMARIES

- **Kruger National Park, South Africa:** Public partner must intervene to address staff dissatisfaction and poor quality of customer service by instructing the private partner to find a new technical partner, produce an operation manual, improve skills development, and implement an incentive program for the staff. (Project Summary No. 61)
- **Reconstruction, Management, and Maintenance of Street Lighting and Other Public Facilities in Juvignac, France:** Municipality must monitor private partner's street lighting failure rate. (Project Summary No. 69)
- **Challenging Case 2: Amritsar Intercity Bus Terminal, India:** Actual demand for new bus terminal falls far below the forecasted amount, due in part to municipality's failure to enforce requirement that all intercity buses use the terminal. (Project Summary No. 7)
- **Challenging Case 4: Urban Transport Services in the Municipality of Peja, Kosovo:** PPP agreement suspended after municipality failed to end the operations of informal, illegal bus and taxi services that competed with the project. (Project Summary No. 9)

## LESSON LEARNED: *PREPARE FOR CHANGE DURING THE PROJECT.*

It is not possible to anticipate or make every risk decision in advance, mechanisms will be needed to address change and other challenges. A proactive, collaborative framework must provide partners with the platform for resolution.

- *Be flexible and prepare for conflict resolution.* No contract can contemplate every eventuality, so expect to need to resolve challenges collaboratively - i.e. it should be managed like a partnership.
- *Crisis does not change the fundamentals of PPP,* and PPP is sufficiently flexible to be adjusted to market conditions. Be willing to reconsider each aspect of the PPP, to find the best solution. E.g. phase or scale down investment to fit accessible finance and reduced demand, and consider replacing some of the desired private financing with public funding (to the extent public funding is available) until such time as market conditions make private financing better value.

## PROJECT SUMMARIES

- **Transportation Exchanger in Moncloa, Madrid, Spain:** New regulation significantly increased project costs and shortfall in passenger demand, partners and stakeholders modify the project's design. (Project Summary No. 1)
- **Qiaoxi District Central Heating, China:** Public and private partners overcome challenges concerning the transfer of staff to the private project company and community opposition to new installation fees. (Project Summary No. 63)
- **Challenging Case 5: Queen Elizabeth II Medical Center Car Parking Project, Western Australia:** Government policy on parking fees results in claim for compensation by the project company, public inquiry to amend the PPP agreement. (Project Summary No. 47)
- **Challenging Case 6: Multi-level Car Parks in Thimphu City, Bhutan:** Private partner requests extension due to changes in the project design and increases in the scope of work, which double project cost. (Project Summary No. 48)
- **Challenging Case 7: Jakarta Drinking Water Supply, Indonesia:** Occurrence of the Asian Financial crisis necessitates revisions to PPP agreements. (Project Summary No. 20)

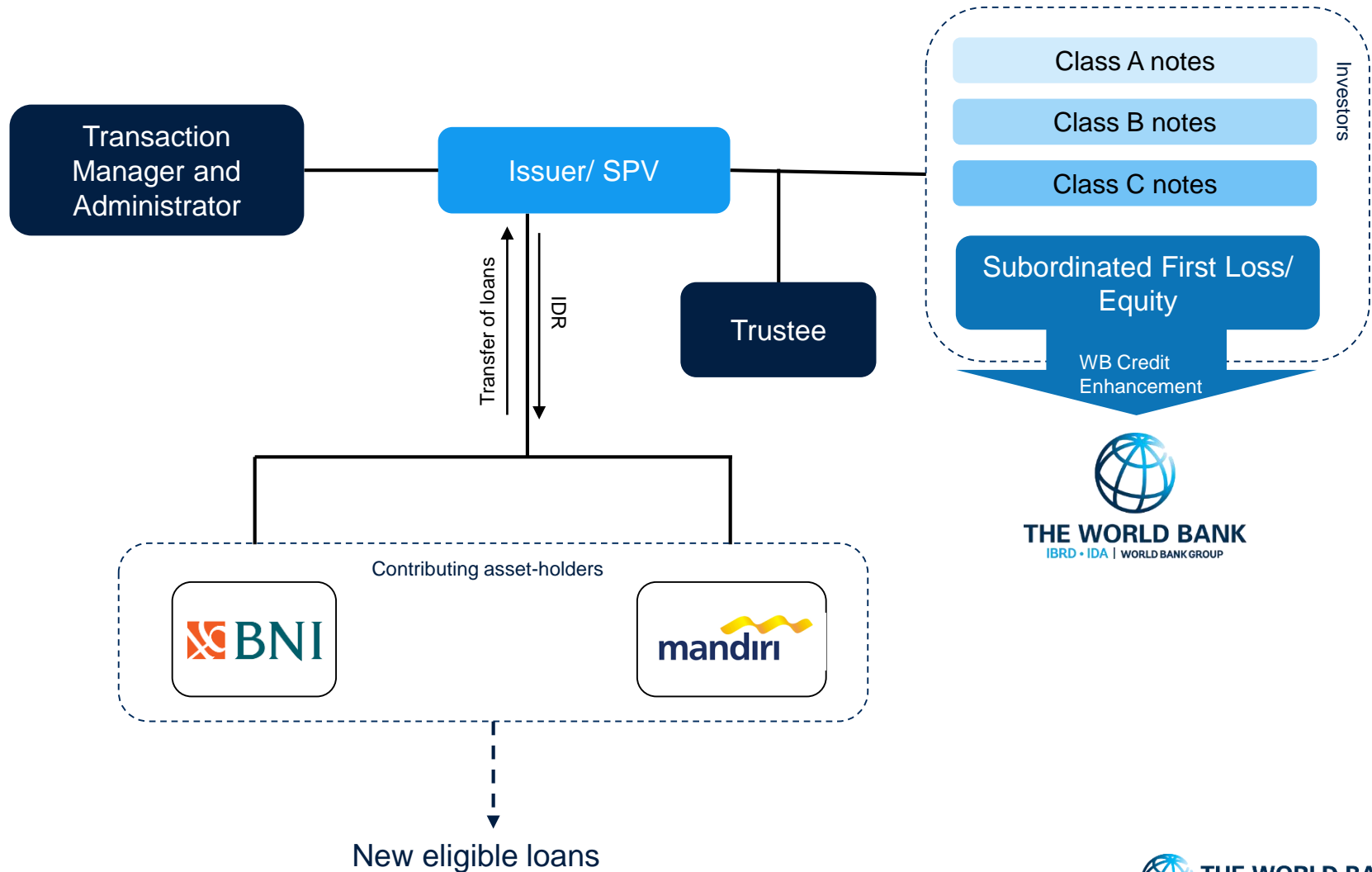
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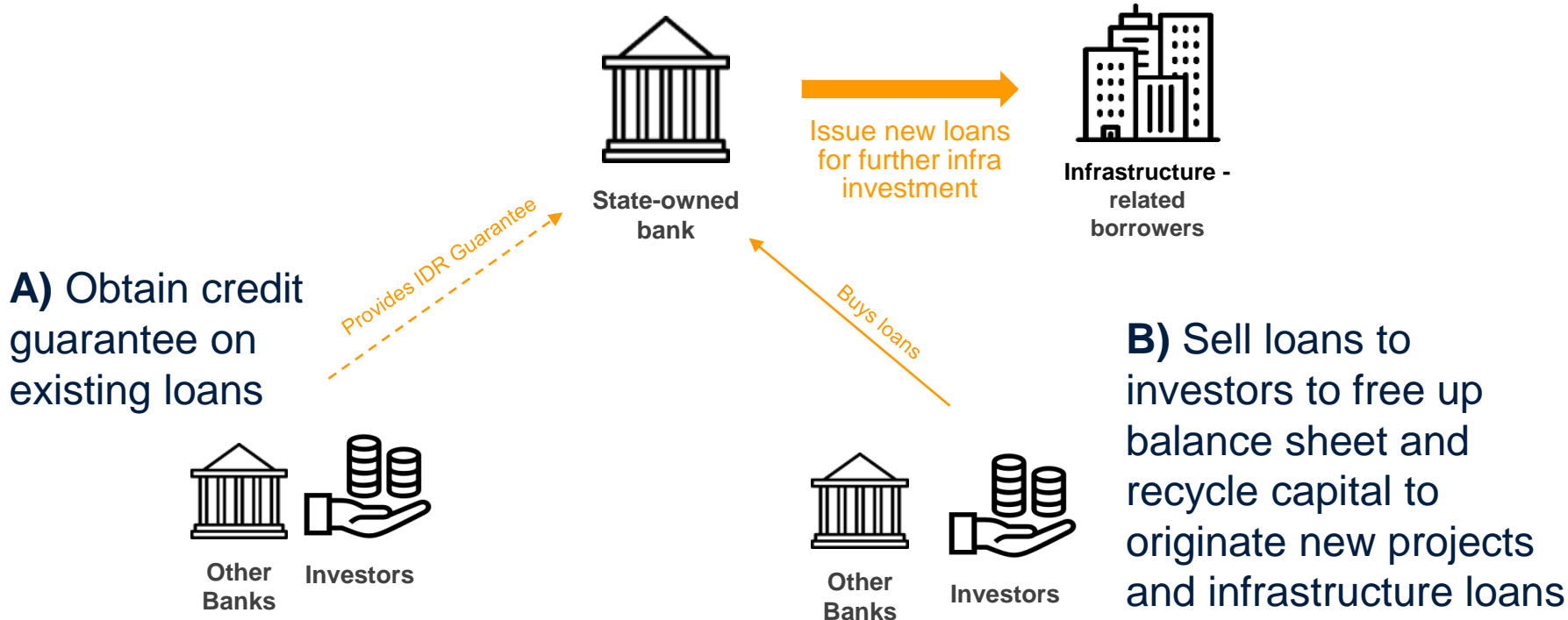
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# ANNEX 5: POTENTIAL CLO PLATFORM DESIGN – PRELIMINARY STRUCTURE FOR DISCUSSION



# 2. BANK-LED APPROACH

State-owned banks obtain capital relief:



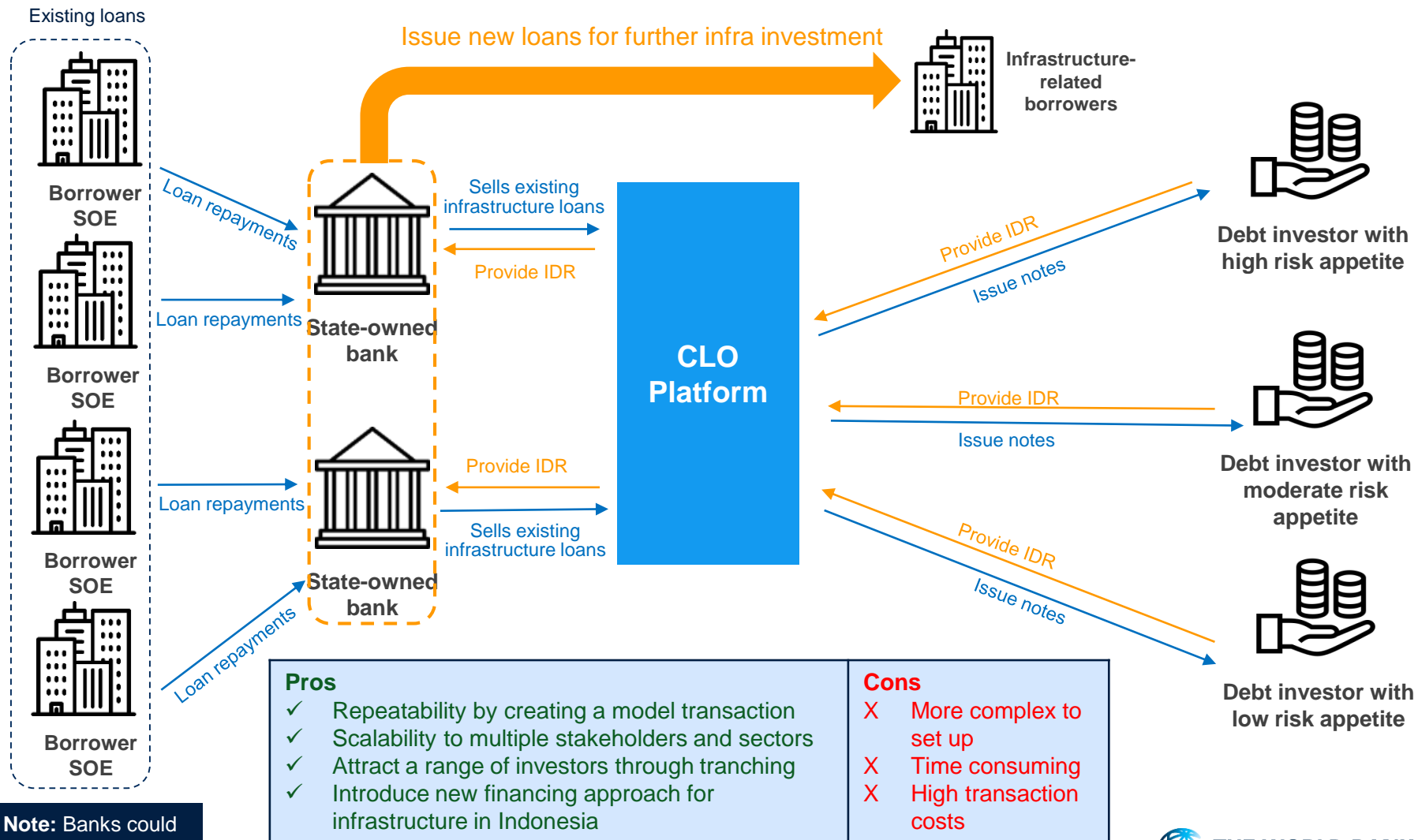
**A) Obtain credit guarantee on existing loans**

**B) Sell loans to investors to free up balance sheet and recycle capital to originate new projects and infrastructure loans**

Option A)	
<p><b>Pros</b></p> <ul style="list-style-type: none"> <li>✓ Relatively simple and common transaction (single transaction, single client)</li> <li>✓ Lower transaction costs</li> <li>✓ Indonesia allows for capital relief for MDB guarantees</li> </ul>	<p><b>Cons</b></p> <ul style="list-style-type: none"> <li>X Limited benefits for non-participating stakeholders</li> <li>X Small scale of a single deal</li> </ul>

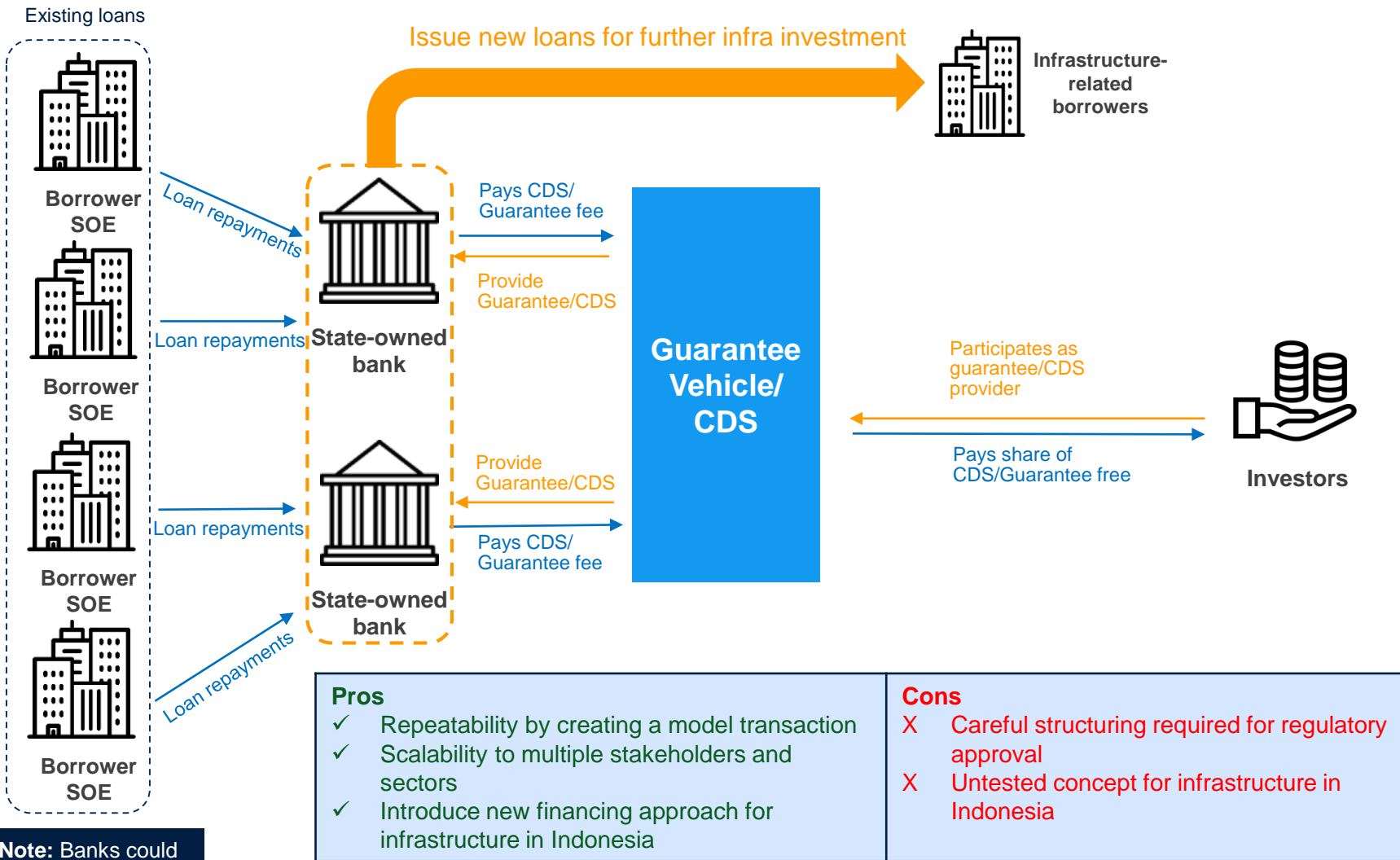
Option B)	
<p><b>Pros</b></p> <ul style="list-style-type: none"> <li>✓ Can try to offload those loans with greatest capital requirements</li> </ul>	<p><b>Cons</b></p> <ul style="list-style-type: none"> <li>X Small scale</li> </ul>

### 3. SECURITIZATION APPROACH: COLLATERALIZED LOAN OBLIGATION (CLO) PLATFORM FOR STATE-OWNED BANKS' ASSET RECYCLING



**Note:** Banks could continue servicing the loans

# 4. CREDIT DERIVATIVE APPROACH: CREDIT DEFAULT SWAP (CDS) OR GUARANTEE ON STATE OWNED BANK'S EXISTING LOANS



**Note:** Banks could continue servicing the loans

Pros	Cons
<ul style="list-style-type: none"> <li>✓ Repeatability by creating a model transaction</li> <li>✓ Scalability to multiple stakeholders and sectors</li> <li>✓ Introduce new financing approach for infrastructure in Indonesia</li> </ul>	<ul style="list-style-type: none"> <li>X Careful structuring required for regulatory approval</li> <li>X Untested concept for infrastructure in Indonesia</li> </ul>