Global Platform for Sustainable Cities

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PROJECT SUMMARIES
PART 2

Municipal PPP Framework

PS 2

The Municipal PPP Framework can be found at www.thegpsc.org and www.worldbank.org/ppplrc.

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Sporting, Cultural, and Tourism Venues

Sports Centers

51. Sports Hub, Singapore

Photo Credit[109]

Background
Following the closure of the Singapore National Stadium in 2007, the Singapore government needed a replacement venue to host national events and major concerts. The city-state wanted the site to not only meet existing needs but also to serve as a regional sports hub for Southeast Asia, attracting major events to the country.

Project Structure
The project was awarded under a concession arrangement between Sport Singapore, the government's statutory board for sport, and Sports Hub Pte Ltd. (SHPL), a consortium consisting of InfraRed Capital Partners, the majority equity partner, Global Spectrum Pico, Dragages Singapore, and DTZ Facilities and Engineering. Under the agreement, SHPL would bear the initial construction cost of the project, with Sport Singapore making monthly payments over the 25-year term that would amount to an annual payment of SGD 193.7 million (USD 142.77 million).

After the ground-breaking was delayed by the 2008 financial crisis, the 35-hectare 'Sports Hub' was completed in 2014 at a cost of SGD 1.33 billion (USD 980 million). It consisted of an 80-meter high National Stadium along with an adjoining mall called the Kallang Wave.

The deal was designed to benefit both parties by allowing the Singapore government to avoid the large, upfront capital expenditure, while SHPL could avoid any cash-flow volatility over the contract term due to the periodic payments from SHPL. The agreement also provided protections for commercial viability, as the stadium was without an anchoring sports franchise to host regular home games. SHPL would receive payments as long the venue was available and complied with performance metrics defined in the contract.

All commercial profits from the stadium's operations would be split between SHPL and the government, which gave both parties an incentive to support the promotion and operation of the site and adjacent outlets.

Lessons Learned
The Sports Hub encountered some difficulties in its first set of high-profile ventures. A 2014 friendly football exhibition between Japan and Brazil drew some criticism over the condition of the sandy field. Later that same year, a large concert was disrupted by a leaky roof that led Sport Singapore to publicly criticize SHPL's work.

The Singapore government threatened to withhold payments, citing deficiencies in the field surface as not meeting key performance standards. The consortia then spent SGD 1.5 million (USD 1.1 million) on lamps to replicate the effects of sunlight to help the grass grow. However, this work led to events being cancelled and tickets refunded.

[109] by CEphoto, Uwe Aranas (https://commons.wikimedia.org/wiki/File:Singapore_Singapore-Sports-Hub-with-National-Stadium-01.jpg), „Singapore Singapore-Sports-Hub-with-National-Stadium-01", https://creativecommons.org/licenses/by-sa/3.0/legalcode

SHPL encountered additional problems when the Sports Hub began to draw criticism for being too expensive for many local sports organizers and community event operators, with even some global promoters suggesting that charges for the stadium were not affordable. SHPL and the Singapore government also publicly disagreed over extra rehearsals for the National Day Parade and stadium rental.

Concerns over pricing may have contributed to a shortage of events staged at the site. Executive suite owners who had paid SGD 180 thousand (USD 133 thousand) per year expressed displeasure with the programming schedule and demanded refunds or refused to pay membership fees.

A recent audit by KPMG indicated that there was a misalignment of interests among the Sports Hub's stakeholders. SHPL wanted to prioritize more profitable commercial shows and sporting events at the venue. In contrast, Sport Singapore wanted to host more community programming at the site.

While most of the major difficulties concerning technical issues and pricing were able to be resolved, the different objectives of the stakeholders continues to present an issue, as there are over twenty years remaining on the concession contract.

This project highlights how a PPP can be structured to allow the public entity to avoid the initial, large capital expenditure for a project by deferring and spreading this cost out over a number of years in the form of regular payments to a private partner. For such long-term partnerships to be sustainable, however, it is important to ensure that the parties' incentives and aims for the project align. The private partner will generally prioritize profits, in keeping with its obligation to maximize the return for investors, while the public partner may prefer less profitable pursuits that generate other, non-monetary benefits. Such differences in project objectives need to be identified and addressed proactively, preferably within the PPP agreement, so as to minimize any potential friction between the two partners.[110]

52. Ricoh Coliseum at Exhibition Place, Toronto, Canada

Photo Credit[111]

Background

The Coliseum was an 80-year old arena located on the Canadian National Exhibition grounds, originally built for livestock and Royal Agricultural Winter Fair horse shows. In 2002, the City of Toronto decided to refurbish the building using a PPP, with the aim of converting it into an 11,000-seat ice hockey arena that might attract a professional ice hockey team to the area.

Project Structure

The city entered into a partnership with BPC Coliseum Inc. and Coliseum Renovation Corporation (CRC) in November 2002. The project entailed renovating the arena in exchange for the right to lease the premises for 49-years at a total price of CAD 38 million (USD 29 million). BPC and the local government each contributed capital for the renovation. BPC contributed CAD 9 million (USD 6.85 million) in equity and procured CAD 20 million (USD 15 million) in debt financing. The city contributed CAD 9 million (USD 6.85 million) to the project. The city provided a guarantee for the loans obtained by BPC and retained ownership of the building. Under the agreement, CRC contributed an American Hockey League (AHL) team, the Toronto Roadrunners, as the sub-tenant of the project. The renovation works on the Ricoh Coliseum were completed in November 2003.

[110] SMU. 2018. "Public-Private Partnerships: A Case Study on Singapore's National Stadium." SMU Centre for Management Practice. Accessed June 14, 2019. https://cmp.smu.edu.sg/article/public-private-partnerships-case-study-singapores-national-stadium.

[111] Pjposullivan (https://commons.wikimedia.org/wiki/File:Ricoh_Coliseum_entrance,_Toronto.JPG), https://creativecommons.org/licenses/by-sa/4.0/legalcode

The project would generate revenue by sub-leasing the arena to the local hockey league, selling the naming rights of the Coliseum, and renting the venue for other events, such as the Royal Winter Fair, a sportsmen's show, and concerts. In addition, the government would receive taxes on the lease payments and additional revenue from the service and parking fees from event activities at the venue.

Each partner would be entitled to a share of the net revenues, after debt servicing, with the city and BPC each receiving an agreed return on capital and the tenant retaining the remainder, if any. The CRC forecasted that the tenant would generate around CAD 9,500 (USD 7,200) in net revenue from each Toronto Roadrunners game, which would be enough to repay the city 's and BPC's investment in the project. This estimate was based on a forecasted average of 7,000 paid attendees at each game, plus other revenues expected from these games (merchandise, sponsorship, suite sales, and food and beverage sales).

Lessons Learned

The project received CAD 10 million (USD 7.6 million) from Ricoh Canada, a document imaging company from Japan, for the naming rights to the building for ten years, with a five-year renewal option. However, actual attendance for the first Toronto Roadrunners season averaged only 1,200 per game, despite continued marketing efforts. By June 2004, the CRC was reportedly experiencing a negative cash flow and owed CAD 2.4 million (USD 1.8 million) to BPC. The agreement between the city, BPC, and CRC included a performance indemnity that could be claimed by the other two partners if attendance did not meet expectations. This led to the termination of the sub-lease with compensation through the performance indemnity.

Subsequently, the city and BPC entered into a flat rental agreement with Maple Leaf Sports & Entertainment Ltd., which contributed the AHL St. John's Maple Leaf hockey team, for a term ending on 30 June 2025. The agreement provided that the City and BPC would receive roughly the same, periodic rental payment irrespective of actual attendance. The flat rental payment was sufficient to repay the loan guaranteed by the city and also provide the city with a return on its cash investment. In 2018, Coca-Cola purchased the naming rights to the facility for ten years. Attendance at entertainment venues can be difficult to forecast, as demand for entertainment can be more volatile as compared to demand for primary public services.

The municipality needs to ensure the performance of robust due diligence in preparing any PPP project, including with respect to demand for the facility or service to be provided.

At the same time, by partnering with an experienced private sector operator, a municipality may benefit from best practices in contracting and project structuring in sectors in which the municipality may have less expertise. In this case, the private partner helped structure the agreement to include a performance security that could be redeemed in the event that actual attendance did not meet expectations. This helped the city mitigate its financial exposure when demand did in fact prove less than the forecasted amount. In addition, the private partner reportedly leveraged its extensive experience with sports facility construction and operation to help the parties reach a mutually acceptable solution under a tight timeframe.[112]

[112] Explace. n.d. "Exhibition Place." Explace. Accessed June 4, 2019. https://www.explace.on.ca/about/history/plaques/ricoh-coliseum;

Christie, James. 2018. "Coliseum gets Makeover." *The Global and Mail,* April 16. https://www.theglobeandmail.com/sports/coliseum-gets-makeover/article1009714/;

Farag, Joe, and Len Brittain. *Sports in the Public-Private Arena.* Toronto: GFOA, 2009. Accessed June 4, 2019. https://www.gfoa.org/sites/default/files/GFR_JUN_09_73.pdf;

Explace. 2013. "Expansion of MLSEL Office Space in Ricoh Coliseum." Explace. Accessed June 4 2019. .https://web.archive.org/web/20140103154508/http://www.explace.on.ca/database/rte/files/Item%2017-MLSEL.pdf;

Maple Leaf Sports & Entertainment Ltd. 2018. "New Coca-Cola and MLSE Partnership Expands Commitment to the Community Through Coca-Cola Coliseum." *Cision,* July 11. Accessed June 4, 2019. https://www.newswire.ca/news-releases/new-coca-cola-and-mlse-partnership-expands-commitment-to-the-community-through-coca-cola-coliseum-687890611.html.

53. Campin Coliseum (Movistar Arena), Bogota, Colombia

Before

After

Photo Credit[113]

Background

The Coliseo Cubierto El Campin is a multipurpose event facility originally built in 1973 in Colombia's capital city, Bogota. The coliseum provides ample space to carry out a wide range of sporting, artistic, musical, and other social events. After many years of use, the Coliseo el Campin was showing signs of deterioration. By 2011, it was clear that the building required substantial technical and structural upgrades.

Project Structure

In September 2012 Colombiana de Escenarios S.A.S. presented an unsolicited proposal to the entity in charge of the facility, Instituto Distrital de Recreación y Deporte (IDRD), to carry out the structural renovation, technological updating, and operation and maintenance of the building, now named the Movistar Arena. According to the unsolicited proposal, IDRD would undertake full responsibility for the design, financing, and construction of the project. The private financing would be a mix of 50 percent equity and 50 percent debt, with no public resources to be used for the project. After considering the project's feasibility study, assessing the proposal's technical and financial aspects, and fulfilling the legally established procedures for unsolicited proposals, the parties entered into a concession agreement in December 2015.

The agreement is structured as a 300-month concession that provides the concessionaire with exclusive rights of use to complete the architectural renovation and technological updating and to operate and maintain the arena. The contract value is estimated at COP 90 billion (USD 29 million). The project design included rehabilitation of the arena, increasing the capacity to accommodate up to 17,000 spectators and adding 14 boxes (special seating spaces) and two VIP rooms; construction of a new building for spectators' circulation, evacuation routes, food courts, and restrooms; construction of a three-story parking area with capacity for 330 vehicles; installation of a closed-circuit TV system; and associated exterior works. Rehabilitation and renovation of existing public areas, such as gardens, sidewalks, and plazas, were included as part of the urban intervention, which were also intended to improve public access to the facility.

The concessionaire would derive revenue from usage rights, sponsorship fees (such as the naming rights fees currently paid by Telefonica – Movistar,

[113] Photo on the right: Felipe Restrepo Acosta (https://commons.wikimedia.org/wiki/File:BOG_Coliseo_El_Camín.jpg), „BOG Coliseo El Camín", https://creativecommons.org/licenses/by-sa/3.0/legalcode

Photo on the left: Dco98 (https://commons.wikimedia.org/wiki/File:Movistar-Arena-Bogota-2.jpg), https://creativecommons.org/licenses/by-sa/4.0/legalcode

a telecommunications company), commercial exploitation revenues, and any other monetary or non-monetary revenue reasonably within the ambit of the project. The concessionaire agreed to pay IDRD a monthly amount equal to two percent of the project's gross revenues. In addition, IDRD or any IDRD-designated entity is entitled to use the arena for a total of 12 days per year free of charge, for free-entrance events; these 12 days have an estimated value of COP 960 million per year (USD 310,000).

Lessons Learned

The project construction works were completed in October 2018. Public reports indicate that the renovated facility is regarded as an excellent site for cultural and sporting events.[114]

This project highlights the following:

- An established and transparent framework for managing unsolicited proposals can be an important facet in managing and potentially leveraging such proposals. In this case, Colombian law required a special study, process, and analysis for considering unsolicited proposals. Among other things, the project was subject to a series of clear requirements and safeguards, including: inviting third party participation in, and question and comment on, the project; asking specialized public entities and external experts to review and assess the proposal; and publicly publishing the proposal for third parties to express interest in executing the project.
- If the governing law permits considering unsolicited proposals, municipalities should conduct an in-depth study of any such proposal, including assessing the actual need for the proposed project and the project's alignment with the municipality's development strategy and priorities. This is necessary to understand and evaluate the foreseeable impact, objectives, benefits, and costs of the proposal.

54. Aquanova America, Saint-Dié-des-Vosges, France

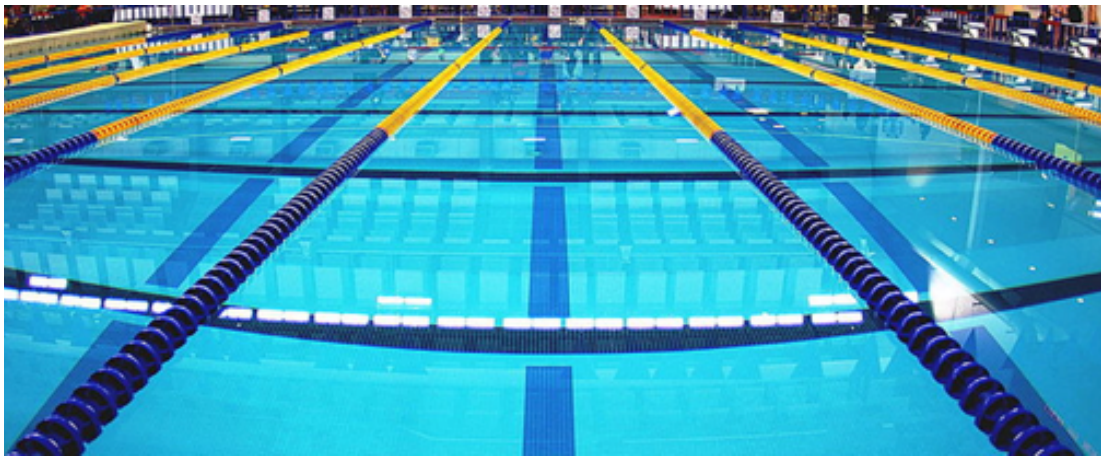

Photo Credit[115]

Background

Saint-Dié-des-Vosges is a small city in France with a population of about 21,000 people, the majority of whom are of lower-income status. In 2012 the municipality viewed the construction of a new aquatic center as a means to attract people and tourists to the city and help boost the local economy. Supported by strong political will and significant administrative investment, the municipality decided to build an aquatic center using a PPP.

Project Structure

Following a competitive dialogue process, the aquatic center project was ultimately awarded to Groupe Duval, a consortium comprising Patrimoine & Partenariats Publics as the investor, Dalkia France as the facility maintainer, and Espace Récréa as the facility operator, pursuant to a 25-year contract. Under the resulting agreement, the private consortium undertook to design, finance, construct, maintain, and operate the aquatic center. The project value was forecast at about EUR 18.5 million (USD 21 million). Construction of the facility began in June 2012 and was completed in January 2014. The resulting aquatic center had an area of 4,800 m^2 and offered multiple services, such as swimming and diving pools, massage facilities, and a fitness center, with water-saving equipment and thermodynamic dehumidification designed to satisfy sustainable development objectives. The private partner undertook responsibility for constructing and regularly updating and maintaining the facility, subject to inspections by the municipality. Following the end of the 25-year contract term, the private partner will transfer the asset to the city.

[114] Contratos. 2015. "General Process Information." SECOP I. Accessed June 4, August. https://www.contratos.gov.co/consultas/detalleProceso.do?numConstancia=15-20-855;

Contraloria. *PAE Annual Study Plan.* Bogota: Contraloria Bogota, 2018. Accessed June 4, 2019;

http://www.contraloriabogota.gov.co/sites/default/files/Contenido/Informes/Estructurales/Planeaci%C3%B3n/2018%20Informe%20de%20Asociaciones%20P%C3%BAblico%20Privadas%20en%20Bogot%C3%A1.pdf.

[115] Swimming_pool_with_lane_ropes_in_place.jpg: Xander from Yellowknife, NT, Canada derivative work: ConsciousBurning (talk) (https://commons.wikimedia.org/wiki/File:Swimming_pool_with_lane_ropes_in_place_cropped.jpg), „Swimming pool with lane ropes in place cropped", https://creativecommons.org/licenses/by/2.0/legalcode

Initially, the city considered using a concession model to finance the project. After a year of consideration, however, it decided to use an availability-based contract. Under this scheme, the private partner would be paid based on a performance-based maintenance model, meaning that it would be paid a standard availability fee with penalties for below-standard performance.
For example, the agreed maximum response time to a failure in the water treatment system is one hour. If the operator fails to rectify the fault in time, it would be obliged to pay a penalty of EUR 100 (USD 114) per hour of further delay. The parties also agreed that the availability fee payable by the city would not exceed the price the city had been paying for its previous swimming pool facility.

The private sector partner would be further entitled to collect all revenue from aquatic center visitors, which was forecast at an estimated EUR 1.1 million (USD 1.25 million) per year. At the same time, 82 percent of the revenues generated by the project are subject to a value added tax (VAT), which was expected to generate substantial revenues for the city.

Lessons Learned

The facility reportedly has 1,140 members, which is a sizeable figure for a city of only 21,000 residents. Recently, it recorded a spike in visitors from 19,500 in 2016 to 28,200 in 2017, apparently aided by the establishment of a nearby campervan area.
The private partner has also actively pursued efforts to increase visitor numbers, including by signing an agreement with a Belgian holiday center to promote the aquatic center as a summer vacation destination.

This project highlights how municipalities should allow each project's unique characteristics to determine the project structure, as opposed to trying to make a project fit a predetermined project structure. For example, using an availability payment model rather than a concession where the private partner is entirely dependent on project revenues can improve project viability, while still achieving the municipality's development objectives and providing value for money. In this case, by limiting the availability-based payments to the amount previously paid for its public swimming facilities, the municipality was able to obtain a new and improved facility at seemingly no additional cost. At the same time, these guaranteed payments provide the private partner with a reliable revenue base, while the performance-based requirements incentivize adequate maintenance and operation and the cap on availability payments may help incentivize it to be proactive in generating revenue from the center to maximize its return on investment.[116]

Cultural Heritage

55. Düsseldorf Museum, Kunstpalast, Germany

Photo Credit[117]

Background

Düsseldorf's historic Kunstpalast building, the city's oldest exhibition building having been built and opened in 1902, was in a state of despair. The City of Düsseldorf began to consider plans to renovate the historical building as far back as 1980 but could not allocate sufficient public resources to undertake the project. Finally, in 1998, the city decided to renovate the building using a PPP.

Project Structure

A PPP agreement was signed in 1998 by the City of Düsseldorf and the energy corporation E.ON (then known as VEBA AG) to renovate the building and establish the Museum Kunstpalast Stiftung.
The private partner was selected partially on the basis of its long-standing, pre-existing relationship with the city in relation to the project site. Under the contract, the city agreed to sell a plot of land behind the Kunstpalast to the private partner for EUR 10 million (USD 11.3 million), on which the private partner planned to construct a new office building.

[116] Vosges Matin. 2016. "Saint-Die-Des-Vosges Equipment : The Successes of AquaNova America." *Vosges Matin*, November 11. Accessed June 25, 2019. http://www.vosgesmatin.fr/edition-de-saint-die/2016/11/20/les-succes-d-aquanova-america;

Saussier, Stephane. *Public-Private Partnerships for Infrastructure at the Sub-National of Government: Opportunities and Challenges in France*. Paris: OECD, 2018. Accessed June 4, 2019. http://www.chaire-eppp.org/wp-content/uploads/2018/04/saussier-2017.pdf;

Groupe Duval. n.d. "Aquanova America à Saint-Dié-des-Vosges". Groupe Duval. Accessed November 27, 2019. https://www.groupeduval.com/patrimoine/listings/aquanova-a-saint-die/;

Groupe Duval. 2013. "CFA: Inauguration of AquaNova America in December." Group Duval. Accessed June 4, 2019. https://www.groupeduval.com/cfa-nord-ppp-aquanova-america-centre-aqualudique-inaugure-decembre/;

Saint-Die- Des-Vosges. 2013. "En Route vers AquaNova America." Saint-Die. Accessed June 4, 2019. https://saint-die.eu/images/07_SPORTS_LOISIRS/AquaNova_America/Diaporama.pdf.

[117] © Raimond Spekking / CC BY-SA 4.0 (via Wikimedia Commons) (https://commons.wikimedia.org/wiki/File:Museum_Kunstpalast_-_Haupteingang_im_Westflügel_(8238-40).jpg), https://creativecommons.org/licenses/by-sa/4.0/legalcode

A joint fund was then created for the reconstruction, maintenance, and operation of the cultural facility. The private partner contributed approximately EUR 11.5 million (USD 13 million) to help fund the rehabilitation of the Kunstpalast and about EUR 9 million (USD 10.2 million) for the adjacent museum complex and its activities on a long-term basis through a sponsorship contract. The city contributed about EUR 4 million (USD 4.5 million) for the building rehabilitation and provided a grant of the same amount to cover the yearly operational costs of the building. In addition, the project received EUR 12 million (USD 13.5 million) from urban funding programs operated by the Land of North Rhine Westphalia.

In 2000 the Kunstpalast became a foundation under private law and since this time is no longer a city-run institution. The foundation was joined by other private partners, such as Metro Group and Evonik Industries AG, as founder-sponsors in 2001.

Lessons Learned

This project highlights the following:

- Municipalities may be able to leverage development rights to land in or around the project site to help finance infrastructure investments.
- Municipalities should be open to innovative approaches to financing, including blending multiple sources of funding and financing. In this case, the project benefitted from the joint fund established by the public and private partners, as well as the contribution from the public urban funding program. A mixture of private and public funding and financing can help maximize the impact of limited public resources.
- Blended approaches may be particularly impactful where the municipality can leverage the specialized knowledge and expertise of a private partner. In this case the private partner, E.ON, offered legal and tax advice to the museum as well as financial support for marketing. This helped the museum attract additional partners, such as the Zero-Foundation, the independent Willi Kemp-Foundation, and the Hoehme-Foundation. The marketing team also successfully established an association, Friends of the Museum (Freunde Museum Kunstpalast), to attract art enthusiasts.[118]

56. Akaretler Row Houses, Istanbul, Turkey

Photo Credit[119]

Background

The Akaretler Row Houses are a cultural and historic site in Istanbul, originally built in 1875 to provide housing for prominent and high-ranking officials of the Dolmabahce Palace. The landmark structure was owned by the Turkish Foundations, a national public sector real estate owner, and was subject to strict regulations governing its preservation. Consequently, obtaining construction permits for the structure was quite complicated and time-consuming. In 1987 the necessary licenses to reconstruct the Akaretler Row Houses were granted. The municipal authority issued a construction permit and a certificate of occupancy, while the General Directorate of Preservation of Cultural and Historical Heritage and the General Directorate of Turkish Foundations approved the redevelopment plans.

Project Structure

After the permissions were granted, attempts were made to rehabilitate the site using numerous developers, but to no avail. In 2005 the municipality, the General Directorate of Preservation of Cultural and Historical Heritage, and the General Directorate of Turkish Foundations appointed the Bilgili Group to redevelop the site under a PPP. The public authorities agreed to share the balance sheet with the private developer for investment purposes.

The private developer undertook to build a mixed-use development containing office and retail spaces, a hotel, single and multifamily units, and parking spaces, in addition to restoring the historic structures. The General Directorate of Turkish Foundations would oversee the construction. The Bilgili Group was further responsible for marketing the development, completing additional renovation projects in the neighborhood, as well as maintaining a small local park. The total project cost was estimated at USD 58 million. In 2009 it was projected that the net return on investment for the Bilgili Group would be around USD 12 million.

[118] Cultural Partnership. n.d. "Influence of Culture on Social Development Through Public and Private Partnership." Cultural Partnership. Accessed February 13, 2019. https://www.culturepartnership.eu/upload/editor/2017/Factsheets/pdf-12/12_Influence%20of%20culture%20on%20social%20development.%20Public%20and%20private%20partnership_ENG.pdf.

[119] Photo published by Engin_Akyurt https://pixabay.com/photos/istanbul-turkey-travel-islam-cami-4386286/

The municipality would benefit from local tax income, the private-led renovation of the real property involved, and through the performance of the local maintenance agreement. The local taxes generated for the municipality through the project were expected to be used to fund infrastructure improvements to the site to be completed in conjunction with the primary development. Plans included the renewal of a cobblestone road surrounding the Akaretler Row Houses, improvements to telephone lines, laying ethernet and fiber-optic cables, and reorganizing the existing road layouts.

To help create demand and increased value, the municipality agreed to offer real estate and tourism tax incentives. These incentives, combined with the marketing efforts by the private developer, were designed to increase the stream of tourists to the area, in turn creating jobs and supporting local businesses.

Lessons Learned

The project construction works were completed in 2008, resulting in the creation of 98 offices and residences, 42 shops and restaurants, and the Hotel W Istanbul. The project was selected as a winner of the Urban Land Institute (ULI) Awards for Excellence in Europe, the Middle East, and Africa.[120]

This project highlights how a well-structured PPP can leverage private expertise and capital to help refurbish and maintain historical and cultural assets, while diversifying revenue streams from spaces above and around the historic site, such as office buildings, retail spaces, hotels, residential units, and parking areas. This project also highlights how a PPP entails both parties sharing the risks, benefits, and responsibilities of the project. While the private partner assumed responsibility for refurbishing and maintaining the historic structure and marketing the site, the municipality supported the project by agreeing to develop ancillary infrastructure -roads, telephone lines, fiber-optic cables - and also offering tax incentives.

57. Challenging Case: Jal Mahal Palace, Jaipur, India

Photo Credit[121]

Background

Jaipur City is a tourist destination in India. It is home to the Jal Mahal or the Water Palace, a 200-year-old palace built in 1734, so named due to its location in the middle of the Man Sagar Lake. The palace, made from red sandstone, is a five-story building, of which four floors are submerged underwater when the lake is full, exposing only the top floor. Around 800,000 tourists visit Jaipur City every year, of which 175,000 are foreign nationals.

However, the Man Sagar Lake was beset with ecological challenges. It had been largely reduced to a muddy swamp throughout much of the year, saturated with garbage and sewage from Jaipur's two major drains. The Rajasthan Tourism Development Cooperation (RTDC) decided to enter into a PPP to rehabilitate the site.

Project Structure

In 2004 the RTDC globally tendered a project to restore the 432-acres Jal Mahal complex, including the Jal Mahal Palace and the Man Sagar Lake. Following the bidding process, the Jal Mahal Project was awarded to the KGK Consortium in the form of a 99-year lease for the development of 100 acres of land around the Jal Mahal, with a lease payment of INR 2.52 crore (USD 360,000) per year. The contract included provisions for a 10 percent increase in the lease amount every three years over the contract term. The consortium would be responsible for financing all the restoration work in exchange for the right to build a private commercial development next to the lake.

[120] Bilgili Holding. n.d. "Akaretler Row Houses". Bilgili Holding. Accessed November 27, 2019. http://www.bilgiliholding.com/en/projects/mixed-use/akaretler-row-houses.html;

Huxley, Joe. *Value Capture Finance: Making Urban Development pay its way*. London: ULI, 2009. Accessed January 25, 2019. http://1jh8wu3evfwz3jruef1p1wj2-wpengine.netdna-ssl.com/wp-content/uploads/sites/127/ULI-Documents/Value-Capture-Finance-Report1.pdf;

Licciardi, Guido, Rana Amirtahmasebi. *The Economics of Uniqueness*. Washington, D.C.: The World Bank, 2012.

[121] Firoze Edassery (https://commons.wikimedia.org/wiki/File:Jal_Mahal_in_Man_Sagar_Lake.jpg), „Jal Mahal in Man Sagar Lake", https://creativecommons.org/licenses/by-sa/3.0/legalcode

The project was structured into three phases. The first phase included the rehabilitation of the Man Sagar Lake and the Jal Mahal Palace; the second phase involved the construction of entertainment and retail facilities, to be opened in 2013; and the third phase included the upgrading of hotels, to be completed in 2014. The first phase entailed the restoration of the lake ecosystem through the creation of sewage treatment plants, diversion of city drains, de-silting and bioremediation of the lake, and reforestation of the surrounding hills. The lake restoration was funded by a dedicated fund replenished by an annual contribution paid by the private partner in lieu of the development rights for the site. The consortium invested INR 20 crore (USD 2.8 million) in the lake's restoration and INR 10 crore (USD 1.4 million) to restore the palace.

Lessons Learned

The first phase of the project – renovation of the Jal Mahal Palace and restoration of the Man Sagar lake –concluded in 2011. It has been reported that the palace was fully restored, and the lake cleaned. However, the 99-year lease subsequently came under dispute and the Rajasthan High Court ultimately nullified the 2004 tender process. The court reasoned that: (i) the value of the lease payments was well below the true value of the land, which is reportedly worth INR 10,000 crore (USD 1.4 billion); and (ii) the plan to increase the hotel capacity from 200 to 435 rooms did not follow required procedures. The Jal Mahal Palace was then closed to the public before the private developer could begin the second and the third phases of the project.[122]

Municipalities need to identify and adhere to all applicable laws and regulations in the development and award of a PPP, including those related to PPPs, procurement, and land and natural resource rights. Any doubt about the validity of the process resulting in a PPP could threaten the long-term viability of the project and expose it to legal challenges. To further mitigate the risk of disputes, municipalities should ensure there is a strong and publicly communicated justification for any PPP, closely engage with stakeholders to understand and address their needs and concerns, and generally take proactive steps to promote and maintain public support for the project. These considerations may be particularly prominent when the underlying project involves significant cultural sites or environmental resources.

58. Elbphilharmonie, Hamburg, Germany

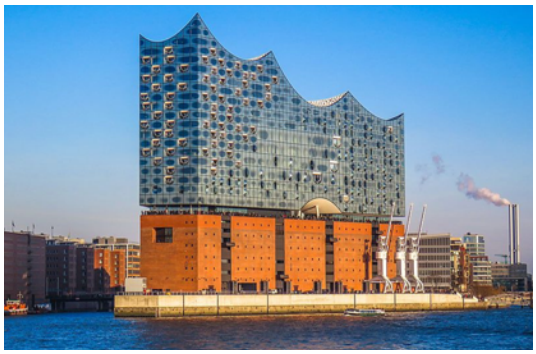

Photo Credit[123]

Background

The City of Hamburg was undergoing a process of redevelopment and expansion, which led to the idea of constructing a philharmonic hall on the site of a 1960s factory building that enjoys a scenic view of the Elbe River. The project was intended to give a new life to Kaispeicher (part of Hamburg's harbor) by constructing a philharmonic hall on top of the historic warehouse building, surrounded by private business facilities and a freely accessible plaza.

Project Structure

The Elbe Philharmonic Hall was designed to host a concert building, a wellness and conference space, 47 owner-occupied apartments, and a five-star hotel with 250 rooms. The project concept originated as an unsolicited proposal from a private real estate developer that was informally accepted by the city. After undertaking a feasibility study in 2004 that estimated the project costs at EUR 186.7 million, the city conducted a Europe-wide tender to construct, finance, and operate the project for 20 years, and began negotiating with six bidders.

As the project developed, several significant design changes were made in an effort to improve the project's financial viability. Due to these revisions and some errors in planning and forecasting, the cost estimates increased substantially on a number of occasions. By 2006 the estimated project costs had increased to EUR 228.6 million, with EUR 143.7 million needed to construct the public facility and EUR 84.9 million for the commercial facilities.

[122] Aimectimes. n.d. "Future Plans for Jal Mahal." Pink City. Accessed February 6, 2019.https://jaipur.org/2016/08/03/future-plans-for-jal-mahal/;

Joshi, Namrata. 2011. "A Jewel Finds its Water." *Outlook India*, June 13. Accessed February 6, 2019. https://www.outlookindia.com/magazine/story/a-jewel-finds-its-water/272097;

Rubens, Rick. n.d. "Call to Action." Rick Rubens. Accessed February 6, 2019. http://www.rickrubens.com/JM.htm;

IL&FS. 2017. "Jal Mahal & Mansagar Lake Restoration." ILFS India. Accessed February 6, 2019. https://www.ilfsindia.com/our-work/urban-asset-management/jal-mahal-mansagar-lake-restoration/.

[123] Hackercatxxy (https://commons.wikimedia.org/wiki/File:Elbphilharmonie,_Hamburg.jpg), https://creativecommons.org/licenses/by-sa/4.0/legalcode

Subsequently, it was decided to adjust the project structure from the private investor-driven model first envisioned, to one in which the city would own the commercial facilities (hotel, parking lots, and restaurants –excluding the apartments). The new structure would make the city the lender's creditor, which allowed the project to obtain more affordable interest rates, reducing the estimated costs by EUR 10 million. Under this arrangement the city, as the owner of the project site and existing facilities, would lease them to the private partner for 20 years after construction and use this income to repay the debt. This shifted the construction and financing risks for the project's commercial facilities to the city.

When the contract was awarded, the project cost was estimated at EUR 351.8 million, of which the city would provide EUR 142.3 million and the rest would be covered by private donations and cross-financing. These cost projections, however, were later determined to be too low. It has been reported that the decision-makers "underestimated the difference between the value of the contract and the value of the planned building."

In September 2006 the project was awarded to Adamanta, a consortium comprising Hochtief Construction AG and Commerz Real AG, which would be responsible for building the Elbphilharmonie and operating the commercial aspects of the project. The income for the private partner would come from the high-class hotel, restaurants, apartments, and parking lots; at the same time, the lease and sale profits from this part would cross-subsidize the Hall, minimizing the city's financial commitments to the project. The contract was amended four times through the end of 2008 and, in April 2013, a new contract amendment was signed reflecting a new estimated total of EUR 575 million in construction costs. Under this amendment the constructor also agreed to accept all liabilities both for the part of the building already built and the portion that was yet to be constructed.

Reports indicate that the role of the company appointed to manage the project – ProjektRealisierungsgesellschaft mbH (ReGe), which originally only entailed stakeholder management and then, for several reasons, expanded to include responsibility for the project's overall development, planning, and management – lacked significant risk management and planning experience. Optimism bias, high project expectations, an upcoming election, and a rush to include the project in the planned budget for the next fiscal year have been cited as possible contributing factors in further underestimation of actual project costs. ReGe reported directly to the mayor on an informal basis and was the only point of contact between the other entities involved, including the construction company and the mayor's office. This meant that it was the center for all stakeholder communications and a filter for feedback to the public authorities.

Construction began in April 2007 and was completed in 2016 at a cost of approximately EUR 760 million. Construction was halted in 2011 and only restarted more than 18 months later after a lengthy negotiation process. The project encountered cost increases totaling 145.9 percent as compared to earlier estimates and opened seven years later than originally planned.
It has been reported that "a lack of detailed planning, insufficient risk management, an overambitious tender schedule, and public pressure led to a premature lump-sum contract signature with unrealistically low-cost assumptions when measured against the value of the envisaged building."

Demand for the concert hall, after its opening in January 2017, has been growing. Subscriptions for classical concerts have doubled since the hall opened and tickets have regularly sold out.
The building was recently named as one of the "World's Greatest Places 2018" by TIME Magazine.[124]

Lessons Learned

This project highlights the following:

- Investing in project preparatory work and robust feasibility studies, from early conceptual stages through to the contract award, is likely to generate substantial benefits over the life of the project, including by reducing the likelihood of costly changes and the possibility that the municipality will incur significant liabilities from the project. This preparatory work should include, among other things, reliable cost estimates and thorough options analyses to determine the preferred project structure, scope, and design. Failure to invest adequate time and resources for project development can reduce the value obtained from the project, result in significant costs for the municipality, and make the project more likely to fail. Municipalities should be careful to resist political, budgetary, and other pressures that might favor shortcutting project preparatory work.
- Procuring qualified, external advisory assistance can provide an important, objective assessment of the fundamentals of a PPP. However, municipalities should identify and consider the incentives of any hired advisors and be wary of optimism bias even in these independent assessments.

[124] Kostka, Genia & Fiedler, J.. 2016. *Large Infrastructure Projects in Germany: Between ambition and realities*. Berlin: Springer Nature. Accessed November 27, 2019. https://www.researchgate.net/publication/316559651_Large_infrastructure_projects_in_Germany_Between_ambition_and_realities;

Second Chance. *Public Private Partnership: Transnational Public-Private Partnership Concept*. Lijubliana: Second Chance, 2011. Accessed June 25, 2019. http://www.secondchanceproject.si/wp-content/uploads/Trans_PPP_Concept_final1.pdf;

Kennicott, Philip. 2017. "A New Concert Hall in Hamburg Transforms the City." *The Washington Post*, May 25. https://www.washingtonpost.com/graphics/augmented-reality/what-perfect-sound-looksli ke/?noredir ect=on&utm_term=.e31735b6aa35;

Hamburg Marketing GmbH. 2018. "Elbphilharmonie Hamburg Featured in Times Magazine's, World's Greatest Places 2018." Press Portal. Accessed June 25, 2019. https://www.presseportal.de/en/pm/75051/4042582.

Tourism

59. Bundled State Parks, California, United States

Photo Credit[125]

Background

Facing public budget pressure in 2010, California officials reduced state park budgets by USD 11 million and planned an additional USD 22 million in cuts over the following years. As a result, 150 state parks were shut down part-time or suffered a decrease in service provision. Moreover, state parks had accumulated over USD 1 billion in deferred repairs and maintenance costs.
In response to the budget cuts, the state parks division of the California Department of Parks and Recreation, California State Parks (CSP), began seeking partnerships with cities, counties, non-profit organizations, and private entities that would allow it to keep as many of the parks open as possible. As a result of these efforts, partnership agreements were signed for 69 state parks.
Of these, three parks (Brannan Island, Turlock Lake, and Woodson Bridge State Recreation Area) were to be operated under a PPP using a private concession management model.

Project Structure

In June 2012 the public authority awarded the three-park package through a competitive bidding process to American Land & Leisure (AL&L) under a five-year management contract.
Under this agreement, AL&L is required to implement an operational plan for each park, to be prepared by AL&L and approved by the state, that outlines how services will be provided and facilities maintained throughout the concession.
The concession holder is also responsible for minor improvements and the day-to-day operation of the premises. CSP remains responsible for major maintenance works in the parks, which is funded through the park maintenance fund.

AL&L obtains revenues from visitor fees, including entrance fees and associated recreation fees, such as those charged for camping, boat rentals, and from retail sales within the park. In return, AL&L pays rent to CSP, which is set at the greater of a fixed, minimum payment or a percentage of gross receipts. This concession fee is paid into a park maintenance fund. AL&L provided a performance bond covering 100 percent of the rental payments due over the five-year term.

Lessons Learned

Bundling three parks into one concession agreement helped this project reach a size and offer a potential return on investment sufficient to attract the interest of private investors. In addition, since the private partner's revenue is derived entirely from user fees, the concession-holder has a direct incentive to ensure that the parks are attractive to visitors. The project also included special protections for the workers at the three parks, as it was agreed that any workers not hired by AL&L would be transferred to other parks in the CSP system.

Based on an FTI consulting assessment, revenue from each of the three parks increased under private operation. The assessment found that the gross revenues from all three parks increased by 28 percent in the first period of operation by AL&L, up from USD 522,000 in 2011/12 to USD 670,000 in 2012/13. Prior to the partnership, each of the parks operated at a deficit.[126]

[125] Dr. Marcus Gossler ~ commonswiki assumed (based on copyright claims). (https://commons.wikimedia.org/wiki/File:Graz_Rosenhain_tree-face.jpg), „Graz Rosenhain tree-face", https://creativecommons.org/licenses/by-sa/3.0/legalcode

[126] Gilroy, Leonard. 2013. "California Pioneers Public-Private Partnerships for Private Operation of State Parks." Reason Foundation. Accessed January 24, 2019. https://reason.org/commentary/apr-2013-state-parks-privatization/;

FTI Consulting. "California State Parks Baseline Financial Assessment." Presentation to Parks Forward, California, November 30, 2013. Accessed January 24, 2019. http://parksforward.com/site/uploads/CA%20State%20Parks%20Report%20Nov%2030%20final.pdf;

Park PPP's. 2019. "How Does the Private Company Get Paid?" Park PPP. Accessed January 24, 2019. http://parkppp.com/how-does-the-private-company-get-paid/.

60. Marine Sanctuary and Forest Preserve, Chumbe Island, Tanzania

Photo Credit[127]

Background
Chumbe Island is a 55-acre, uninhabited island located about eight miles southwest of Zanzibar, Tanzania. Situated in a rich natural environment, the island has a coral rag forest habitat and is surrounded by coral reefs, which are home to more than 420 fish species and 200 hard coral species. However, this sensitive ecosystem was being threatened by overfishing and overharvesting, which were contributing to the degradation of the marine environment.

Project Structure
A private company called Chumbe Island Coral Park Ltd (CICP) submitted an unsolicited proposal to the Revolutionary Government of Zanzibar (RGoZ) for the establishment of a marine sanctuary and forest preserve in Chumbe Island. To gain political support for the proposal, CICP worked closely with seven government departments and garnered the support of the region's fishermen and local communities to get the project approved.
In 1993 the CICP was given a 33-year land lease to develop eco-friendly bungalows and a visitors' center on 5.9 acres of land on the island. In 1994 the RGoZ granted CICP exclusive management rights over the marine sanctuary for ten years and over the forest reserve for 33 years. In 2004 the marine contract was renewed for another ten years.

CICP provided about two-thirds of the initial capital investment for the project, totaling USD 1.2 million, with eco-friendly donors contributing the remainder. The operation and maintenance costs reportedly average between USD 150,000 and USD 200,000 per year. The revenue generated by small-scale eco-tourism on the island has proven sufficient to cover the costs of managing the sanctuary and preserve, research projects, conservation, and public education programs designed to generate support for the sanctuary.

The RGoZ retains ownership of the marine areas and Chumbe Island, including CICP's developments, with responsibility for the direct supervision of the project resting with the Zanzibar Ministry of Agriculture, Livestock, and Natural Resources and the Zanzibar Ministry of Lands and Environment

Lessons Learned
Since 2000, CICP's operations on Chumbe Island have reportedly been fully self-sustaining.
The latest, publicly available reports indicate that the number of visitors to the island constitute only 40 percent of total capacity. The primary goal of the project is not to make a profit, but rather to achieve both financial and environmental sustainability. This means that, if the island were to reach full capacity, CICP could recover its investment and even fund a limited expansion in some areas.[128]

This project highlights how obtaining support from key stakeholders – in this case, the region's fishermen and local communities – is vital for the successful development and delivery of a PPP, especially when the project originated as an unsolicited project proposal.

[127] Photo in the public domain published by Skeptic_cdn https://commons.wikimedia.org/wiki/File:Chumbe_island_lighthouse_bungalow.jpg
[128] ESC Pau. n.d. "Chumbe Island, Tanzania, Coral Park." ESC Pau. Accessed February 14, 2019. https://www.esc-pau.fr/ppp/documents/featured_projects/tanzania.pdf.

61. Kruger National Park, South Africa

Photo Credit[129]

Background

South Africa National Parks (SANParks) is a government agency under South Africa's Department of Environmental Affairs, which manages South Africa's 19 national parks. In the 1990s SANParks began to consider PPPs as an opportunity to reduce dependence on state grants, transfer risks to the private sector, and at the same time allow SANParks to focus on its core function, which is wildlife conservation. In 2001 SANParks decided to enter into a PPP for the operation and management of one of the biggest game reserves in Africa, the Kruger National Park, located in the Limpopo and Mpumalanga provinces of South Africa.

Project Structure

SANParks signed a concession agreement with Nature's Group, a consortium comprising a technical partner, a financial partner, and a community empowerment partner, to operate and manage Kruger National Park's 11 restaurants, two shops, and three picnic sites for a period of up to 10 years. The consortium was granted the right to operate the facilities, including the right to use, design, and construct, subject to specific parameters set by SANParks. In return, Nature's Group pays a monthly concession fee of approximately 13 percent of its revenue.

Lessons Learned

A 2004 review of the partnership between SANParks and Nature's Group by the National Business Initiative and InWent (a German capacity building foundation) indicated that the concession has resulted in a significant increase in SANParks' profits, due at least in part to the upgrading of restaurants and shops and improvements in the quality of service. However, the project did face some challenges in its initial stages. These included staff resistance to the new conditions of service, such as improved performance expectations and stricter control of stocks, as well as a lack of experience on the part of the technical partner in the consortium, which seemingly contributed to reports of poor customer service in the first year of operation. In response, SANParks instructed the consortium to find a new technical partner, produce an operation manual, improve skills development, and implement an incentive program for the staff, all with a view to ensuring the long-term success of the PPP.

Through 2017, SANParks had 45 PPPs in operation across 19 national parks, which have reportedly created a total of 1,946 jobs. These PPPs are responsible for an array of facilities and services, including the development of tented camps, lodges, boutique hotels, and retail kiosks, as well as outdoor activities such as helicopter flights, hot air balloon trips, zip-lining, and hiking activities.[130]

[129] Dario Crespi (https://commons.wikimedia.org/wiki/File:Giraffes_in_Kruger_National_Park.jpg), https://creativecommons.org/licenses/by-sa/4.0/legalcode

[130] Farlam, Peter. *Working Together, Assessing Public–Private Partnerships in Africa*. Johannesburg: The South African Institute of International Affairs, 2005. Accessed February 19, 2019. https://www.oecd.org/investment/investmentfordevelopment/34867724.pdf;

SAN Parks. "Commercialization & Public-Private Partnerships: A Critical Role for Research." Presentation, Pretoria, 2012. https://www.sanparks.org/assets/docs/parks_kruger/conservation/scientific/noticeboard/science_network_meeting_2012/6-1-varghese.pdf;

Brand South Africa. 2017. "Public-Private Partnerships in National Parks to Boost Tourism." Brand South Africa. Accessed February 19, 2019. https://www.brandsouthafrica.com/tourism-south-africa/public-private-partnerships-national-parks-boost-tourism.

62. Jozini Tiger Lodge, Jozini Municipality of KwaZulu-Natal, South Africa

Photo Credit[131]

Background

The Jozini municipality is situated among several UNESCO World Heritage Sites, strategically located near Mozambique and Swaziland, and home to the third largest dam in Africa. It has a population of about 187,000 people, of which approximately 72 percent are under 29 years of age. Despite its strategic location with abundant opportunities for tourism, it struggled with challenges stemming from unemployment, limited resources, and poor access to basic infrastructure. To boost the economy of the area and tap into the tourism opportunities provided by South Africa hosting the Soccer World Cup in 2010, the municipality, private sector representatives, the National Empowerment Fund (NEF), and local community groups decided in 2008 to establish a PPP to build the Jozini Tiger Lodge, a 4-star hotel, using an old hotel site that had closed 30 years earlier.

Project Structure

The initiative culminated in ten-year PPP agreement signed by all key stakeholders. Under the agreement, the municipality, as the main facilitator of the PPP, would be responsible for helping with the provision of services and necessary approvals. The private investors were responsible for the conceptual design and project plan, in addition to providing capital. The local community would provide the land needed for the development of the hotel infrastructure. NEF would help finance the project by providing an initial working capital loan of ZAR 28 million (USD 2 million). At the end of the contract term, ownership of the lodge would transfer to the local community.

During the ten-year PPP, the private partners would own 69 percent of the shares and be responsible for providing the financial means necessary to maintain the high-quality service standards offered by the lodge, which was seen as vital to sustaining its image and market value and ensuring its profitability. The local community would own 31 percent of the shares through a community trust, which would use the dividends from its shares in the lodge to assist the community. In addition, the agreement stipulated that 80 percent of persons employed at the lodge must come from the local community.

Lessons Learned

Construction of the lodge was completed in December 2009 and the lodge opened in March 2010, four months ahead of the Soccer World Cup. The completed facility included 70 guestrooms, conference venues, a spa, a wellness center, and a swimming pool. Within the first six months after its opening, the lodge broke even in terms of generating sufficient revenue to cover loan payments and operation and maintenance costs. In 2012, revenue increased sharply, by 117 percent year-on-year, due to an increase in conference, wedding, and day-visitor business. To accommodate the increased demand, the lodge was expanded to include an additional, 21-room bed and breakfast facility.

As the lodge proved successful and tourism to the area grew, large companies were attracted to invest in businesses within the Jozini area, which further contributed to infrastructure development. These developments reportedly helped spur employment, boost the local economy, and increase the general living standard of the local community.[132]

This project highlights the importance of engaging closely with the local community and maximizing their buy-in when developing a tourism project. By communicating with and involving the local community, the project helped ignite a sense of belonging and pride, which has reportedly been a key factor in the sustainability of this project. In addition, this project helps show the value of having a clearly defined strategic vision and justification for any PPP. In this case, the stakeholders sought to capitalize on the predicted influx of tourists in connection with Soccer World Cup, in order to better leverage the area's existing appeal as a tourist destination. They further saw a need to maintain a certain, high-level of service and fixed the requisite service delivery standards in the PPP agreement, to help ensure the PPP project would achieve its long-term goals.

[131] Frans-Banja Mulder (https://commons.wikimedia.org/wiki/File:Bayala,_African_Landscape_-_panoramio_-_Frans-Banja_Mulder.jpg), „Bayala, African Landscape - panoramio - Frans-Banja Mulder", https://creativecommons.org/licenses/by/3.0/legalcode

[132] National Department of Tourism. *Tourism Development: Why Local Government Matters*. Gauteng: National Department of Tourism (NDT), 2013. Accessed February 19, 2019. https://www.tourism.gov.za/AboutNDT/Publications/LGTCF%202013%20Report.pdf;

Ntuli, Bongumusa. n.d. "Jozini Tiger Lodge PPP Story, Re-Thinking Public Private Partnerships (PPP) in Tourisim." Tourism. Accessed February 19, 2019. https://www.tourism.gov.za/CurrentProjects/Documents/Jozini%20Tiger%20Lodge%20Story%20-%20Re-thinking%20PPPs%20in%20Tourism.pdf;

Thiyane, Thobile Thelma, Rosemary Sibanda, and Ankit Katrodia. 2018. "Impact of Public Private Partnerships on Community-Based Tourism Projects: Jozini Tiger Lodge Case Study." *African Journal of Hospitality, Tourism and Leisure 7 (2)*: https://www.ajhtl.com/uploads/7/1/6/3/7163688/article_41_vol_7__2__2018.pdf.

Energy

Heating Supply

63. Qiaoxi District Central Heating, Zhangjiakou, China

Photo Credit[133]

Background
The central heating service for Zhangjiakou municipality was provided by a state-owned enterprise called Zhangjiakou Hengfeng Heating Company (ZHH). The central heating system, however, had become inefficient and was producing increased levels of sulfur dioxide pollution, which was partially attributed to it not being adequately maintained and monitored. ZHH was also operating at a deficit and had been accumulating significant debt, partly due to uncollected pipeline installation fees and user charges. To improve the central heating service, the local government of the Qiaoxi District decided to remove the old heating boilers and install new ones, and then pursue a PPP for the operation, maintenance, and financing of the central heating system.

Project Structure
Following a competitive bidding process initiated in 2014 by the local government, Beijing Yuantong Heat Company Limited (BYHC) was selected as the preferred bidder in 2015. BYHC subsequently established the Project Company, a joint venture that was 90 percent owned by BYHC and 10 percent owned by the Qiaoxi District government. ZHH, acting on behalf of the local government, signed the PPP contract with the Project Company. Under the agreement, ZHH would transfer the existing heating assets to the Project Company, at which time the Project Company would assume responsibility for the operation and maintenance of the assets for 25 years. After this term, the assets would be transferred back to the local government at no cost. The agreement included requirements for the Project Company to provide improved heating supply services with expanded coverage, undertake management and maintenance of the central heating facilities, and install two new heating boilers during the contract period.

The Project Company would receive revenue primarily from user tariffs charged for the heating supplied and from central heating pipeline connection fees, among other operational incomes. The user tariff was set by the local government, based on national, provincial, and local regulations and policies.

Lessons Learned
Initially, this project reportedly encountered some difficulties, including challenges arising from the transfer of staff from ZHH to the Project Company and opposition from the local community in regard to the removal of their small boilers and payment of the new pipeline installation fees. In an effort to address the concerns of transferred staff, the Project Company introduced a performance-based incentive scheme for employees. To help address the opposition from the local community, the local government agreed to share the cost of new pipeline installation fees. Reports indicate that the Project Company was able to provide more reliable central heating, saw an 80 percent decrease in user complaints, increased the average indoor temperature from 19.3 °C to 21.4 °C, and increased the user-fee collection rate from 80 to 93 percent. In addition, the area covered by the central heating service increased by 20 percent, as a result of the construction of additional boilers and the extension of the pipeline distribution network. It is estimated that the core of the Project Company's 20 percent

[133] 黑夜有灯 (https://commons.wikimedia.org/wiki/File:堡子里书院巷_-_panoramio.jpg), „堡子里书院巷 - panoramio“, https://creativecommons.org/licenses/by/3.0/legalcode

increase in revenue came from cost savings, mainly as a result of reduced energy consumption.[134]

In addition to conserving limited public resources by leveraging private sector investment, joint ventures such as the one formed for this project can offer the added benefit of promoting knowledge and technology transfer from the private to the public partner. In turn, this can help municipalities improve how they develop, implement, and manage future infrastructure projects. As with other PPPs, joint ventures can also benefit from the unique commercial incentives of the private operator, which in this case appear to have helped increase the efficiency of the system and user fee collection rates. At the same time, the municipality was able to limit the impact on the local community of being served by a more commercially driven service provider by subsidizing new pipeline connections.

Renewable Energy

64. Roof-top Solar Program, Gujarat, Gandhinagar, India

Photo Credit[135]

Background

In 2010, the Municipal Government of Gujarat launched the 'Gandhinagar rooftop program,' the first of its kind in India, to help meet the ever-growing demand for power in the region. The 5 MW solar rooftop program aimed to place photovoltaic panels on government buildings and private residences in Gandhinagar. The Gujarat Department of Energy and Petrochemicals selected the International Finance Corporation (IFC) as its lead transaction advisor to execute the pilot PPP project for its solar rooftop program.

Project Structure

The public authority, consisting of the Department of Energy and Petrochemicals of the Government of Gujarat, the Gujarat Energy Development Agency (GEDA), and the Gujarat Energy Research and Management Institute (GERMI), with assistance from IFC, designed the project and coordinated the bidding process for the selection of project developers. Two companies, Azure Power and Sun Edison, were selected as project developers through a tariff-based competitive bidding process.

Each private company was allocated the development of 2.5 MW. The project developers agreed to design, finance, install, operate, and maintain the required solar energy infrastructure for 25 years, recovering their capital investment and operating costs by selling the power generated by the solar installations to an off-taker for distribution to end-users. However, the fee offered by the successful bidders was slightly higher than the tariff approved by the state electricity regulatory commission. Specifically, the private companies proposed a tariff of INR 11.21 per kWh, while the regulator-approved price was INR 11.14. Consequently, the municipality agreed to pay the private developers the INR 0.07 per kWh difference between the tariff allowed and that needed to make the project viable.

The public authority was required to provide the project developers with access to the rooftops of public buildings for the installation of solar panels, facilitate the power purchase agreement (PPA) with the power off-taker, and monitor performance standards. As the municipality only agreed to provide sufficient space on government buildings to accommodate 80 percent of the required installations, accounting for 4 MW of generation, the project developers needed to secure additional terrace space on private residences to produce the remaining 1 MW. To motivate private households to participate in the program, the project developers

[134] Global Infrastructure Hub. n.d. "Qiaoxi District Central Heating." GIHub. Accessed February 11, 2019. https://gihub-managingppp-tools.s3.amazonaws.com/live/media/1434/gih_casestudy_china_qiaoxi-district-central-heating.pdf;

Best China News. 2016. "(PPP) Zhangjiakou: China Demonstration Project of Central Heating Heat Source: Beijing Project for One Year Turnaround." *Best China News*, July 26. Accessed August 6, 2019. http://www.bestchinanews.com/Finance/490.html.

[135] Worldciv 2017 kushan (https://commons.wikimedia.org/wiki/File:Academic_Area,_Indian_Institute_of_Technology_Gandhinagar.jpg), https://creativecommons.org/licenses/by-sa/4.0/legalcode

planned to pay the private terrace owners a 'green incentive' in the form of a generation-based incentive. This would function as a rooftop lease payment of INR 3 per kWh of solar power generated by the household's solar panels.

It was forecast that the solar project would provide the city government of Gujarat with an annual net revenue of INR 28.3 million over the 25-year term and reduce the city's carbon emissions by 6,000 tons annually.

Lessons Learned

During the initial period of implementation, the project reportedly faced several challenges, including the reluctance of residential and commercial property owners to allow the installation of solar installations on their buildings, complications related to the sale of power and revenue model, as well as difficulties in the operation and maintenance of the system. However, later reports indicate that the situation improved significantly. Currently, Gandhinagar generates nearly 7.5 MW of energy from solar PV plants on rooftops. Based on this success, the project is being replicated in more cities in Gujarat.[136]

This project benefited from the support and commitment of the municipality, including the allocation of space on government buildings for the rooftop solar PV installations and the provision of a modest tariff subsidy to cover the slight price difference between the regulator-approved price and the tariff required by the private developers. While municipalities should always carefully consider and assess the cost benefits of providing a subsidy, prudent public contributions to a PPP can be used effectively and yield value-for-money, especially when non-financial benefits, such as reduced carbon emissions, are taken into account.

65. Bioenergy Plant, Nuevo Leon, Mexico

Photo Credit[137]

Background

In an effort to reduce the contamination and greenhouse gas emissions from the methane gas generated by a landfill located in Salinas Victoria, Nuevo León, and to leverage the biogas for productive use, the state of Nuevo Leon decided to construct a biogas plant to convert this by-product into electrical power.

Project Structure

Hoping to deliver the project as a PPP, the landfill owner, Waste Processing and Ecological Comprehensive System (Sistema Integral para el Manejo Ecológico y Procesamiento de Desechos, SIMEPRODE), initiated an international two-stage bidding process in October 2000. The winning bidder, a private company named Bioeléctrica S.A. de C.V., was selected in December 2001. A specific purpose vehicle (SPV), Bioenergía de Nuevo León, S.A. de C.V (BENLESA), was then established for the operation and maintenance of the plant. The bioenergy plant was financed, designed and built by another company, SARET, but a review of the publicly available documents revealed no detailed information on this part of the project.

The plant operated by BENLESA consists of a pipeline network that captures the gas over an area of about 44 hectares and a central system for electricity generation that consists of seven internal combustion engines – each with a capacity of 1.06 MW. The original corporate composition of BENLESA comprised two shareholders: Bioeléctrica, which contributed USD 5.7 million and state-of-the-art technology, accounting for 53 percent of the upfront investment, and SIMEPRODE, which contributed USD 5.1 million USD of the initial capital (47 percent). The project also received financing from the World Bank and the Global Environment Facility. No publicly available information was found regarding the project's revenues, tariffs, or duration.

[136] IFC. 2019. "Public-Private Solar Project Generates Power, Reduces Carbon Emissions in India." IFC. Accessed February 12, 2019. https://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/sustainability-at-ifc/publications/sba-proj-gujarat;

MNRE. "5MW Gandhinagar Photovoltaic Rooftop Programme." National Workshop on Rooftop Solar Power, New Delhi, June 7, 2017. Accessed February 12, 2019. https://mnre.gov.in/file-manager/UserFiles/workshop-gcrt-0870616/Gandhinagar-RTPV-Programme-GERMI.pdf;

Agravat, Sagarkumar.2015. "Case Study of Gandhinagar Roof Top Solar PV Program." Research Gate. Accessed February 9, 2019. https://www.researchgate.net/publication/280094237_Case_Study_of_Gandhinagar_Roof_Top_Solar_PV_Program;

Your Story. 2015. "5MW Solar Rooftop Project Distributed Across Buildings in Gandhinagar." Your Story. Accessed February 9, 2019. https://yourstory.com/2015/06/solar-rooftop-gandhinagar/.

The PPP's primary objective is the operation and management of the bioenergy plant, including the provision of equipment and maintenance services. In addition, the operator is responsible for selling the energy surplus to the Electricity Federal Commission. As an equity investor and owner of the landfill and the grounds on which the plant is located, SIMEPRODE retained some financial and land risk. BENLESA assumed partial financial risk and the operation and maintenance risk.

In addition to the original two partners, the SPV was expanded to include another category of owners called "User Partners". This special category was created because the Public Energy Service Law stipulated that permission for public or private partner investors to form an energy co-generation company only could be given, if the energy generated by the plant would be sold to the partnered members. Thus, to comply with this law, seven municipalities and three government agencies entered into associated agreements (as partnered members) and signed 5-year independent power production contracts with BENLESA, making these municipalities and public agencies official partners of BENLESA and power purchasers; in fact, they are the only entities authorized to purchase the energy produced by the plant.

Lessons Learned

Reports indicate that the plant currently supplies almost sixty percent of the energy needed to power the Monterrey Metropolitan Area's public street lighting, public buildings, and drinking water pump, as well as eighty percent of Monterrey's transportation system energy requirements. The plant also covers its own energy needs. By 2009, the plant reportedly had reduced greenhouse gas emissions in an amount equal to 1,351,171 m^3 of CO2. The plant has been deemed by some to be the most important electrical energy generation plant of this type in Latin America.[138]

This project highlights the importance of understanding, and adapting to, the legal and regulatory context for each PPP, including the rules that apply to the specific sector. The ability of the stakeholders in this case to create a special ownership structure for the SPV in order to ensure compliance with the energy law was a key component to the project's ability to enter into operation.

66. Rooftop Solar PV and Energy for Underserved Communities, Connecticut, United States

Photo Credit[139]

Background

Energy tariffs in Connecticut (CT) were among the most expensive in the continental United States (US), with high tariffs tending to disproportionately impact the poorest communities. In Bridgeport, CT, energy bills were accounting for approximately 26 percent of the lowest-income households' annual income, with energy spending averaging about USD 4,078 per year. In 2015, under the "Solar for all" program, the CT Green Bank decided to pursue a PPP aimed at helping low-income households reduce their energy costs. The "Solar for all" program would involve various initiatives, including the installation of rooftop solar PV generators and other energy efficient solar products on homes. CT Green Bank is a state-supported institution established in 2011 to catalyze clean energy development in several sectors, by providing low-cost, long-term, sustainable financing to maximize the impact of public funds. In December 2014, CT Green Bank issued a request for proposals from solar providers interested in engaging with the low- to-moderate income markets, which had been historically underserved by most solar enterprises.

Project Structure

PosiGen, a solar enterprise that had experience serving lower income communities across Louisiana in the aftermath of Hurricane Katrina, was selected as the winning bidder for the project. The program was designed to offer affordable solar panel leases paired with energy efficiency measures, regardless of the participant's income or credit score. CT Green Bank would provide some funding in the form of up-front rebates and performance-based incentives (PBIs) (subject to phase-out) to PosiGen for solar PV installations on low- to-moderate income residential properties.

[137] World Bank https://www.flickr.com/photos/worldbank/13929524718/in/photolist-ndUsph-dtm7qX-ndUtZk-qYhZee-ndZ5rk-bq5VmZ-ndYQQb-nvp8NH-ntr3tU-ntgQ4w-nxaZCX-fJ2uCT-8nQdQP-fgNu7E-nv8gUm-ndXFvy-nv3RWj-rRPEPc-42CWAz-nv-jxs6-dnxrKr-8wEqLM-nx6oRk-nvsufP-sbnSzx-ndUhrv-nvjAiB-ndQ4By-8wEqEp-dnxvFJ-bUrxen-dtm7jP-s95X9u-dnxvvy-8wEWwP-bv31WB-8wHqsE-dnxrYT-qFQyPz-ecBwUC-saqWkt-fr3Sea-8wEqci-nv7h7M-44nHjj-bUrxoe-7tu1Y7-dtm7xV-42CJh8-s8RNxN

[138] Pérez, Fabián Pino. 2013. "Caso Monterrey, Nuevo León, México, Adquisición de Energía Renovable." CCA. Accessed June 30, 2019. http://www.cca.org.mx/ps/funcionarios/muniapp/descargas/Documentos_de_apoyo/informaciontematica/capp/APP_Bioelectrica.pdf.

[139] Photo in the public domain published by U.S. Department of Energy https://www.flickr.com/photos/37916456@N02/9787445386

CT Green Bank also provided a direct credit enhancement in the form of USD 5 million in subordinated debt to PosiGen's CT lease fund, and a USD 3.5 million working capital loan to address timing gaps associated with third-party tax equity financing.

The low-cost capital and performance-based incentives helped provide more security for PosiGen investors and allowed PosiGen to design and offer an affordable lease product to customers. It also helped leverage over seven times more private investment than the Green Bank's term financing contribution, amounting to USD 37 million for PosiGen's CT solar lease installations. PosiGen leases the solar PV installation to homeowners for a 20-year term, with fixed lease payments – around USD 75 per month – and an option to purchase efficiency upgrades for an additional USD 10 per month. The lease agreement also guarantees the production of electricity. If the system does not produce the amount of electricity forecast, the homeowner is eligible for reimbursement. Towards the end of the lease term, the homeowner is given an option to purchase the solar PV installation at fair market value.

Lessons Learned

As of June 2018, PosiGen reportedly had leased 1,651 solar installations to homeowners across CT, namely in Bridgeport, Hartford, New Haven, and New London, amounting to USD 46 million of installed equipment. This would constitute a 188 percent increase in solar dissemination among Connecticut's lower-income communities. It has been reported that, in Bridgeport, the average family that leased a solar PV reduced their energy bill by more than USD 1,280 annually and that approximately 30 to 40 percent of PosiGen's new sales come from referrals by existing customers.

CT's "Solar for All" partnership received the 2018 State Leadership in Clean Energy Award from the Clean Energy States Alliance.[140]

This project benefited from the willingness of the private partner to actively engage with the affected community and its representatives – including elected officials, NGOs, and religious leaders, with strategic support from CT Green Bank. Understanding the needs and concerns of the local community can help private operators in developing marketing campaigns and designing an appropriate product for consumers. In this case, the private partner provided an individualized approach by offering to sit down with each prospective customer to discuss ways the customer could reduce their monthly energy bill and guarantee savings through a solar PV lease. In addition, the provider aimed to keep the contract simple and designed a standard, 6.2-kilowatt installation to minimize installation and operating costs.

The private partner did face some challenges at the beginning of the project, due in part to a public perception that solar energy is expensive. In addition, the private partner encountered some delays in obtaining required permits and inspections and had to account for inadequate existing infrastructure in some places, including structurally unsound rooftops that would not support solar panel installation and outdated electrical systems. These initial difficulties were mitigated over time and PosiGen was able to expand its market and attract new customers. This highlights how both parties to a PPP need to remain flexible and responsive in the face of challenges, so that unanticipated problems can be proactively identified and addressed.

Street Lighting

67. Street Lighting Project, Nasik, Maharashtra, India

Photo Credit[141]

Background

Nasik, in Maharashtra, is among the most rapidly developing municipalities in India, which has contributed to shortages of power supply and, at the same time, increased the cost of electricity. To help address these issues, the Nasik Municipal Corporation (NMC) initiated the first Energy Saving Company (ESCO) project to be implemented in Maharashtra state on a shared-savings basis. Before the project was implemented, the NMC was using around 5,000 kW of energy per hour in a 12-hour day for its street lighting, which translated into INR 5.5 million (USD 80 thousand) in monthly costs for this system.

[140] Dalton, Meg. 2018. "Connecticut Public-Private Partnership Deploys Solar to Underserved Communities." *Energy News*, September 4. Accessed August 8, 2019. https://energynews.us/2018/09/04/northeast/connecticut-public-private-partnership-deploys-solar-to-underserved-communities/;

Costello, Maria B. 2018. "Connecticut Green Bank and PosiGen "Solar for All" Partnership – Bringing the Benefits of Clean Energy to LMI Communities." Renewable Energy World. Accessed June 13, 2019. https://www.renewableenergyworld.com/ugc/articles/2018/07/19/connecticut-green-bank-and-posigen-solar-for-all-partnership--bringing-the-benefits-of-clean-energy-.html;

NRDC. 2018. "Solar for All." NDRC. Accessed June 13, 2019. https://www.nrdc.org/sites/default/files/green-banks-connecticut-tt.pdf;

Prevost, Lisa. 2019. "Connecticut Program Pairs Energy Efficiency with all Solar Installations." *Energy News*, June 7. Accessed June 7, 2019. https://energynews.us/2019/06/07/northeast/connecticut-program-pairs-energy-efficiency-with-all-solar-installations/.

[141] Mahi29 (https://commons.wikimedia.org/wiki/File:Dwarka_circle,nashik.jpg), https://creativecommons.org/licenses/by-sa/4.0/legalcode

Project Structure

Sahastratronic Controls Private Limited (SCPL) was appointed by NMC as the ESCO to implement the project, which entailed upgrading the existing street lighting facilities. After auditing all of the street lighting locations, SPCL provided different options to NMC on how to achieve energy savings. The corporation approved the use of a specific type of panel that would incorporate a new technology advanced enough to vary the voltage according to different traffic conditions while maintaining the lumen requirements appropriate for the conditions.

Under an Energy Services Agreement (ESA), and following a build, operate, and transfer project structure, SCPL agreed to design, manufacture, supply, erect, commission, and maintain 486 streetlight controllers at various lighting stations, covering about 19,000 streetlights, to improve street lighting efficiency. SCPL guaranteed a minimum of 25 percent in energy savings to the municipality from these installations for five years.

The project cost was estimated at INR 2 crores (USD 290,212), out of which INR 83 Lakhs (USD 120,483) would be financed by a local bank, and the remainder provided by SCPL.

According to the ESA, the NMC would issue a no-objection certificate for mortgaging assets owned by SCPL set up in the NMC area under arrangements agreeable to the lender. In exchange, the NMC required SCPL to put in place an indemnity bond to compensate NMC against all transactions carried out by SCPL to raise funds for the project.

To recoup its investment in installing the controllers, cover its operation and maintenance costs, and obtain a reasonable return on investment, SCPL would be entitled to a share of the subsequent energy savings for a period of five years, at the conclusion of which ownership and control of the installations would transfer to the NMC. SCPL's share in the savings is progressive, as shown in the following table.

Year	NMC SHARE	SCPL SHARE
1	70%	30%
2	60%	40%
3	50%	50%
4	35%	65%
5	19%	81%

After the completion of Phase 1 in March 2004, 361 streetlight controllers had been installed, covering 12,000 streetlights. An additional 125 streetlight controllers controlling 7,000 streetlights were installed by the end of Phase 2 in November 2005. The total load under the project is 3.8 MW.

Lessons Learned

As of 31 March 2007, the savings achieved in both phases was reportedly INR 48.1 million (USD 670,000) and the average energy cost savings per year has been 31 percent, with peak savings for some sub-sections reaching as high as 44 percent. The value of the savings achieved in both phases per year totaled INR 16 million (USD 232,170). This was reported to be the first energy savings company project in India to be implemented under the concept of sharing basis. It has since served as a model for other municipalities throughout the country.[142]

This project highlights how municipalities should think creatively about different funding mechanisms for infrastructure projects. In this case, by sharing the cost savings produced by the new technology deployed by the private partner, the municipality was seemingly able to reduce its energy costs and procure high-quality, energy efficient infrastructure without providing any direct, public financial investment.

[142] Ministry of Urban Development, Government of India. n.d. "Compendium on Public Private Partnership in Urban Infrastructure." Smart Cities Mission. Accessed January 24, 2019. http://smartcities.gov.in/upload/uploadfiles/files/Compendium_of_PPP_CasesMoUDs.pdf;

Centre for Innovations in Public Systems. n.d. "Public Private Partnership in Street Lighting in Mashik, Maharashtra." CIPS. Accessed June 13, 2019. http://www.cips.org.in/documents/DownloadPDF/downloadpdf.php?id=232&category=Urban+Governance.

68. Energy-efficient Street Lighting, Bhubaneswar, Odisha, India

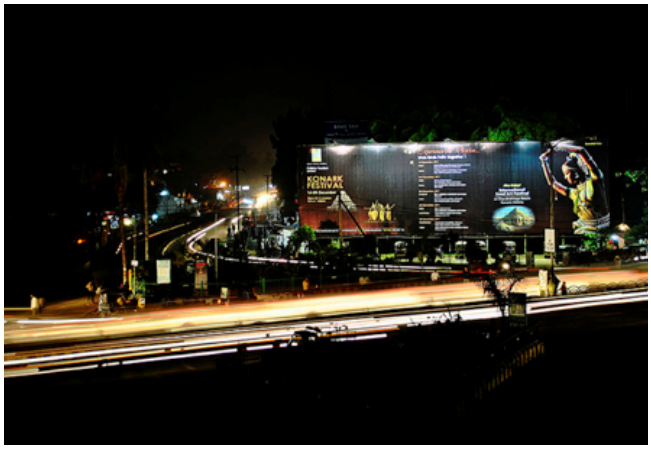

Photo Credit[143]

Background

The street lighting infrastructure in Bhubaneswar, the capital of the Indian State of Odisha, was reportedly outdated, inefficient, and in poor condition. Small streets and residential areas had poor, if any, lighting. Inefficiencies also made the lighting system expensive to maintain, placing additional strain the city's budget. To help address these issues, the Bhubaneswar Municipal Corporation (BMC) asked the International Finance Corporation (IFC) to assist with designing and structuring a PPP and managing the tender process to select a qualified private sector partner to upgrade and maintain the street lighting system.

Project Structure

Following a competitive bidding process, the resulting project was awarded to Shah Investments, Financials, Developments, and Consultants Private Limited, an Indian Energy Service Company (ESCO). The contract was signed on 5 October 2013 and covered a 10-year concession period.

Under the project agreement, ESCO would be responsible for financing and installing energy-efficient street lighting, as well as operating and maintaining the city's street lighting system by way of a remote-control center covering 20,000 streetlights. The municipality would be responsible for setting performance standards and specifications, as well as for monitoring and verifying the performance of ESCO.

With the installation of the energy-efficient lighting system, the municipality was expected to realize annual savings of around USD 100,000 as a result of decreased energy consumption, optimized operations, reduced maintenance costs, and emissions savings. ESCO is entitled to a fixed, monthly fee from the municipality, defined as 90 percent of the energy savings, plus a flat operation and maintenance fee for each light pole.

Lessons Learned

A control center to run the streetlights of Bhubaneswar and a toll-free customer service line for receiving complaints became officially operational in 2015.[144]

This project highlights how municipalities should think creatively about different funding mechanisms for infrastructure projects.
This project is innovative in using the savings derived from the decreased energy consumption to pay the monthly fee due to the ESCO.
In addition, this project highlights that the municipality should expect to remain actively engaged in a PPP even after the private partner begins operations, including by ensuring robust management and evaluation of the private partner's performance.

[143] Sabyasachi Baldev (https://commons.wikimedia.org/wiki/File:Bhubaneswar.jpg), „Bhubaneswar", https://creativecommons.org/licenses/by-sa/2.0/legalcode

[144] World Bank Group. 2013. "Public-Private Partnership Stories, India: Bhubaneswar Street Lighting." PPP World Bank. Accessed January 24, 2019. https://ppp.worldbank.org/public-private-partnership/sites/ppp.worldbank.org/files/documents/PPP_Stories_India_Bhubaneswar_Street_Lighting_EN_2013.pdf;

Private Infrastructure Development Group. n.d. "Odisha Public Street Lighting". Private Infrastructure Development Group. Accessed November 27, 2019. https://www.pidg.org/project/odisha-public-street-lighting/;

Delmon, Jeff. "Municipal PPP." Presentation on Municipal PPPs, Washington, D.C., n.d. Accessed January 24, 2019. https://slideplayer.com/slide/4895501/;
Bhubaneswar Buzz. 2015. "Bhubaneswar Street Lighting goes Smart-Now can be Controlled via Control Room Computer." Bhubaneswar Buzz. Accessed January 24, 2019. http://www.bhubaneswarbuzz.com/updates/infrastructure/bhubaneswar-street-lighting-goes-smart-now-can-be-controlled-via-control-room-computer.

69. Reconstruction, Management, and Maintenance of Street Lighting and Other Public Facilities, Juvignac, France

Photo Credit[145]

Background

The city of Juvignac in France needed to adapt its infrastructure services quickly and efficiently in response to significant population growth. To this end, it decided to pursue a PPP to renovate, manage, and maintain its public lighting installations, traffic lights, video surveillance, and the civil engineering works for the city's high-speed communications network.

Project Structure

Following a competitive bidding process initiated in 2013, a private company called SPIE Sud-Ouest was awarded a PPP contract with a duration of 18 years and an estimated value of EUR 8.8 million (USD 10 million). The winning bidder was selected based on total proposed cost, the time required for implementation, and relevance to the energy management and long-term development plans of the city. Under the PPP agreement, the private partner would be responsible for replacing the city's street lighting in two phases, as well as upgrading the traffic lights at six intersections, installing a video surveillance network comprising 12 cameras, and completing 9.4 km of civil engineering works for the high-speed communications network. The municipality would make periodic payments to the private partner for operation and maintenance services over the life of the contract.

SPIE Sud-Ouest agreed to provide maintenance services with guaranteed results throughout the contract. Regarding the first works phase, for example, it was stipulated that the street lighting failure rate would not exceed 0.5 percent, meaning no more than 10 of 2,000 lighting points may be out of order at any one time, and outages should be remedied in less than one hour.[146]

Lessons Learned

This project highlights the following:

- Open, competitive procurement with bid evaluation criteria that closely align with the municipality's strategic aims for the project is a key component in selecting an appropriate private partner.
- Linking availability payments to the performance of the private company, based on clear and measurable performance indicators and standards, can be an effective means of incentivizing optimal implementation.
- At the same time, linking payment to performance indicators requires the municipality to establish robust project management and monitoring mechanisms, to ensure it receives the full benefit of the project.

[145] IngolfBLN (https://commons.wikimedia.org/wiki/File:Montpellier_-_Tramway_-_Ligne_3_-_Centre-Ville_-_Juvignac_(4).jpg), „Montpellier - Tramway - Ligne 3 - Centre-Ville - Juvignac (4)“, https://creativecommons.org/licenses/by-sa/2.0/legalcode

[146] SPIE. 2013. "SPIE Sud-Ouest and the Town of Juvignac (Hérault) Sign a Public-Private Partnership." SPIE. Accessed February 24, 2019. http://www.spie.com/en/spie-sud-ouest-and-town-juvignac-herault-sign-public-private-partnership.

Urban Development

70. City Improvement Districts, Johannesburg, South Africa

Photo Credit[147]

Background

The City Improvement District (CID) structure used in the City of Johannesburg emerged from a voluntary pilot project initiated by business and property owners in Central Johannesburg in 1993. CID is a PPP comprising the local business community, the City of Johannesburg, and the local community. The CID concept arose in part in response to high levels of violence in the city, stemming from the lasting effects of the apartheid regime and a fragmented municipal structure. Citizens recognized the need to unite and address these issues by collectively ensuring the provision of essential services, including security, urban area upgrades, and the cleaning and maintenance of public spaces.

Project Structure

To function effectively, the CIDs needed to cover multiple districts and, therefore, the geographic extent and boundaries of each district had to be established. Property owners and major tenants within a defined area were identified and informed of the proposed intervention, after which a referendum was conducted, with a pre-determined majority required to establish a district. Specifically, a CID can only be created if more than 50 percent of the property owners, representing over 50 percent of the total property value in the area, agree to the proposal. Once a CID has been established, 100 percent of the property owners within the designated area are obliged to contribute financially – sharing the financial risk equally.

Each district then needed to create a board or directors, consisting of property owners, business owners, representatives of residents' organizations, and local authority representatives. This board then would select a specialized urban management company to manage the day-to-day operations within the district for a period of two to five years. By law, the cost of procuring CID services is divided among all property owners within the geographical area under a predefined formula. In practice, the costs are borne in proportion to the value of each owner's property. However, it should be noted that the CID services are expected to be only supplementary, as opposed to a replacement for the services provided by the local authority. Consequently, the local authority is obliged to inform the board of its current level of service and must maintain the same level of service within a newly formed CID.

CIDs are designed to be implemented within three to five years but can continue indefinitely unless decided otherwise. The decision to dissolve a CID is subject to the same referendum process and requirements as when it is established. In other words, more than 50 percent of property owners in the CID, representing over 50 percent of the total property value, must vote in favor of dissolution. A referendum on dissolution may be held at any time during a CID's lifetime.

Lessons Learned

The first CID was established in 1994 in the Central Business District of Johannesburg and focused on security, cleaning, and maintenance, as well as upgrading the facilities for informal traders. As this project correlated with some success in reducing crime, five other districts in Johannesburg launched CID projects between 1995 and 1999, namely the South-Western Improvement District, Retail Improvement District, Legislature/City Hall Improvement District, Gandhi Square Improvement District, and Newton Improvement District. This model also has been replicated in other cities in South Africa, such as Cape Town and Pretoria.

[147] Photo on the left: Kounosu (based on copyright claims). (https://commons.wikimedia.org/wiki/File:Johannesburg_Park_Railway_Station_01.jpg), „Johannesburg Park Railway Station 01", https://creativecommons.org/licenses/by-sa/3.0/legalcode

Photo on the right: Evan Bench (https://commons.wikimedia.org/wiki/File:Johannesburg_CBD.jpg), „Johannesburg CBD", https://creativecommons.org/licenses/by/2.0/legalcode

The services provided by CIDs have over time expanded from security, cleaning, and maintenance to include physical improvements to public spaces, the creation of associations for the homeless, and the pursuit of income-generating activities.[148]

The CID initiative benefited from alignment of needs and incentives, common and agreed upon objectives, and shared responsibilities among key stakeholders. This helped to promote a sense of ownership among the various property owners, which reportedly kept them more engaged during the project, even amidst challenges. This highlights how adequately aligning incentives and sharing responsibilities, risks, and benefits can be key components of a successful PPP.

71. Durban Point Waterfront Development Project, EThekwini, South Africa

Photo Credit[149]

Background

The Durban Point Waterfront lies at the entrance to Durban Harbor, which is among the busiest ports in Africa. However, the waterfront was largely abandoned and only used by a relatively small community of people. To optimize the use of this space, the Point Waterfront development project was conceived pursued by the eThekwini municipality in accordance with its development framework plan, which permits and envisions granting mixed-use development rights for this land. Earlier development projects in the area were engendered some skepticism among existing users, but in 2015 a new development company was established to pursue the project and a new urban development plan was prepared, which aimed to better consider the concerns of current users.

Project Structure

The Point Waterfront plan consists of a modern, mixed-use development project covering 750,000 m^2 of bulk floor area, to be undertaken in three phases over the next five to ten years. The project is divided into six precincts and a promenade. Precinct 1 will be primarily residential and offices, with a few retail spaces. Precinct 2, which abuts the uShaka Marine World Theme Park, will contain high-end stores, hotels and condominiums. Precinct 3 consists of mainly historic buildings with limited redevelopment options due to their heritage status, though these have attracted the interest of several investors. Precinct 4 offers a sea-view and it is anticipated that developments in this space will be residential and commercial. Precinct 5 provides immediate access to the beach and will feature high-rise residential buildings, restaurants, and bars. Precinct 6 is the intended site for the public transportation node, high-tech commerce, and parking facilities. Finally, a promenade will be constructed along precinct 5 and is intended provide a continuous walking space along the shore facing the beach, accommodating commercial areas and public facilities, such as toilets, changing rooms, and spaces for watersports clubs.

The ZAR 35 billion (USD 2.5 billion) project's master developer is the Durban Point Waterfront Development Company (DPDC), a joint venture owned in equal parts by the eThekwini municipality and RocPoint Ltd., a private consortium that is majority-owned by UEM Sunrise, a publicly-listed Malaysian company and one of Malaysia's largest property developers.

According to reports issued to date, DPDC has invested about ZAR 120 million (USD 8 million) in upgrading infrastructure on the project site. It has also sold about ZAR 190 million (USD 13 million) of land to private investors for development, which has helped facilitate about ZAR 1 billion (USD 71 million) in privately financed construction costs. It has been estimated that property values of

[148] Peyroux, Elisabeth. 2008. "City Improvement Districts in Johannesburg: An Examination of the Local Variations of the BID Model." Accessed February 13, 2019. http://www.urban-improvement-districts.de/files/File/Peyroux_CID_Johannesburg.pdf.

[149] PhillippN (https://commons.wikimedia.org/wiki/File:Durban_skyline.jpg), „Durban skyline", https://creativecommons.org/licenses/by-sa/3.0/legalcode

the existing properties in the area will increase by at least 10 percent per year as a result of the developments. By comparison, property values in the central business district are forecast to increase by only 5 percent per year over the same timeframe. According to eThekwini Mayor Zandile Gumede, the gross public revenues derived from various taxes applicable to the area could amount to an additional ZAR 1.7 billion (USD 12 million).

The project commenced construction at the beginning of 2018, beginning with the beach promenade.[150]

Lessons Learned

This project highlights how municipalities may be able to leverage development rights to land in or around the project site to help finance infrastructure investments. This may be particularly effective in cases where there are underutilized but strategically located parcels of land within the municipality, as well as where the municipality can and intends to fund basic infrastructure improvements that will facilitate further private sector development. In this case, reports indicate that the municipality was able to fund public infrastructure investments at the project site through the sale of development rights, which in turn leveraged significant private investment in the area. However, such schemes must be pursued judiciously, in alignment with the municipality's development plans and strategies, and in close consultation with all stakeholders, including existing users and residents of the area targeted for development.

72. Croydon Council Urban Regeneration Vehicle, London Borough of Croydon, United Kingdom

Photo Credit[151]

Background

The Croydon Council Urban Regeneration Vehicle (CCURV) is an innovative, 28-year joint venture aimed at regenerating a portfolio of key real estate assets in the London Borough of Croydon. The CCURV was formed in 2008 with total investment capital estimated at GBP 450 million (USD 580 million).

Project Structure

The Croydon Council initiated the process to create the CCURV in April 2007, using a competitive dialogue process provided under applicable European Union regulations to select the private partner. This entailed publicly advertising the project and providing a memorandum of information and pre-qualification questionnaire to all parties that expressed interest. A total of 19 pre-qualification questionnaires were received and evaluated. From among these bidders, the eight strongest were invited to participate in the first stage of the competitive dialogue, at the end of which five bidders submitted outline proposals. Based on the strength of these proposals, three bidders were selected to participate in the second stage of the competitive dialogue process, during which one bidder withdrew. The remaining two bidders submitted final tenders and John Laing Equity was selected as the winning bidder in 2008.

The council and John Laing Equity formed a limited liability joint venture, owned in equal parts (50:50) by the two partners, which exercise equal voting rights. For its equity stake in the CCURV, the council contributed land and property assets, while the private partner contributed equity funding. The private partner was also expected to provide development expertise, including with respect to leveraging mixed-use development opportunities. The joint venture also would have a right of first refusal for all surplus properties that Croydon Council decided to sell and be empowered to purchase additional properties and obtain debt financing for its activities.

The joint venture in effect functions as a commercial land developer – investing in and revitalizing properties not only for economic and social benefits but also to generate sufficient income from the improved properties to make the investments sustainable and profitable. At the same time, the council retains its responsibilities for public oversight and planning, which it exercises both as a separate entity and as a fifty-percent shareholder in the joint venture. The private partner, in return for its capital and development expertise contributions, receives privileged access to development opportunities in the borough.

[150] eThekwini Municipality. n.d. "Special Zone 91 – Point Waterfront". The Official Website of the eThekwini Municipality. Accessed November 27, 2019. http://www.durban.gov.za/City_Services/development_planning_management/Land_Use_Management/Town_Planning_Regulations/Special_Zones/Pages/Point_Waterfront.aspx;

Pravinamar. 2007. "Background Report on the Durban Point Development with Emphasis on the Proposed Small Craft Harbour." Accessed January 24, 2019. http://www.pravinamar.com/reports/downloads/small_craft_harbour/BRDPDC.pdf;

Mthethwa, Tozi. 2018. "Beachfront Promenade Extension to Support Point Waterfront Development." eThekwini Municipality. Accessed January 24, 2019. http://www.durban.gov.za/Resource_Centre/Press_Releases/Pages/Beachfront-Promenade-Extension-to-Support-Point-Waterfront-Development.aspx;

UEM Sunrise. n.d. "A Transformational Waterfront Urban Development." UEM Sunrise Introduction. Accessed January 24, 2019. https://uemsunrise.com/property/region/durban-point;

Durban Point Development Company. 2019. "Home Page." Durban Point Waterfront. Accessed January 24, 2019. https://www.durbanpoint.co.za/.

[151] Dr Neil Clifton (https://commons.wikimedia.org/wiki/File:Croydon,_High_Street_-_geograph.org.uk_-_1775262.jpg), „Croydon, High Street - geograph.org.uk - 1775262", https://creativecommons.org/licenses/by-sa/2.0/legalcode

Revenues generated from the urban redevelopment projects are used to repay any outstanding land acquisition costs, senior debt, and the council and private sector equity contributions. Profits from the redevelopment works and other profitable assets acquired by the joint venture are shared 50:50 by the two partners, in line with their equity shares. Works delivered by the joint venture have included the relocation of the council to new offices, the redevelopment of several publicly owned properties, and other land development and property regeneration works across the borough. The council retains ownership of these developments.

The first project undertaken by CCURV involved the construction of Bernard Weatherill House (BWH), which would be Croydon Council's new administrative headquarters located next to the town hall. BWH would include a dedicated conference center, health suite, meeting room suite, union facilities, staff canteen, and external amenity spaces. Construction started in March 2010 and was completed in 2013.

CCURV's second project involved the Waddon Leisure and Housing Scheme, a project comprising a leisure center equipped with a swimming pool, sports hall, gymnasium, and community space, as well as new residential units, of which 119 were to be affordable units. Construction started in January 2011 and was completed in October 2012.

The most recent project undertaken by CCURV concerned Taberner House, which used to be home to the council's offices before the transfer to BWH. Taberner House was demolished in 2015 and the site is intended to be used to construct 513 homes, of which 40 percent are to be designated as affordable units, within four buildings ranging from 13 to 35 stories. The ground floor level will be dedicated to retail and office space, a new children's play area, a pavilion café, and public space. Construction started in 2018 and is scheduled to be completed in 2021.

Lessons Learned

Some of the positive attributes of this partnership are reported to include accelerated project delivery, risk transfer, alignment of public and private sector incentives, leveraging private sector property development expertise, optimizing land value, sharing of the forecasted increase in value from development investments, and public control of regeneration through the council's dual role as both a shareholder and the planning authority.

CCURV projects have provided new and improved facilities for the Croydon community. At the same time, these works are reported to have generated employment and training opportunities for residents. In fact, around one-quarter of the people employed on-site are reportedly drawn from the local workforce. In addition, by partnering with schools and colleges, the project has offered skills development opportunities for residents, as well as opportunities for local companies to take part in these projects as contributors to the supply chain.[152]

73. Redevelopment of Library and Fire Station, Washington, District of Colombia, United States

Photo Credit[153]

Background

Washington D.C. (the District) needed to refurbish the West End Library and West End Fire Station and also needed to develop additional, centrally located, low-cost housing. As the library and fire station facilities were nearing functional obsolescence, their rehabilitation was expected to be very costly. To help address these issues, the District developed a plan that aimed procure new, modern facilities while also providing affordable housing, by leveraging the air rights above the library and fire station.

[152] Croydon. 2018. "Work is now under way on the Taberner House Site to bring Hundreds of Affordable Homes to Croydon's Town Centre." *Croydon News*, May 18. Accessed May 6, 2019. http://news.croydon.gov.uk/work-is-now-under-way-on-the-taberner-house-site-to-bring-hundreds-of-affordable-homes-to-croydons-town-centre/;

Croydon. 2017. "Stunning New Development Approved for Taberner House Site." *Croydon News*, May 19. Accessed May 6, 2019. http://news.croydon.gov.uk/stunning-new-development-approved-for-taberner-house-site/;

Laing, John. 2019. "Regeneration." Making Infrastructure Happen. Accessed January 24, 2019. https://www.laing.com/project_portfolio/22/128/croydon-council-urban-regeneration-vehicle-waddon.html;

Laing John. 2019. "United Kingdom." Making Infrastructure Happen. Accessed January 24, 2019. https://www.laing.com/project_portfolio/105/62/croydon-council-urban-regeneration-vehicle-coulsdon.html;

EPR Architects. 2019. "Bernard Weatherill House, Croydon." Sectors. Accessed January 24, 2019. https://www.epr.co.uk/projects/architects-offices/bernard-weatherill-house/;

Yeatman, Stuart. "Croydon Urban Regeneration Vehicle (CCURV)." Presentation to Croydon Council Cabinet, Croydon, n.d. https://www.croydon.gov.uk/sites/default/files/articles/downloads/ccurvpresentation.pdf.

Project Structure

In 2009 the District issued a competitive tender for bids for the redevelopment of the district-owned parcels with the development rights for the site ultimately being awarded on 10 March 2010 to EastBanc Partner, whose proposal included USD 149 million in capital investment. The project aimed to leverage adjacent, privately-controlled parcels along with the district-owned parcels to deliver a new fire station and library, approximately 150 multifamily residential condominiums, 900 m^2 of retail space, and 52 residential rental units on the fire station site that would be affordable to households earning at or below 60 percent of the area's median income. It was expected that the condominiums would provide additional tax revenue to the District and help ensure a suitable return on investment for the private partner, while the affordable housing would add much-needed housing space in the city.

The District sold the private developer all of the rights, titles, and interests in the district-owned parcels of land, with the exception of the air rights necessary to construct the new library and the new fire station in accordance with the agreed development plans, in addition to the easements, covenants, and other rights necessary to the support the operation of these facilities. The budget cap for the design, development, construction, furnishing, and equipping of new library was fixed at USD 9.4 million, which would be financed from the purchase price. Once this cap had been met, the new fire station budget cap was fixed at USD 8.6 million for its design, development, construction, furnishing, and equipping. After the library and fire station caps were met, the remaining amount would be used for the design, development, and construction costs relating to the affordable units.

The District took on the environmental risks (including the existence of environmental waste, underground storage tanks, and asbestos in the existing properties) up to a point. Specifically, the District retained liability for these occurrences only in the event that the developer identified any of these hazards within a defined, contractually agreed period of time, during which the developer was to carry out environmental tests and studies. After that period, the developer would lose the right to object to any adverse conditions that may be discovered. Likewise, the property was sold to the developer in "as is" condition. In addition, the District retained the right to review and approve construction drawings but disclaimed any liability in connection with them.

By the end of 2018, all of the newly developed facilities were reported to be open and functioning.

Lessons Learned

This project highlights the following.

- Municipalities may be able to leverage development rights to land in or around the project site to help finance infrastructure investments.
- Community engagement throughout the project development and implementation process can be key for the successful delivery of a project. Initially, there was reportedly some community opposition to this project, including with respect to the speed at which the project was progressing and limited opportunities for public input. Different community groups approached DC's Council to express their concerns and the District made time to hold several meetings at which the local community could voice their opinions and share their ideas about the project, especially the new library. The Deputy Mayor for Planning and Economic Development, prior to the official release of the project's request for proposals, indicated that future bidders should take into account the community's input and integrate it into their proposals. Once the proposals were received, the city publicly consulted the community again to solicit further input and to inform the public about the proposals received – all prior to awarding the project to the private developer, EastBanc.
- Political will, flexibility, and coordination among different entities of the local government can help improve a project's viability. In the beginning, this project was criticized and subject to a lawsuit from an activist group because D.C.'s Zoning Commission had waived the Inclusionary Zoning requirement for the construction of the building above the new library, which otherwise would have mandated that a portion of the new residential space be reserved for affordable housing units. However, the Commission justified the waiver on the grounds that "the enhanced level of service that will result from the construction of the new Library and Fire Station so clearly will enhance the neighborhood that they set a benchmark in excellence for any future requests for Inclusionary Zoning waivers," and that, without the waiver, the project would not generate enough revenue for the private developer to build the new library and the fire station. The Commission concluded that "under these unique circumstances" waiving the Inclusionary Zoning requirements was warranted. The District of Columbia Court of Appeals upheld the Commission's decision.[154]

[153] Photo on the left: ParentingPatch (https://commons.wikimedia.org/wiki/File:Shelves_of_Language_Books_in_Library.JPG), „Shelves of Language Books in Library", https://creativecommons.org/licenses/by-sa/3.0/legalcode

Photo on the right: Tony Hisgett from Birmingham, UK (https://commons.wikimedia.org/wiki/File:DC_Fire_and_EMS_unit_(27610832282).jpg), „DC Fire and EMS unit (27610832282)", https://creativecommons.org/licenses/by/2.0/legalcode

[154] Committee on Government Operations and the Environment. *Committee Report on West End Parcels Surplus Declaration and Approval Resolution.* All Council Members. Washington, DC: Council of the District of Columbia, 2010. Accessed June 13, 2019. http://dcclims1.dccouncil.us/images/00001/20100910152405.pdf;

Office of the Deputy Mayor for Planning and Economic Development. *West End Executed Land Disposition Agreement.* DMPED. Washington, DC: DMPED, 2015. Accessed June 13, 2019. https://dmped.dc.gov/sites/default/files/dc/sites/config/publication/attachments/West%20End%20Executed%20Land%20Disposition%20Agreement%20-%20Part%201%20of%2011.pdf;

Library Renaissance Project Wes End Library Advisory Group v LLC, (August 8 2013), N.12-AA-1183, online: District of Columbia Court of Appeals https://caselaw.findlaw.com/dc-court-of-appeals/1641431.html;

74. Fire Station Refurbishment, Chapel Hill, North Carolina, United States

Photo Credit[155]

Background

The town of Chapel Hill needed to refurbish a fire station that was nearing functional obsolescence. Located on a site with a view of a golf course and next to a main transportation corridor, the town aimed to leverage the fire station's strategic location to help finance the facility's rehabilitation.

Project Structure

In January 2014 the town of Chapel Hill issued a request for proposals for the fire station improvement project. At the end of the process, East West Partners was chosen as the developer to partner with the town to deliver a new and modern 930 m^2 fire station, a four-story 4,650 m^2 class-A office building, and a shared onsite parking deck with 133 parking spaces. The development agreement was signed in November 2016.
The developer agreed to contribute USD 1.75 million towards the cost of constructing the new fire station, in exchange for the right to build, own, and operate the office building on the site. The town would contribute USD 750,000 and the county would contribute another USD 500,000. The developer was responsible for obtaining the development permits required prior to construction. The risk of force majeure would be shared, with only contract duration extensions available as compensation for occurrences determined to be outside of the reasonable control of the affected party.

The project entailed the demolition of the existing fire station, which would be temporarily relocated until the completion of the new facility, and construction of the new fire station, office building, and parking site. It also included improvements to sidewalks and roads surrounding the project. The town retained ownership of the property on which the fire station was built, control of which would be transferred back to the town on 30 May 2018.

Lessons Learned

The construction works were completed in 2018 and the office building reportedly achieved 100 percent rental occupancy.[156]

This project highlights the following:

- Municipalities may be able to leverage development rights to land in or around the project site to help finance infrastructure investments. In this case, the town sought to leverage the strategic location and corresponding value of the land on which the fire station was located to help deliver a state-of-the-art fire station constructed by a private partner.
- Municipalities should carefully identify and plan for any related projects on which a PPP may depend. In this case, the developer reportedly indicated in the development agreement that the certainty, timeliness, and predictability of the town's related developments was important to the success of the project and to the developer's willingness to enter into the PPP. To this end, the contract included specific standards and mitigation measures for related developments, including for example how stormwater management would be integrated into the site and its potential impacts on the project.

Cort, Cheryl, Matt Schuneman, and Stewart Scwartz. Public Land for Public Good. Washington, D.C.: Coalition for Smarter Growth, 2012. Accessed July 22, 2019. https://www.smartergrowth.net/wp-content/uploads/2012/11/pl4pg-final.pdf.

[155] Ivy Dawned (https://commons.wikimedia.org/wiki/File:Chapel_hill_firetruck.jpg), „Chapel hill firetruck", https://creativecommons.org/licenses/by-sa/2.0/legalcode

[156] Town of Chapel Hill. 2019. "Station at East 54, The." Town of Chapel Hill. Accessed January 27, 2019. https://www.townofchapelhill.org/town-hall/departments-services/planning-and-sustainability/development-projects/development-activity-report/station-at-east-54-the.

75. Capitol Crossing, Washington, District of Colombia, United States

Photo Credit[157]

Background

Capital Crossing is an ambitious project to develop a multi-level podium over the busy I-395 highway that runs through the middle of Washington, District of Columbia (the District). To this end, the District has sold the air rights and land over a strip of the highway to a private developer to leverage the property's value. The project also aims to reconnect the Capitol Hill and East End neighborhoods in the District, with the hope of revitalizing the downtown area through the creation of three new city blocks.

Project Structure

The podium is designed to support a 7-acre (204,386 m^2), mixed-use development space comprising four office buildings, one residential structure with 70,000 square feet of retail facilities on the ground floor, green space, and parking facilities with four underground levels and capacity for 1,146 vehicles and 440 bicycles. The investment cost for this development has been estimated at USD 1.3 billion, which includes USD 270 million for utility upgrades and replacements, as well as foundation work. The project is designed to be wholly privately funded. This investment is viewed as justified based on the land value created by the platform and Washington DC real estate prices. Plans for decking over the site and leveraging the development rights above I-395 gained traction in 2006, when Property Group Partners (PGP), then known as the Louis Dreyfus Property Group, proposed purchasing (rather than leasing) the development rights based on the future value of the property and the facilities that could be built there. A deal between PGP and the city closed in 2012. The project reportedly had an estimated value of approximately USD 11 billion and was expected to generate as much as USD 120 million in payments to the District.

As part of the deal closed between PGP and the District, PGP committed to construct and develop, at its sole cost and expense, no fewer than 50 affordable residential units to be sold or rented to households earning 80% of the area median income or less. PGP further committed to comply with the Small, Local, and Disadvantaged Business Enterprise Development and Assistance Act, under which private developers are required, among other things, to contract with and involve local, small, and disadvantaged business enterprises in the project.

The deal would oblige PGP to make semi-annual payments to the District in lieu of taxes, referred to as PILOT. Under this model, PGP would remit a negotiated fee rather than real estate taxes based on an Office of Tax and Revenue assessment of the air rights above the highway until the freeway deck is completed. PILOT payments accrue and defer until PGP requests its first vertical building permit, at which point all payments will be due, less USD 2.4 million to offset the capital cost of building the 50 units of affordable housing. Once the primary construction works are completed, each building on the deck will be taxed like any other real estate holding in the District.

Legislation authorizing the disposition of the air rights and establishing the PILOT scheme was enacted in 2010.[158]

Lessons Learned

- Municipalities may be able to leverage development rights to space in or around the project site to help finance infrastructure investments. In this case, the municipality aimed to create an entirely new space for development by leveraging the air rights over a busy highway.
- Community engagement can be a key component of a successful project, especially

[157] Payton Chung (https://www.flickr.com/photos/paytonc/33409896375/), „Capitol Crossing, platform over 395 complete", https://creativecommons.org/licenses/by-sa/2.0/legalcode

[158] Council of the District of Columbia. *Redevelopment of the Centre Leg Freeway (Interstate 395) Act of 2010,* D.C Law 18-257. Accessed January 24, 2019. https://code.dccouncil.us/dc/council/laws/docs/18-257.pdf;

FHWA. n.d. "Project Profile: Capitol Crossing / Third Street Tunnel." Federal Highway Administration. Accessed January 24, 2019. https://www.fhwa.dot.gov/ipd/project_profiles/dc_capitol_crossing.aspx;

Capitol Crossing. 2016. "Projects." Capitol Crossing DC. Accessed January 24, 2019. http://capitolcrossingdc.com/2016/12/19/d-c-air-rights-project-restores-city-traffic-grid/; Lera. 2019. "Capitol Crossing Platform." Lera Consulting Structural Engineers." Accessed January 24, 2019. https://www.lera.com/capitol-crossing-platform;

PGS. 2016. "PGP Acquires Air Rights for Capitol Crossing." Property Group Partners. Accessed January 24, 2019. http://www.pgp.us.com/2016/04/19/pgp-acquires-air-rights-for-capitol-crossing/;

Howell, Arnesa A. 2014. "Jobs Coalition Pathways." DC Student SCTF. Accessed January 24, 2019. http://www.dcstudentsctf.org/PDFs/JOBS_SeptOct2014.pdf.

ones that involve numerous stakeholders and entities. It was reported in this case that the private developer attempted to maintain an open dialogue with several prominent stakeholders in order to solicit community feedback throughout the project development process.

- Political will, patience, and flexibility can help unique projects materialize. This project was discussed over the course of three mayoral administrations before gaining traction. There was reportedly some difficulty in reaching mutually agreeable contract terms between the District and a private developer, because the cost of building over a highway was difficult to forecast. Ultimately, it was decided that it would be preferable to wait until the podium was finished and actual costs were calculated to determine how much the air rights were worth. There were also reports that it was difficult to obtain necessary permits and approvals from other public authorities due to the novelty of the project.

76. Downtown Renewal, Silver Spring, Maryland, United States

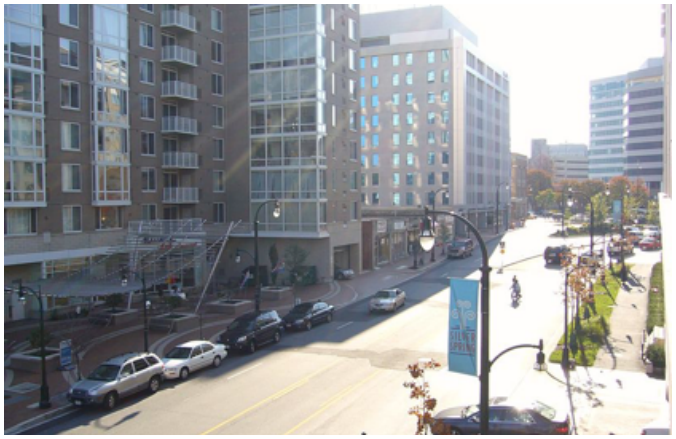

Photo Credit[159]

Background

The downtown area of Silver Spring had been slowly deteriorating for several decades. Previous attempts by the local authority to redevelop the area had failed to deliver the desired results. In an attempt to reverse this situation, a number of private developers and the Montgomery County authority developed and negotiated a joint development plan to revitalize downtown Silver Spring. This resulted in a PPP for the redevelopment of the 90,000 m^2 Downtown Silver Spring site, which was established in 2000.

Project Structure

Foulger-Pratt, an experienced local constructor; Argo Investment Companies, an investment organization; and Peterson Companies, a retail development company, decided to approach Montgomery County Executive, Douglas M. Duncan, in the hope of redeveloping the area. Based on these companies' experience and the need to revitalize the downtown area, Montgomery County decided to enter into an exclusive agreement with PFA Silver Spring, LC, a special purpose vehicle formed by the private companies for this project, to negotiate a joint plan for the mixed-use development of the area.

Under the instruction of Mr. Duncan, PFA began meeting with relevant stakeholders and community representatives to explain the project, outline the design the development plans, solicit ideas and input, and address concerns over the demolition of existing properties. Later, Montgomery County and PFA entered into a general development agreement that set the parameters for how they would work together to deliver the mixed-use urban developments. The county agreed to convey the land to the private developer through land leases with durations of 99 years at a rental fee of one dollar per year.

The rehabilitation project comprises a mixed-use development that includes 17,187 m^2 of offices; 40,876 m^2 of retail space; 23 movie screens in two facilities; housing and civic facilities, restaurants, a 179-room hotel, and public parking garages with space for more than 3,800 vehicles. The project facilitated transportation between the area's surrounding neighborhoods and the downtown through creative use of the local metro station. It was expected that the community would further benefit from access to public spaces containing artwork, fountains, and green areas. The project was also expected to serve as a catalyst for other developments in the area.

[159] Photo in the public domain published by Crzytwnman https://commons.wikimedia.org/wiki/File:Downtown_silver_spring_wayne.jpg

The estimated revitalization costs totaled about USD 517 million, of which about USD 330 million would be privately sourced and USD 187 million would be contributed from public funds. Lease and deed restrictions in effect for the project's first ten years were expected to permit PFA to finance 100 percent of the cost of the project or sell it at cost. However, if the developer finances or sells any project for more than cost, the county would be entitled to a 50 percent share of the profit.

Lessons Learned

Downtown Silver Spring is reported to have been significantly revitalized by this project and is now home to the American Film Institute and Discovery Communications' world headquarters. The project was the Silver Medal Winner of the 2005 Rudy Bruner Award for Urban Excellence.[160]

This project highlights the following:

- Community engagement and stakeholder communication, involving the public sector, private partners, non-governmental actors, and affected communities, can be key to the success of a PPP. In this case, Montgomery County's Silver Spring Regional Services Center reportedly served as a liaison between all stakeholders. It regularly communicated the redevelopment goals of the project to help generate political and financial support for implementing the project. The private sector, with input from citizen groups, oversaw the design process, developed the final design, and marketed the facilities.
- A well-structured PPP should ensure that the parties' interests are appropriately aligned. In this case, both the public and private partners had direct, financial stakes in the project, such that both assumed risks but also stood to benefit. Properly aligned incentives can encourage cooperation and lasting commitment to ensuring the success of a PPP.

77. South Waterfront Central District Greenway, Portland, Oregon, United States

Photo Credit[161]

Background

In 2003 the Portland Development Commission entered into a partnership with large private developers with the aim of transforming the South Waterfront Central District from an under-used riverfront industrial area into a vibrant, mixed-use central city neighborhood. Most of these developers already owned land in the areas targeted for development by this project.

Project Structure

The South Waterfront Development Plan comprised three phases designed to progressively develop the area's transportation, housing, sanitation, and public recreation infrastructure. This plan included the development of the South Waterfront Greenway (SWG), a 1,900-meter linear park and urban walkway/transportation lane along the west bank of the Willamette River, which was aimed at connecting people to Portland's downtown, central eastside, and the city's bike and pedestrian network.

The owners of the land needed for the SWG development, including private developers and Oregon University, agreed to dedicate the land for the project at no cost to the city. The city oversaw the development planning for the SWG and two of the private developers agreed to contribute USD 25,000 towards the cost of the plan's design. Although the city was not contractually obligated to commence construction until after other buildings in the area had been substantially completed by the developers, the city contracted for the construction of the SWG immediately after the land had been dedicated. The city also assumed responsibility for operating and maintaining the SWG parcel.

[160] ULI. *Downtown Silver Spring, Maryland.* Silver Spring: ULI Development Case Studies, 2005. Accessed July 22, 2019. https://casestudies.uli.org/wp-content/uploads/2015/12/C035021.pdf;

Shibley, Robert, Emily Axelrod, Jay Farbstein, and Richard Wener. 2005. *Downtown Silver Spring & Discovery World Headquarters.* Cambridge: Bruner Foundation;

Marcolin, John. 2013. "Downtown Silver Spring, Maryland." Terrain. Accessed July 22, 2019. https://www.terrain.org/2013/unsprawl/downtown-silver-spring/;

Corrigan, Mary Beth, Jack Hambene, William Hudnut III, Rachelle L. Levitt, John Stainback, Richard Ward, Nicole Witenstein. *Ten Principles for Successful Public/Private Partnerships.* Washington: ULI-the Urban Land Institute, 2005. Accessed July 22, 2019. http://uli.org/wp-content/uploads/2005/01/TP_Partnerships.pdf.

[161] Photo on the left: M.O. Stevens (https://commons.wikimedia.org/wiki/File:South_Waterfront_Portland_Oregon_construction.JPG), „South Waterfront Portland Oregon construction", https://creativecommons.org/licenses/by/3.0/legalcode.

Photo on the right: Photo in the public domain published USEPAGOV https://www.flickr.com/photos/24400159@N05/5794272244

Funding and financing for the project would come from a variety of sources. These included: USD 9.26 million in parks system development charges, USD 4 million in tax increment funding obtained from the North Macadam Urban Renewal Area, USD 1.42 million from TriMet (Portland' public transportation provider), USD 750,000 in environmental remediation funding from the city's Bureau of Environmental Services, and USD 68,000 in miscellaneous Portland parks and recreation funding.

SWG opened to the public in 2015, in the hope of creating momentum for the other planned housing and commercial developments in the area, including condominium towers, apartments, neighborhood retail spaces and services, and Oregon Health & Science University's plans for a campus expansion.[162]

Lessons Learned

This project highlights the following:

- Purposeful and prudent project selection and design, in line with strategic development plans and priorities, can be key components of a successful PPP. In this case, the SWG was designed to meet an array of development needs and priorities. It aimed to improve the city's interconnectivity, offer an alternative recreational space for Portland's citizens, and catalyze other development projects in an under-utilized area. In addition, the SWG included plans for restoring the riverbank to a more natural condition and providing a better habitat for juvenile salmon. The project also planned to incorporate several technologies that could improve the environmental condition of the landscaped areas of the SWG, such as the installation of bioswales that cleanse rainwater from contaminants before it arrives in the Willamette River.
- Meaningful stakeholder engagement throughout the project development process can provide valuable insights for project design and implementation. In this case, as part of the initiative to reclaim the river's edge from the industrial activities that characterized the area decades ago, the city and its private partners reportedly engaged closely with stakeholders at different levels and across sectors. For example, they engaged with environmental advocates to help tailor the project plan to meet the key development objectives of the city without compromising the natural habitat.

78. Mixed Use Development, Virginia Beach, Virginia, United States

Photo Credit[163]

Background

Virginia Beach's oceanfront resort area is a popular vacation destination on the East Coast of the United States and was among the city's highest priorities for redevelopment. In particular, the area immediately west of the resort strip at Virginia Beach had struggled to become a premier, year-round destination for either tourists or locals. It was limited largely to surface parking lots and one-story commercial buildings.

Project Structure

In September 2011 the City of Virginia Beach received an unsolicited proposal from the Breeden Company to convert a little-used, 244-space surface parking lot into 147 residential apartments, a unique 743 m^2 indoor sky diving facility, approximately 233 m^2 of commercial space, and a public parking garage with 377 spaces.
After the proposal was reviewed and subjected to all required processes, both parties entered into a Comprehensive Agreement, as required by the

[162] The City of Portland Oregon. 2014. "South Waterfront Greenway – central District." Portland Oregon. Accessed March 11, 2019. https://www.portlandoregon.gov/parks/45643;

PDC. 2005. "Fact Sheet, Greenway Implementation Strategy Project." Web Archive. Accessed March 22, 2019. https://web.archive.org/web/20051223044028/http:/www.pdc.us:80/pdf/ura/north_macadam/greenway/fact_sheet.pdf;

VMC. n.d. "North Macadam, South Waterfront Central District." Portland Development Commission. Accessed March 22, 2019. http://vmw.pdc.us/ura/north_macadam/sowa-central-district.asp.

[163] gargola87 from Virginia Beach, VA (https://commons.wikimedia.org/wiki/File:Virginia_Beach_waterfront.jpg), „Virginia Beach waterfront", https://creativecommons.org/licenses/by-sa/2.0/legalcode

Virginia Public-Private Education Facilities and Infrastructure Act. Under the agreement, Breeden would be allowed to purchase the site for a price of nearly USD 8 million and develop it. Related public streetscape and utility infrastructure costs would be shared. The private developer would assume the financial and construction risks. The city agreed to reimburse a portion of the cost covering the design and installation of a stormwater feature for the parking garage.

The new parking facility reportedly increased the stock of public parking spaces by over 50 percent. Upon completion of construction, the developer sold the parking garage back to the city together with the real property on which the structure is located. Under the contract, once the new parking structure was transferred to the city it would be subject to a long-term lease in favor of the developer. The parking structure would then be used to provide 221 parking spaces exclusively for the newly built apartments. The developer would also procure the parking garage's revenue collection equipment and, following completion of the facility's construction, the city would be responsible for the installation of the equipment within the parking garage at its sole cost and expense. That is, the developer would not be obliged to install the equipment as a condition of transferring the parking garage to the City.

Lessons Learned

The project was awarded an annual Vision Award from the Urban Land Institute of Virginia in December 2016, based on its recognition as one of the best PPPs in mixed-used development.[164]

This project highlights how municipalities may be able to leverage development rights to land in or around the project site to help finance infrastructure investments. This may be particularly effective in cases where there are underutilized but strategically located parcels of land within the municipality, as well as where the municipality can and intends to fund basic infrastructure improvements that may facilitate further private sector development.

[164] VB Gov. 2017. "Strategic Growth Areas." Virginia Beach Government. Accessed July 22, 2019. https://www.vbgov.com/government/departments/sga/projects/Pages/25th-Street-Unsolicited-PPEA-Proposal.aspx;

Pierceall, Kimberly. 2016. "Virginia Beach's 25th Street and Crescent Square Projects Win Urban Planning Awards." *The Virginia Pilot*, December 1. Accessed July 22, 2019. https://pilotonline.com/business/real-estate/article_d026452c-7706-5998-9e4b-721551283ff4.html.

[165] Darkest tree (https://commons.wikimedia.org/wiki/File:Downtown_Long_Beach_California_Aerial.jpg), „Downtown Long Beach California Aerial", https://creativecommons.org/licenses/by-sa/3.0/legalcode

[166] League of California Cities. "Long Beach Civic Centre P3 Project." Presentation Session Materials, California, December 1, 2016. Accessed January 24, 2019. https://www.cacities.org/Resources-Documents/Education-and-Events-Section/Municipal-Finance/2016-Session-Materials/Municipal-P3-Case-Study-Long-Beach-Civic-Center;

79. Long Beach Civic Center Project, Long Beach, California, United States

Photo Credit[165]

Background

The City of Long Beach had an abundance of land but was dealing with inadequate public facilities, maintenance deferral problems, under-utilized public parks and downtown areas, and budget constraints. At the same time, the Port of Long Beach needed a new location for its headquarters (HQ), preferably closer to City Hall. With these considerations in mind, the city and the Port of Long Beach decided to cooperate with the private sector to develop a new Long Beach Civic Centre and move the Port HQ downtown.

Project Structure

Through a competitive bidding process the city and the Port of Long Beach selected the Plenary Properties Long Beach LLC (PPLLB) to build the new Long Beach Civic Centre. The total project cost was estimated to be USD 520 million.
The civic center facilities to be developed by the private sector would include a new city hall and port HQ, a civic plaza, a central utility plant, a main library, new underground parking, a three-rooftop solar array system that was designed to provide up to 25 percent of the civic center's energy needs, and a refurbished Lincoln Park with a playground,

outdoor performance stage, cultural loop, and history walk. The project design also included a mixed-use, commercial development, which would comprise up to 580 residential units and up to 200 hotel rooms, as well as retail space. This was reported to be the first project in North America to combine both public infrastructure and private development components within a single project.

PPLB undertook responsibility for financing the project's investment cost through an equity contribution and commercial loans from lenders that would include HSBC, Allianz, and Sumitomo Mitsui Banking Corp.

In return, PPLB would receive an operational concession for 40 years, at the conclusion of which the facilities would be transferred to the city, subject to a condition that the civic center would be transferred in 85 percent "like new" condition. During the concession period, PPLB would be entitled to an annual availability payment from the government adjusted based on the Consumer Price Index over the 40-year contract term. The availability payment is intended to be sufficient to repay the debt and cover the operating and maintenance costs for the civic center. The annual payment for 2016 was expected to be USD 15.2 million. The project is also expected to generate significant revenue from the commercial developments, including leases for commercial space and mixed-use residential developments.

In addition, it has been estimated that the project would produce more than USD 1 million in annual tax revenue for the City of Long Beach and create an estimated 8,000 jobs. The overall economic impact of the project has been estimated at over USD 1.3 billion.

Lessons Learned

As of December 2018, the project was still under construction. It is scheduled to be completed in 2019.[166]

This project highlights the following:

- PPPs can leverage private sector efficiency and expertise to deliver more infrastructure assets more quickly, at the same or less cost than if the assets were directly procured by the municipality, with less risk to the government. Accordingly, a PPP can provide value for money even where the municipality remains principally responsible for paying for the infrastructure asset or service provided. In this case, reporting indicated that by using a PPP, the City of Long Beach was able to redevelop the Civic Center at a lower cost than it had been paying to maintain its existing facilities, without assuming any new debt or levying any new tax measures. The PPP option also reportedly offered lower financing costs than tax-exempt lease revenue bonds and preferable risk allocation for the city.
- Municipalities may be able to leverage development rights to land in or around the project site to help finance infrastructure investments. While the size and scope of this project may be beyond the capacity of smaller municipalities or those in less-developed markets, similar project structures may be used on a smaller scale to yield similarly positive outcomes.

Plenary. 2019. "Long beach Civic Center Redevelopment." Plenary Group. Accessed January 24, 2019. https://plenarygroup.com/projects/north-america/long-beach-civic-center-redevelopment;

P3 Point. 2016. "$513 Million Commercial and Financial Close." *PRN News*, April 20. Accessed March 11, 2019. https://www.prnewswire.com/news-releases/long-beach-civic-center-p3-reaches-513-million-commercial-and-financial-close-300254970.html;

Recognition. 2018. "Long Beach Civic Center and Port Headquarters PPP Project nabs Top Industry Honors." Norton Rose Fulbright. Accessed March 11, 2019. http://www.nortonrosefulbright.com/news/144340/long-beach-civic-center-and-port-headquarters-ppp-project-nabs-top-industry-honors;

Gilligan, Eugene. 2016. "Long Beach Civic Center Influence Pipeline." P3 Buildings. Accessed March 11, 2019. https://www.p3buildings.org/wp-content/uploads/2016/07/Long_Beach_Civic_Center_may_influence_pipeline___InfraAmericas.pdf;

Webster, Keeley. 2016. "Long Beach Closes on Financing for Civic Center P3." *The Bond Buyer*, April 21. Accessed March 11, 2019. http://www.p3point.com/yahoo_site_admin/assets/docs/Bond_Buyer_Long_Beach_Closes_on_Financing_for_Civic_Center_P3.128120014.pdf.

Affordable Housing

80. Regent Park Affordable Housing Project, Toronto, Canada

Photo Credit[167]

Background
Regent Park, a wholly government-owned and subsidized neighborhood built more than 50 years ago, needed extensive renovations. Among the poorest neighborhoods in Canada, Regent Park was home to a culturally diverse group of low-income individuals and families. To improve the situation, the Toronto Community Housing Corporation (TCH), the owner and operator of the property, presented a plan to the Toronto City Council in 2003 to revitalize Regent Park. TCH is the largest Canadian public housing provider and its sole shareholder is the City of Toronto.

Project Structure
A CAD 1.1 billion (USD 831 million) redevelopment plan was proposed for implementation in five phases over a 20 to 25-year period. The plan called for replacing old buildings with towers and townhouses and developing new community facilities, public streets and parks. The plan envisioned the construction of 2,083 replacement rent-geared-to-income (RGI) units, approximately 700 new affordable rental units, and 4,000 new market condominium units that would include affordable ownership opportunities.

After consultations with stakeholders, TCH decided that the redevelopment process should be completed with a private partner, which would help to design and construct the first phase of the project. Following the first tender, TCH and the selected private partner failed to agree on the terms of the project, leading TCH to cancel the award. A second competitive tender was held and TCH selected Daniels Corporation as the winning bidder. The resulting PPP agreement stipulated that, if Daniels Corporation failed to fulfill the requirements of the project's first phase, the company would not be eligible to participate in any of the remaining phases.

Each phase of the mixed-income revitalization project used different financing structures. For Phase 1, TCH financed the private partner's construction of the housing units, which was repaid with the proceeds from the sale of completed market condominium units. TCH also covered all the costs of the new municipal infrastructure during this phase. Given the failed first tender and the poor reputation of the neighborhood, TCH deemed it necessary to take on these risks and obligations in Phase 1 in order to attract a private investor.

For Phase 2, TCH took less risk, as the new condominium projects were able to be financed by traditional lenders and the majority of the condominium units had been sold prior to construction. Beginning in Phase 2 and continuing in Phase 3, the City of Toronto agreed to fund 60 percent of the cost of the municipal infrastructure and waived development fees and property taxes on all affordable housing units. For Phase 3, TCH negotiated a sale of the necessary land to the private development partner, such that it would no longer bear any market risks related to sale of the condominiums.

Daniels Corporation successfully met the requirements for Phase 1 and 2 and is continuing as the developer for Phase 3. The first building was opened in 2010 and Phase 3 is expected to be completed in 2019/2020.

[167] Photo on the left: Kevin Costain (https://commons.wikimedia.org/wiki/File:There_Goes_The_Neigbourhood_(24328647145).jpg), „There Goes The Neigbourhood (24328647145)", https://creativecommons.org/licenses/by/2.0/legalcode.

Photo on the right: DanielsCorp (https://commons.wikimedia.org/wiki/File:6acreRegentPark.jpg), „6acreRegent Park", https://creativecommons.org/licenses/by/3.0/legalcode

Lessons Learned

It has been reported that this project succeeded both in terms of refurbishing affordable housing stock and for being more inclusive towards a part of Toronto that had been underserved for several years.

This project highlights how blended or phased financing approaches can help to attract private investment to underserved areas.
In addition, formal and informal community engagement was important to the delivery of this project as. Around 2,000 people were consulted prior the development in 2006 and, although a number of meetings were held officially, informal meetings among residents were also highly encouraged. THC conducted several community engagement activities, including hiring and training community residents to provide information about the redevelopment to their fellow residents, gather their concerns and opinions, and the report them back to THC. This proved useful in navigating language barriers, as there are more than 50 languages spoken in Regent Park. Furthermore, involving several non-profits active in the area helped different stakeholders get engaged, learn more about the project and collaborate with it.
One example of inclusion of the community's concerns is the decision to provide women with exclusive space at public pools, which was a direct response to concerns voiced by the Muslim community engagement activities conducted in relation to this project.[168]

81. Sustainable Housing Project, Turin, Italy

Photo Credit[169]

Background

The City of Turin initiated a series of temporary, affordable housing projects with the aim of providing housing to vulnerable individuals and families, including families waitlisted for public housing, single-income families, low-income young couples, posted workers, students, and immigrants. These projects leveraged innovative financing mechanisms, including PPPs, by reusing abandoned buildings. One such project used a nine-story building that was in poor condition, having been vacant for over 20 years. The building was located in a northern suburb of Turin with a population of 3,000, between a residential district and a large industrial plant.

Project Structure

In December 2008 the municipality of Turin issued a public tender for a PPP to refurbish, modify, and manage the building. Following a public tender, the municipality awarded the project to a consortium led by Oltre Venture. Oltre Venture later established an SPV called Ivrea 24 in collaboration with an operative partner, Cooperativa DOC, and a financial partner, Fondazione CRT, a bank. A management company called Sharing Ltd. was also created to provide management services for the social housing project. Oltre Venture owned 70 percent of the shares of Sharing Ltd. and Cooperativa DOC owned the remaining 30 percent. Cooperativa DOC's role was to provide the consortium with hotel and hostel management expertise.

The municipality agreed to allow the SPV to take over the ground lease of the property for 90 years. Under this arrangement, the lessee is permitted to develop the property during the lease period, at the conclusion of which the land and all improvements would revert to the municipality. As part of the agreement, the city included requirements for energy efficiency and defined environmental impact measures.

Oltre Venture and Fondazione CRT co-financed the capital cost of the project, providing about EUR 1.3 million (USD 1.5 million) and EUR 13.2 million (USD 15 million) in equity, respectively.

The restored building opened on 4 September 2011, with Sharing Ltd. running the building and paying rent to the SPV, Ivrea 24. The refurbished building consisted of 182 flats equipped with 470

[168] Toronto Community Housing. 2017. "Rationale for Regent Park Funding Request to City Council." Regent Park Revitalization Project. Accessed February 7, 2019. https://www.toronto.ca/legdocs/mmis/2017/cc/bgrd/backgroundfile-101361.pdf;

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Jaffe, Eric. 2018. "Amid an Urban Affordability Challenge, a Model for Inclusive Housing Grows in Toronto's Regent Park." *Medium,* February 23. Accessed February 7, 2019. https://medium.com/sidewalk-talk/amid-an-urban-affordability-challenge-a-model-for-inclusive-housing-grows-in-torontos-regent-park-aa6ae06de92d;

Levin, Dan. 2016. "In Toronto, a Neighborhood in Despair Transforms into a Model of Inclusion." *The New York Times*, February 28. Accessed February 7, 2019. https://www.nytimes.com/2016/02/29/world/americas/in-toronto-a-neighborhood-in-despair-transforms-into-a-model-of-inclusion.html?_r=0&source=post_page----------.

[169] chensiyuan (https://commons.wikimedia.org/wiki/File:Turin_aerial_2009.JPG), https://creativecommons.org/licenses/by-sa/4.0/legalcode

beds, kitchen and other ancillary services, such as a bar, restaurant, laundry, grocery store, a medical and dental clinic with controlled prices, an employment office, an after-school activity center, and a car/bike-sharing system. All of these services are managed by Sharing Ltd. and open to tenants and all neighborhood residents. In addition to the flats, which are rentable for a maximum of twelve months, the building is equipped with 58 affordably priced hotel rooms. About 20 residential units of the apartments are reserved for families waiting for public housing. These families only need to pay "social rent," which is fixed at an amount below the rental fee otherwise charged by Sharing Ltd. For each of these 20 units, the municipality pays an annual fee of up to EUR 366 (or USD 417) to Sharing Ltd.

Lessons Learned

In 2014, Sharing Ltd. reportedly reached the break-even point. The energy-efficient measures are reported to have helped Sharing Ltd. increase rents while still keeping them below-market rates, as a result of the energy costs saved by tenants. This project highlights the potential to leverage private sector technical expertise and innovation, in this case through energy-efficient capital investments. It further highlights how municipalities can leverage existing assets and development rights to help finance infrastructure investments.[170]

82. Challenging Case: Slum Rehabilitation Scheme, Maharashtra, India

Photo Credit[171]

Background

Since the beginning of the 20th century Mumbai has experienced a large influx of migrants from all across India. This has contributed to the emergence and expansion of slums. In January 1995 there were estimated to be 805,000 slum dwellings with 4,000,000 slum inhabitants. To address this issue, the Government of Maharashtra launched its Slum Rehabilitation Scheme (SRS) in December 1995. This was a PPP scheme that invited private developers to invest in slum rehabilitation projects in return for extra Floor Square Index (FSI). The program was expected to be carried out without any government investment. The Slum Rehabilitation Authority (SRA) was formed to oversee, coordinate, and provide approvals for SRS projects.

Project Structure

The most relevant features of the SRS were as follows:

- Eligible slum inhabitants were to be provided with new, on-site tenements consisting of a bedroom, kitchen, bathroom, and toilet at no cost, while ineligible slum inhabitants would be relocated;
- Implementing an SRS scheme would require first obtaining the consent of at least 75 percent of the slum inhabitants;
- The slum inhabitants would select the developer; and
- The tenements constructed under the SRS could not be sold by their residents for the next ten years.

To attract private developers, the scheme operated on the basis of Transferable Development Rights (TDR). The TDR allowed developers to "transfer a portion of the surplus development rights provided under SRS to any other sites in the city," which were many times more profitable than the SRS sites.

The government also offered a Floor-Area Ratio or FSI to incentivize private developers to demolish existing slums and provide new, on-site housing. This meant that extra units constructed could be sold at market price, with the private developer retaining the full proceeds of these sales. It was anticipated that this would allow the government and private developer to cross-subsidize the

[170] EVPA. 2014. "Planning and Executing an Impactful Exit – A Practical Guide." EVPA. Accessed February 14, 2019. https://evpa.eu.com/uploads/documents/CASE_OltreVenture_Ivrea24Sharing.pdf;

Copiello, Sergio. 2015. Copiello, Sergio (2015), "Achieving affordable housing through energy efficiency strategy." *Energy Policy Volume* 85: 288-298. Accessed February 14, 2019. https://www.sciencedirect.com/science/article/pii/S0301421515002359;

Sharing Toronto. n.d. "Welcome at Sharing." Sharing. Accessed February 8, 2019. http://www.sharing.to.it/site/en/.

[171] François Zeller from Montreal, Canada (https://commons.wikimedia.org/wiki/File:Dhobi_Ghat_-_Mumbai_(Maharashtra,_India)_(32876891863).jpg), „Dhobi Ghat - Mumbai (Maharashtra, India) (32876891863)", https://creativecommons.org/licenses/by-sa/2.0/legalcode

provision of new apartments to slum inhabitants. These on-site apartments have an approximate value of INR 15,000 (USD 300).

The project was assisted at the beginning by The Alliance, an advocacy organization comprising the Indian non-governmental organization Society for the Promotion of Area Resource Centers (SPARC) and two community-based organizations: the National Slum Dwellers Federation (NSDF) and Mahila Milan. The Alliance's involvement was aimed at aligning the SRS projects with the slum inhabitants' interests. The Alliance would also rehabilitate slums at its own cost and in cooperation with financiers, such as Citigroup, to partially fund the scheme. Under this structure, The Alliance assumed much of the project risks, including technical and financial risks, while the municipality bore the political risk and the private developers the construction risk.

Lessons Learned

The SRS did not realize all of the projected results, in part due to the collapse of the Mumbai real estate market in the 2000s. This created an unstable market for the TDR – which was supposed to be the primary source of revenue for the private developers. Between 1995 and 2000, only 3,486 units were redeveloped. Out of 75,000 requests in 1998, the SRS had reportedly moved only 26,000 households as of 2002.

In 2013, the High Court of Mumbai ruled that the Government of Maharashtra must revoke the requirement of obtaining consent from 75 percent of the slum inhabitants, which had also contributed to the slow realization of results under the SRS. However, this ruling only applied to cluster development projects, which are those that involve the integrated development of slums into townships. In addition, reports have indicated that some slum dwellers sold or leased their new apartments and returned to their previous housing, citing issues related to poor quality of the new apartments and unaffordable maintenance costs.

This project suggests that affordable housing projects, if attempted without adequate government support and involvement, may be difficult to deliver. Furthermore, transferring nearly all of the risks to a third party, whether private or a non-governmental organization, can also make a project more vulnerable to crises. Municipalities should play an active role in all stages of affordable housing delivery, as government remains the central authority responsible for the provision of this essential service.[172]

83. Challenging Case: Dege Eco Village, Dar es Salaam, Tanzania

Photo Credit[173]

Background

Dar es Salaam is among the fastest growing cities in the world. The city's population has been projected to grow from six million in 2015 to 13.4 million by 2035, well in excess of the 10 million "megacity" threshold. This increase has been attributed to a high birthrate and growing migration to the city. These migrants come from all acrross Tanzania, hoping to improve their standard of living. As a result, Tanzania is facing an acute urban housing deficit of three million units that keeps growing by 200,000 units per year, mostly in Dar es Salaam. To address the housing deficit problem, Tanzania's National Social Security Fund (NSSF) partnered with a private company called Azimio Housing Estate Limited to construct the country's "most ambitious housing project," called Dege Eco Village in Dar es Salaam. The project aimed to provide 7,160 apartments and 300 villas catering to all income brackets.

Project Structure

The project began as an unsolicited proposal submitted by Azimio Housing Estate Limited, with the private partner offering to provide 300 acres of land located in Kigamboni District in Dar es Salaam for the project. A joint venture (JV) called Hifadhi Builders Limited was created, with NSSF and Azimio Housing Estate owning 45 and 55

[172] Jagdale, Rohit. 2014. "An Overview of Slum Rehabilitation Schemes in Mumbai, India" Repositories. Accessed June 11, 2019. https://repositories.lib.utexas.edu/bitstream/handle/2152/26620/JAGDALE-MASTERSREPORT-2014.pdf?sequence=1&isAllowed=y;

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Live Mint. 2018. "Opinion| India's Failure to Address its Urban Slum Problem." *Live mint*, Oct 23. Accessed June13, 2019. https://www.livemint.com/Opinion/AhwjNLTtMS8GK7i1RBqnSI/Opinion--Indias-failure-to-address-its-urban-slum-problem.html.

[173] Rocky Mbithi (https://commons.wikimedia.org/wiki/File:Dar_es_Salaam,_Tanzania_-_panoramio_(2).jpg), „Dar es Salaam, Tanzania - panoramio (2)", https://creativecommons.org/licenses/by-sa/3.0/legalcode

percent shares of the JV, respectively. Of the 55 percent shares held by Azimio, 20 percent reflected its land contribution and the remaining 35 percent was provided as cash. The project was reportedly expected to comprise three phases, scheduled for completion by the end of 2016, 2017, and 2018, respectively, at a total cost of USD 653 million. The joint venture would use the returns from the high-end housing units to subsidize the less profitable, lower-priced units.

Lessons Learned

After construction started in 2014, progress was reportdly slowed by a lack of basic infrastructure connections to the development site, including water, roads, and electricity. An audit completed in 2015 indicated that the project exhibited irregularities and was "not serving the public interest." Specifically, there were concerns that the project did not go through the PPP Financing Unit within the Ministry of Finance or the PPP Coordination Unit for approval in an effort to avoid government bureaucracy. Following further inspection, development stopped and the project site was deserted.

This project highlights the need to perform robust due diligence, secure all necessary approvals, and identify and ensure the availability of adequate funding and financing before beginning to implement any project. In addition, all approvals and required processes should be identified and adhered to, as any failure in this regard could undermine the project's credibility and jeapordize its viability. Finally, this project highlights how unsolicited proposals should be viewed with caution and subjected to independent due dilligence by the municipality.[174]

84. Challenging Case: Unity Housing Estate, Bauchi Town, Nigeria

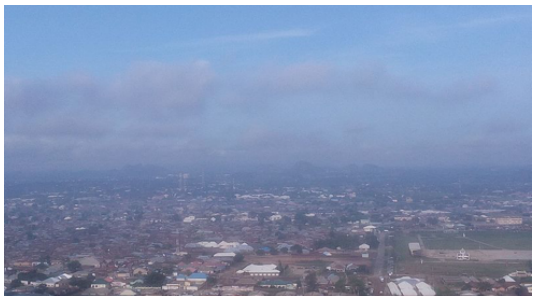

Photo Credit[175]

Background

Nigeria faces a significant shortfall in housing stock, particularly in urban areas, including the town of Bauchi. To help address this problem, the then-Governor of Bauchi initiated a PPP for low-cost housing in 2009, in part due to the limited funds avialable through the state budget.

Project Structure

The Bauchi state government partnered with a private company called Terraquest Development Company Limited to deliver low-cost housing intended for civil servants. The project would be divided into three pahses,w ith the first phase to deliver 288 units, the second 171, and the third 112.

The project was based on a design-build-finance (DBF) model. Terraquest would be responsible for designing, financing, and constructing the project. The state government would provide the land, payment for the final works completed, and the enabling infrastructure. The state government also aggreed to provide a guarantee for the financing acquired by Terraquest. The state government would also assume ownership of the housing units on completion of construction. Federal Mortgage Bank of Nigeria (FMBN) sponsored the project.

Lessons Learned

The first phase was completed and occupied but reportedly encountered difficuties when the state government allegedly breached the contract by refusing to pay the promised compensation of NGN 23 million (USD 64,000). Further reports indicate that about NGN 10 million (USD 28,000) was released to the private company during a visit by the Federal Minister for Housing. Citing the government's alleged failure to pay for the completed works, the private partner reportedly increased the price of the housing units by 19-23.5 percent. In addition, the intended beneficiaries encountered challenges when attempting to purchase the unites, due to the complex process involved. Recipients were required to provide guarantors and fulfill difficult conditions to qualify for mortgage loans. This has likely contributed to many of the housing units remaining empty.[176]

This project higlights the concern private sector investors may express over payment obligations by the public partner to a PPP, which may go unfulfilled for any number of reasons and threaten the private partner's investment in a PPP. In addition, the dispute over non-payment in this case was exasperated by the complex process fo acquiring housing units imposed on prospective tenants. This highlights the importance of engaging with key stakeholders, including end users, to ensure the accessibility of the intended infrastructure asset or service.

[174] Daman. n.d. "Dege Eco Village." Damn Construction. Accessed July 2, 2019. http://daman.co.tz/portfolio/dege-eco-village/;

Lazaro, Felix. 2015. "Lack of Infrastructure hits Development of Satellite City." *The Citizen*, March 5. Accessed July 2, 2019. https://www.thecitizen.co.tz/news/business/1840414-2647148-11i5aq3/index.html;

Kavishe, Neema, and Min An. "Challenges for Implementing Public Private Partnership in Housing Projects in Dar Es Salaam City, Tanzania." Paper Presented at the 32nd Annual ARCO, Manchester, UK, July 2016. Accessed July 2, 2019. http://www.arcom.ac.uk/-docs/proceedings/e5594aa1eecc7ada98f48946496b6d0d.pdf;

Rosen, Jonathan W. 2019. "This Tanzanian City may soon be one of the World's most Populous City. Is it Ready?" National Geographic. Accessed August 20, 2019. https://www.nationalgeographic.com/environment/2019/04/tanzanian-city-may-soon-be-one-of-the-worlds-most-populous/.

[175] Lucky Uwakwe (https://commons.wikimedia.org/wiki/File:Top_view_of_bauchi_state_capital_Nigeria.jpg), https://creativecommons.org/licenses/by-sa/4.0/legalcode

[176] Adegboye, Kingsley. 2010. "Abandoned Housing Projects litter Nigerian Cities." *Vanguard*, July 10. Accessed July 4, 2019. https://www.vanguardngr.com/2018/07/abandoned-housing-projects-litter-nigerian-cities/;

Sanda, Yakubu N, Natalia A. Anigbogu, and Mallo Maren Daniel. 2017. "An Assessment of Public Private Partnerships

Education

85. Bundled Schools, Ireland

Photo Credit[177]

Background
In 2005 Ireland's Minister for Education and Science initiated a program aimed at delivering 27 new schools in rapidly developing areas, either by refurbishing or replacing existing schools with new facilities. The 23 post-primary and four primary schools were to be delivered as PPPs, in five bundles. The projects were separated and named accordingly, as 'Schools PPP Bundle 1', 'Schools PPP Bundle 2', 'Schools PPP Bundle 3', and so on.

Project Structure
Schools PPP Bundle 3 entailed the design, construction, financing, and maintenance of eight schools (seven post-primary schools and one primary school) that would serve a student population of approximately 5,700. In some locations, the project delivered new facilities; in others, it replaced existing schools. In certain areas, the project provided new facilities for schools formed from the amalgamation of existing schools.

After a competitive bidding process, the 25-year contract was awarded to BAM Schools Bundle 3 Ltd., a joint venture between BAM PPP and Dutch pension fund administrator PGGM. The value of the contract, singed in November 2012, was estimated at EUR 100 million. Construction commenced immediately and the first school opened just over a year later, in November 2013. The last school in the bundle opened in April 2014.

The financing was provided by Bank of Ireland, the European Investment Bank, and the National Pensions Reserve Fund. The private partner assumed all of the financial, design, and construction risks. It also undertook to deliver and maintain the schools to a defined standard and to provide a range of ancillary services (such as cleaning and building maintenance) for 25 years after construction. The projected total expenditure in unitary charge payments and projected future commitments throughout the project's life is approximately EUR 412 million (fully inclusive of VAT). Should there be any additional income generated during project's life, it will be shared 50:50 between the PPP company and the relevant school.

The project was carried out in close engagement with stakeholders about the impact of the construction on the school's educational mandates. For example, some school management expressed concerns regarding active school hours and the need to conduct examinations. In addition, special consideration was given to the environment surrounding some of the locations, as construction during breeding season posed a risk to certain animals in the vicinity.

At least two additional bundles, accounting for more than forty schools, have also been delivered. Brief information on each is provided, below.

- Schools PPP Bundle 1:
  Following a competitive bidding process, in March 2009 Macquarie Partnerships for Ireland (MPFI) was awarded the contract for the first bundle, which comprised four post-primary schools in three locations. Construction work began the same month and the four schools were delivered in August 2010. Sodexo Limited, the facilities management company engaged by the MPFI consortium, is providing operation and maintenance services, including cleaning, maintenance, energy management, and life-cycle replacement services.
- Schools PPP Bundle 2:
  The second bundle entailed the delivery of educational facilities for 4,700 students across six schools on five sites. Pymble Schools Ltd. was awarded the contract on 2 June 2010 after a competitive process that involved soliciting expressions of interest, shortlisting, tendering, and evaluation. Financing was provided by the

for Housing Projects in Bauchi State, North Eastern Nigeria." *International Journal of Regional Development* 4, no.1: 35-50. http://dx.doi.org/10.5296/ijrd.v4i1.9933;

Caldwell, Olivia. 2018. "The Rise of the Housing Public-Private Partnerships in Africa." Centre for Affordable Housing Finance in Africa. Accessed July 4, 2019. http://housingfinanceafrica.org/the-rise-of-housing-public-private-partnerships-in-africa/.

[177] Tulane Public Relations (https://commons.wikimedia.org/wiki/File:Studying_(2759729091).jpg), „Studying (2759729091)", https://creativecommons.org/licenses/by/2.0/legalcode

European Investment Bank, Bank of Ireland and NIBC. The construction works commenced in the same month, June 2010. The last school in this bundle was delivered in October 2011, one month ahead of schedule.

Lessons Learned

The Schools PPP Bundle 3 project has been selected for several awards, including: Silver Award - Best Completed Project in the Partnerships Awards 2016; Winner - Education Project of the Year in the Irish Construction Industry Awards 2015; and Winner - Best Education Award in the Irish Architecture Awards ceremony – the Royal Institute of Architects Ireland 2015. It is also reported that the project created approximately 2,500 jobs.[178] This project highlights how innovative project structures, such as bundling multiple construction and rehabilitation projects into one contract, can leverage economies of scale for the design and construction of government facilities. Similarly, bundling may help generate economies of scale for due diligence, project preparation, and the tendering process, thereby saving time and money. Finally, bundling can help make the project more attractive to private investors and may help guarantee the same quality standards across the bundled projects.

86. Free Computer Training for Underprivileged Children, Kolkata, West Bengal, India

Photo Credit[179]

Background

In modern times, knowing how to use a computer can be an important gateway to success. However, due to the high cost of obtaining computer-related skills, many poor communities in West Bengal did not have access to computer education opportunities. In light of this, the Bengal Services Society (BSS), a non-governmental organization (NGO) based in West Bengal, collaborated with the Kolkata Municipal Corporation (KMC) in 2003 to establish a free computer training center for underprivileged children using a KMC-owned and under-utilized school.

Project Structure

The project was spearheaded by the public sector and an NGO, with contributions from a leading computer company. KMC provided the space for free, the NGO provided the training, and the computer company donated nine personal computers (PCs) to the school. These nine PCs were meant to be used by 18 students per session. Sessions would last for 45 minutes and be held six days a week. The training would be open to all underprivileged children aged 10 to 14. Each child would be able to receive free training twice a week. The children would be awarded certificates once they had completed the course.

Lessons Learned

The collaboration between KMC and BSS was innovative as it utilized an old and under-used public asset to deliver a much-needed project for children from low-income families. According to the last reports from 2003, KMC was planning to initiate similar collaborations with other NGOs to deliver similar projects using 15 other under-utilized school buildings. However, no further information could be obtained from publicly available reports regarding the scaling up of the project by KMC.[180]

This project highlights how municipalities can leverage existing, under-utilized assets to deliver important services for residents.

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BAM. 2013. "Irish Schools PPP Programme – Bundle 3." Bam Careers. Accessed July 2, 2019. https://bamcareers.com/ie/projects/irish-schools-ppp-programme-bundle-3/.

[179] Frederick Noronha. (https://commons.wikimedia.org/wiki/File:India_Goa_computers_kids.jpg), „India Goa computers kids", https://creativecommons.org/licenses/by-sa/3.0/legalcode

[180] Mandal, Sanjay. 2003. "Computer Skills Free for Street Kids." *The Telegraph*, April 12. Accessed July 2, 2019. https://www.telegraphindia.com/states/west-bengal/computer-skills-free-for-street-kids/cid/1086566.

87. Mafra and Ericeira Business Factory, Portugal

Photo Credit[181]

Background

The Municipality of Mafra occupied an area of 291 km² and was home to 76,685 people. In 2015 it wanted to increase entrepreneurship in the villages in order to create jobs and encourage people to stay and contribute to the villages. To this end, the municipality aimed to build and promote an entrepreneurial ecosystem. With little internal expertise in developing such a system, the municipality decided to pursue a PPP to create a business incubator and outsource the training services to an experienced private partner. Subsequently, it established two business incubators, one in Mafra village and another in Ericeira village.

Project Structure

The municipality awarded the PPP contract to Territórios Criativos, a private operator specializing in entrepreneurial activities and training, business incubator management and incubator community management. The private operator would provide the direct services, including trainings for attendees and micro-managing and operating the incubator, while the municipality would provide the physical site and facility –an under-utilized primary school building. At the same time, national government institutions providing funding for the supporting infrastructure.

The project would derive its revenues from the monthly fees collected from aspiring entrepreneur attendees, renting out rooms, and a sponsorship agreement with a local bank (Caixa de Crédito Agrícola). The monthly fees paid by the entrepreneurs were intended to be quite low compared to the market price. The monthly payments would entitle the attendees to, inter alia, working space, access to the internet, mentoring, business boot camps, consultations (e.g. legal advice), training programs, marketing, and leadership programs.

The private partner also agreed to provide capacity building to municipal staff to facilitate knowledge transfer and sustainable operations in the event that the municipality elected not to renew the PPP contract at the expiration of the original term.

Lessons Learned

Since the incubator opened in April 2015, it has reportedly created a network that helps connect local players relevant to entrepreneurship, including local schools, angel investors, and public authorities. It is designed to foster an exchange of expertise between hired experts, aspiring entrepreneurs, and municipal staff. The most recent reporting indicates that there are 60 projects in the business incubator and 50 percent of the entrepreneurs are women. To improve the project's financial sustainability, the business incubator is reportedly planning to introduce progressive fees for new attendees and solicit more local companies to sponsor some rooms.

This project benefited from the following:

- The project concept was prudently and purposefully designed, with close engagement between local and national stakeholders throughout the project development process. By pursuing a PPP, the municipality was able to engage an experienced private partner with unique expertise in promoting entrepreneurship and fostering partnerships among the key players. To fully realize this benefit, the municipality was able to include a requirement that the private partner provide capacity building opportunities for municipal staff.
- The project aimed to leverage all possible revenue streams in order to improve its financial viability, which highlights how municipalities should think creatively and expansively about funding options when designing a PPP.[182]

[181] Moyan Brenn from Italy (https://commons.wikimedia.org/wiki/File:Study_(16840395246).jpg), „Study (16840395246)", https://creativecommons.org/licenses/by/2.0/legalcode

[182] UNECE. *International PPP Forum: Implementing the United Nations 2030 Agenda for Sustainable Development through Effective. People-First Public-Private Partnerships.* Geneva: UNECE, 2017. Accessed July 20, 2019. https://www.unece.org/fileadmin/DAM/ceci/documents/2017/PPP/Forum/Case_Studies_Compendium.pdf.

88. James F. Oyster Bilingual Elementary School, Washington, District of Columbia, United States

Photo Credit[183]

Background

The James F. Oyster Bilingual Public Elementary School was nearly closed in 1993 due to the deteriorated state of the building and a lack of public funding to rehabilitate it. This helped motivate a decision to rehabilitate the building using a PPP, which would be executed between: (i) the District of Colombia's Public School District, which controlled the school and site; (ii) the District of Colombia municipal government (the municipality), which owned the site and was responsible for levying property taxes; and (iii) a private real estate development company.

Project Structure

The municipality recognized that the school was situated in an attractive neighborhood, such that the property on which the school was located had added value. Acknowledging the real value of the property, the municipality agreed to allow the private developer to develop an apartment building adjacent to the school, which was expected to generate the cash flow needed to finance the construction of a new school building.

The private developer tore down the old school building and divided the school property in half. One portion was reserved for building a new school and the other half was set aside for the development of a nine-story, 211-unit upscale apartment building. In accordance with the PPP contract, the school's design would be carefully overseen by the school board, with input from the community. A USD 200,000 grant from the Ford Foundation helped to pay for the initial engineering designs and planning.

To fund the construction of the new school building, the municipality issued USD 11 million in 35-year, tax-exempt bonds, repayable entirely from the revenue generated by the private apartment building. Through this structure, it was expected that the school could be rehabilitated at no cost to the taxpayers.

Lessons Learned

The school re-opened in 1998 as a three-story, brick building equipped with a computer lab, library, gymnasium, 33 underground parking spaces, classrooms designed to accommodate the school's bilingual program, office space for after school programs, and other space available for community use.[184]

This project highlights how municipalities may be able to leverage development rights to land in or around the project site to help finance infrastructure investments. In this case, by leveraging a portion of the valuable land parcel on which the school was situated, the project was reportedly able to generate sustainable revenues to fund the refurbishment of the public asset without requiring any direct contribution from the public budget.

[183] AgnosticPreachersKid at en.wikipedia (https://commons.wikimedia.org/wiki/File:John_Quincy_Adams_Elementary_School.JPG), „John Quincy Adams Elementary School", https://creativecommons.org/licenses/by-sa/3.0/legalcode

[184] ESC Pau. 2012. "Oyster School, Washington, D.C." ESC Pau. Accessed February 15, 2019. https://www.esc-pau.fr/ppp/documents/featured_projects/usa_oyster_school.pdf;

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89. Varaždin County School Program, Croatia

Photo Credit[185]

Background

At the time this project was initiated in 2006, the schools in Varaždin County, Croatia, were becoming increasingly overcrowded. To accommodate all students, schools had started organizing their classes into two core sessions per day, one morning school and one afternoon school, for six days each week instead of five. To help address the overcrowding issue, the county planned to build one new school, refurbish 21 existing schools, and construct ten gymnasiums.

Project Structure

The county elected to pursue a PPP for the project using an availability payment mechanism. To this end, it began competitively tendering the various sub-projects at the beginning of 2006. Through competitive negotiations, it awarded and executed eight PPP contracts with three special purpose vehicles (SPVs), mostly consisting of domestic companies. Through these eight contracts, which had an estimated value of EUR 40 million (USD 46 million), the SPVs assumed responsibility for designing, financing, constructing or reconstructing, and operating the 22 schools and ten gymnasiums. Construction was to begin by the end of the same year and the concession period would last for 25 years, after which the schools and gymnasiums would transfer to the county. The SPVs financed the capital investment cost through commercial bank loans.

In return, the SPVs would receive regular availability payments, which would be shared by the county and the local municipalities served. The county agreed to provide 80 percent of the amounts payable, with the municipalities responsible for the remaining 20 percent.

The contracts stipulated the construction standards, key performance indicators, and payment mechanisms, including service failure deductions, over the contract's lifetime. They further included other facility requirements, such as environmental, structural, health and safety, fire protection, and natural disaster parameters. The contracts also defined when the school facilities needed to be available for school use.

Lessons Learned

Construction began near the end of 2006 and the facilities opened in September 2008. Construction was reportedly completed as planned, without any delays or unexpected cost increases. By bundling the various sub-projects, the county was able to facilitate the construction or reconstruction of several schools within a relatively short period. This project reportedly helped the county ensure equal standards in education delivery in these schools and contributed to higher educational achievements, as evidenced by these students' exceptional performance in several national competitions. This program was later used as a precedent and model for similar PPP projects in other counties and municipalities in Croatia.[186]

This project highlights the following:

- Innovative project structures, such as bundling multiple, smaller concessions into one contract, can leverage economies of scale for the design and construction of public facilities. Similarly, bundling may help generate economies of scale for due diligence, project preparation, and the tendering process, thereby saving time and money. Finally, bundling can help make the project more attractive to private investors and may help guarantee the same quality standards across the bundled projects.
- PPPs can leverage private sector efficiency and expertise to deliver more infrastructure assets more quickly, at the same or less cost than if the assets were directly procured by the municipality, with less risk to the government. Accordingly, a PPP can provide value for money even where the municipality remains principally responsible for paying for the infrastructure asset or service provided.

[185] Suradnik13 (https://commons.wikimedia.org/wiki/File:Mađarevo,_Varaždin_County.jpg), https://creativecommons.org/licenses/by-sa/4.0/legalcode

[186] UNECE. *Scaling up: Meeting the Challenges of the United Nations 2030 Agenda for Sustainable Development through People-First Public Private Partnership.* Geneva: UNECE, 2018. Accessed February 8, 2019. https://www.unece.org/fileadmin/DAM/ceci/documents/2018/PPP/Forum/Documents/Case_Study_Database_2018.pdf;

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90. Public Schools, Belo Horizonte, Minas Gerais, Brazil

Photo Credit[187]

Background

The City of Belo Horizonte, the capital of the Brazilian state of Minas Gerais, is one of the largest cities in Brazil, with a primary population of 2.4 million and a total of 5.4 million people living in the greater metropolitan area. However, Belo Horizonte was facing a serious deficiency in access to education, with available school buildings and resources only able to meet about 35 percent of the demand. Over 11,000 children, many of whom were underprivileged, were on a waiting list to enroll in schools. To help address this issue, the municipality, with assistance from the International Finance Corporation (IFC), decided to leverage private sector finance and expertise to expand and strengthen its early childhood education system within on an expedited timeframe.

Project Structure

Assisted by the IFC, the municipality designed the project and initiated a competitive bidding process to select a private partner, which began in March 2011. In August 2012 the Educar Consortium, led by Odebrecht, a leading Brazilian construction company, won the 20-year concession to finance, build, and equip 32 new preschools and five primary schools. The company also assumed responsibility for non-pedagogical services, such as building maintenance, security, cleaning, surveillance, laundry, utility management, and environmental sustainability. The municipality agreed to provide the land required for the facilities and retained responsibility for staffing, administrators, teachers, cafeteria workers, and monitoring of educational performance.

The PPP was structured using an availability-based model. Under this arrangement, the municipality would pay the private partner a regular, monthly fee based on a set of performance and availability indicators. The indicators would include quality of service, end-user satisfaction, security, and timely delivery of capital works, which were to be assessed by an independent verifier.

The private partner was expected to deliver the new facilities within two years of the contract signing, with the primary schools entering into operation about one year after construction. In constructing the schools, the private partner was obliged to comply with the regulatory standards set by the Brazilian Ministry of Education, the Brazilian Association of Technical Standards, and the Belo Horizonte Municipal Department of Education.

Lessons Learned

Reporting indicates that the construction works were completed in 2014 and the project mobilized USD 95 million in private sector investment. The project should provide sufficient facilities for more than 18,000 children from low-income areas of the municipality to attend kindergarten and elementary school. Based on this success, the project was upscaled in August 2014 through an amendment to the PPP contract. Specifically, the scope of the construction works was expanded from 37 to 51 school, with a capacity to serve 25,000 students.[188]

This project highlights the following:

- Innovative project structures, such as bundling multiple, smaller construction projects into one contract, can leverage economies of scale for the design and construction of public facilities. Similarly, bundling may help generate economies of scale for due diligence, project preparation, and the tendering process, thereby saving time and money. Finally, bundling can help make the project more attractive to private investors and may help guarantee the same quality standards across the bundled projects.
- PPPs can leverage private sector efficiency and expertise to deliver more infrastructure assets more quickly, at the same or less cost than if the assets were directly procured by the municipality, with less risk to the government. Accordingly, a PPP can provide value for money even where the municipality remains principally responsible for paying for the infrastructure asset or service provided.

[187] Photo in public domain published by Prefeitura de Belo Horizonte. https://www.flickr.com/photos/portalpbh/5249699584/in/album-72157625444894549/

[188] Odebrecht. 2014. "New Contract Established Between Inova BH and Belo Horizonte City Government Increases Number of Openings at Schools in CityMore". Odebrecht. Accessed November 27, 2019. https://www.odebrecht.com/en/new-contract-established-between-inova-bh-and-belo-horizonte-city-government-increases-number;

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91. The North Toronto Collegiate Institute, Toronto, Canada

Photo Credit[189]

Background

The Toronto District School Board (TDSB) needed to fulfill its educational mandate in a context of limited funding and land availability. One priority was rehabilitating the North Toronto Collegiate Institute (NTCI), a public high school founded in 1912 with aging and deteriorating facilities. The TDSB recognized that the NTCI occupied a strategic location in midtown Toronto, with direct access to public transit and a vibrant retail street. This strategic location motivated the TDSB to attempt to leverage private investment to deliver a refurbished NTCI.

Project Structure

The redevelopment of the school was made possible through a unique PPP between the TDSB and a private developer, Tridel. Tridel was chosen from among ten bids received for the project. A portion (0.7 acres) of the school grounds was sold to Tridel for CAD 23 million (USD 17 million). The proceeds from the sale were then used to fund part of Tridel's investment in the new school building. Put differently, Tridel received this 0.7-acre portion of the project site in return for its USD 17 million capital investment in the new school. Tridel would then be able to use this land for profitable, residential developments to recoup its investment.

The total cost of constructing the school was estimated at CAD 52 million (USD 39 million). Tridel was able to obtain financing for the project by leveraging its planned residential developments. In addition, the building was designed to LEED (Leadership in Energy and Environmental Design) standards, a prominent green building rating system. This allowed Tridel to obtain green debt financing, based on utility payback and life-cycle costing. The TDSB also provided additional funds to help complete the construction of the school and alumni contributed funds of approximately CAD 300,000 (USD 225,700) to pay for the school heritage courtyard.

Lessons Learned

The rebuilding process began in 2005 and the refurbished school building opened in 2010. The school facility reportedly has about 14,500 m^2 of floor space and the two private residential towers have 46,500 m^2. The four-story school building was designed to accommodate 1,200 students and include science, art, music, and drama classrooms, as well as a 600-seat theatre, library, and gymnasium. There is also an outdoor playing field on the site, which can be used by the school and is accessible to residents and the general public.

The project has received accolades for its participatory design approach, which involved input from a number of stakeholders, including councilors, representatives of the local community, NTCI alumni, students, parents, the school board, the developer, and architects.[190]

This project highlights the following:

- Municipalities may be able to leverage development rights to land in or around the project site to help finance infrastructure investments.
- Municipalities should be open to innovative approaches to financing, including blending multiple sources of funding and financing. In this case, the project benefitted from the green financing obtained by the private partner as well as a capital contribution from the public partner. In some circumstances, a mixture of private and public funding and financing can help maximize the impact of limited public resources.

[189] Photo in the public domain published by Oreo Priest https://commons.wikimedia.org/wiki/File:New_North_Toronto_Collegiate_Institute.JPG

[190] Anandan, Swathika. 2016. *TDSB – to P3 or Not?- Exploring Alternatives in Public-Private Partnerships for including public schools in mixed-use vertical developments in Toronto*. McGill. Accessed November 27, 2019. http://digitool.library.mcgill.ca/webclient/StreamGate?folder_id=0&dvs=1574896929031~514;

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92. Kenyatta University Hostels, Kenya

Photo Credit[191]

Background

Many Kenyan universities have faced student accommodation shortages as an increasing number of Kenyans have sought higher education. This was particularly true for Kenyatta University, which had a population of 74,000 undergraduate students and space to house only 10,000 in 21 hostels. To help address this issue, Kenyatta University pursued a PPP to build and operate more hostels to accommodate the growing number of students. The project received advisory support from the International Finance Corporation.

Project Structure

In 2014 a consortium of several domestic Kenyan companies, led by Africa Integras, won a public tender for a PPP contract with an estimated value of USD 57 million to construct and operate Kenyatta University hostels for a period of 20 years. Africa Integras is a US-based private equity firm that specializes in developing education infrastructure using PPPs. The hostels would be transferred to the university at the end of the contract.
The PPP agreement was signed in June 2015.

The project would entail the construction of handicapped-accessible dormitory facilities sufficient to house 9,350 undergraduates, 500 postgraduates, and 150 married students on 70,915 m^2 of land. The hostel amenities were to include leisure facilities, cafes, and study areas.

Africa Integras obtained financing for the project from international lenders. The hostels generate revenue from the students, who pay to stay in them. However, rather than transfer the collection risk to the private partner, the university agreed to collect the hostel rents as part of the tuition fees and then pass these payments on to the project company.

Lessons Learned

This project is expected to help Kenyatta University address the housing shortage for university students, while also keeping university education affordable through the provision of lower cost accommodations. The project began construction in April 2018.[192]

Municipalities should carefully consider the allocation of risks in any PPP project. While transferring risk to the private partner can be a key benefit of a PPP, transferring too much risk to the private partner can increase the cost of the project and lead to project failure. In this case, the public partner agreed to retain the collection risk, as it was seemingly the partner best placed to manage this risk.

[191] Stephenwanjau (https://commons.wikimedia.org/wiki/File:Jomo_Kenyatta_University_Juja_Campus_Main_Library.JPG), „Jomo Kenyatta University Juja Campus Main Library“, https://creativecommons.org/licenses/by-sa/3.0/legalcode

[192] The Christie Company. 2018. “An Education Crisis in Africa.” Christie Company. Accessed February 8, 2019. https://www.christiecompany.com/africa-integras/;

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Healthcare

Hospital

93. Inkosi Albert Luthuli Hospital in KwaZulu-Natal, South Africa

Photo Credit[193]

Background
In the 1990s the Provincial Government of KwaZulu-Natal aimed to build one of the best hospitals in the country. Initially, the project concept entailed the construction of an academic hospital with 1,000 beds. However, due to various complexities encountered during the planning stage and a lack of public funding, the KwaZulu-Natal Department of Health (KZNDoH) decided to scale down the project to a referral-only hospital with 846 beds. The construction of the hospital began in 1996. To help realize the conceptual vision of a hospital with cutting-edge technology and high-quality services, the KZNDoH decided to pursue a PPP to select a qualified private partner that could deliver all non-clinical services. In 2000 the KZNDoH appointed a transaction advisor tasked with completing a feasibility study and assessing the value for money obtainable through a PPP. The advisor chosen was the Ezempilo Consortium, consisting of PricewaterhouseCoopers (PwC), Gobodo, White & Case, EC Harris/SAICOG, and Hiltron.

Project Structure
The private partner for the PPP was selected through a competitive tender process. A total of 23 pre-qualification documents were received, from which five bidders were selected to proceed with the submission of a proposal. Following the bidding process in December 2001, a 15-year PPP contract with an estimated value of ZAR 746 million (USD 50.28 million) was awarded to the Impilo Consortium (Pty) Ltd. The consortium comprised the following entities, with their ownership shares as indiated: Siemens Medical Solutions (31 percent), Vulindlela Holdings (26 percent), AME Austria (20 percent), Drake & Skull (9 percent), Mbekani (7 percent), and Omame (7 percent). Financial close for the project was reached in February 2002.

Under the PPP agreement, the private partner would be responsible for all non-core functions of the hospital, including the cycling of planned replacements and the maintenance of medical equipment and IT systems. The agreement also required the establishment of a sinking fund for the duration of the project to fund periodic upgrading of equipment. The KZNDoH would be responsible for the staffing and operating the medical facilities. The equipment would be handed over to the KZNDoH at the conclusion of the 15-year contract, subject to an option for renewal.

The private consortium would provide financing for the project in the form of ZAR 60 million (USD 4.04 million) in equity and ZAR 326 million (USD 21.97 million) in long-term debt. The KZNDoH agreed to make an additional ZAR 360 million (USD 24.26 million) capital contribution to improve the viability of the project.

In addition, the KZNDoH would be responsible for making availability payments to the private partner.

[193] Vince Smith (https://commons.wikimedia.org/wiki/File:VWestDurban.jpg), „VWestDurban“, https://creativecommons.org/licenses/by-sa/2.0/legalcode

An annual payment of ZAR 230 million (USD 15.5 million), linked to the Consumer Price Index, would be payable in monthly installments.

Lessons Learned

This project began operating in June 2002. Reportedly due to the positive response to the services delivered by the private sector, the contract was extended to 2019.

However, the project is reported to have encountered some challenges related to foreign exchange risk, driven largely by the need to import a significant amount of the necessary equipment. As the ZAR weakened by more than 20 percent after the completion of the feasibility study, the annual fee payable by the KZNDoH increased from ZAR 230 million (USD 15.5 million), as anticipated in the feasibility study, to ZAR 250 million (USD 16.85 million).

The following lessons may be learned from this project.

- In planning and designing PPPs, municipalities should be careful to distinguish between wants and needs. In this case, the contracting authority decided to downscale the project's scope when further study suggested that the original concept would be unnecessarily complex and expensive.
- There is value in procuring a qualified transaction advisor. In this case, the project reportedly began construction while the feasibility study was still being completed and had not yet been approved by the National Treasury. Reports indicate that the transaction advisor helped mitigate the risk arising from these circumstances, by refocusing the project scope to focus on the services and and operation and maintenance components of the hospital project.
- PPPs generally entail long-term commitments and municipalities should likewise approach PPPs with a long-term mindset. The bidding criteria for this project reportedly focused on selecting a private partner that would provide cutting edge technology, rather than giving preference to proposals that offered cheaper, but lower quality, technology. Reports indicate that, in the long term, the superior technology ensured a higher quality of service delivery and provided savings on replacement and maintenance costs.
- Contracting authorities should consider all of the ways that foreign exchange risk might impact a PPP. Typically, municipal PPPs face foreign exchange risk where revenues are derived in local currency while debt is provided in a foreign currency. In this case, however, the foreign exchange risk arose from the project's need to import equipment.[194]

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Accessed February 5, 2019. http://www.ppp.gov.za/Documents/Closed%20PPP%20Projects%20as%20at%20December%202011.pdf.

94. Challenging Case: Construction of District Hospital, Żywiec, Poland

Photo Credit[195]

Background

The City of Żywiec, with help from Poland's National Health Fund (NFZ), decided to pursue a PPP to build a new hospital to replace an existing, 100-year-old hospital. The new hospital would be constructed according to European Union (EU) technical and sanitary standards, as required by EU regulations. In addition to the new facility, the city aimed to benefit from the transfer of knowledge and skills by partnering with a qualified, experienced private company.

Project Structure

The public authorities solicited bids and initiated a competitive dialogue with nine bidders interested in the project. However, only one of the nine bidders would agree to invest in the project if it did not include availability payments from the government. In 2011 the PPP contract was awarded to this bidder, InterHealth Canada Ltd., with a contract term of 30 years. The private partner would be obliged to design, finance, construct, and supply equipment to the new hospital. It further would assume responsibility for the day-to-day maintenance and management of the facility, as well as providing healthcare services.

The capital investment cost was estimated at EUR 35 million (USD 40 million), with the cost of procuring the hospital equipment required estimated at an additional EUR 17 million (USD 19 million). The project would include the construction of a hospital with 18,000 m^2 of usable area and equipped with 340 beds. The city agreed to provide the private partner with the necessary land and construct a new access road for the hospital.

The project would be financed by an equity contribution from the private partner, in an amount equating to about 25 percent of the total investment cost, a long-term loan from the European Bank for Reconstruction and Development (EBRD) of EUR 10 million (USD 11.3 million), and loans from several commercial banks, including FM Bank PBP and Alior Bank, which agreed to co-finance the project with the EBRD.

The private partner would receive payments from the NFZ, not the city, based on a separate contract with NFZ covering InterHealth's provision of healthcare services. Payment would be mainly based on the volume of services provided (e.g. the number of patients treated, procedures carried out). These payments were expected to total about USD 14 million over the course each one- to three-year contract term. The contract with NFZ could be renewed but renewal was not guaranteed. The city would be responsible for monitoring the quality of services and the efficiency of operations at the hospital facility.

The private partner was expected to recoup its investment through its contract with the NFZ, as well as through the provision of additional commercial medical services. To help the private partner achieve its financial targets, the city agreed not to allow any other entity to provide medical services in the area.

Lessons Learned

Construction of the project began in 2015 and was expected to finish by the end of 2018. However, no further publicly available information was found regarding the status of this project. The project reportedly encountered some delays, stemming from the following factors:

- There was an apparent mismatch between the short-term duration of the contracts with NFZ, which were one- to three-year agreements with no guarantee of renewal, and the long-term, 30-year duration of the PPP agreement. Other than the payments by NFZ under the relatively short healthcare service provision contracts, the private partner was not entitled to any fixed or guaranteed payments and no guarantee would be provided for the financing to be obtained by the private partner. As a result, the private partner reportedly had difficulty acquiring loans for the project.
- The applicable law stated that investments in hospitals were the responsibility of district authorities. As this project was structured so that the payments from NFZ would be the private partner's primary means of recouping its investment, the project presented some political, legal, and organizational concerns.
- The private partner reportedly elected to start preparation and construction work before reaching financial close, with the aim of

[195] Photo in the public domain published by Kokorik https://commons.wikimedia.org/wiki/File:%C5%BBywiec_Rynek_2012-10.JPG

demonstrating its commitment to the project. However, this presented a risk to the timely completion of construction in the event that the private partner was unable to secure the necessary financing.[196]

These issues highlight the importance of conducting robust project preparatory work, including with regard to project structuring, legal and regulatory compliance, and an appropriate allocation of risks between the parties to a PPP.

95. Majadahonda's Puerta de Hierro Hospital, Madrid, Spain

Photo Credit[197]

Background

The Puerta de Hierro Hospital, constructed in the 1960's, was approaching functional obsolescence, while Madrid's population had been increasing exponentially in the intervening decades. As a result, a new hospital, the Hospital of Majadahonda, was included in the Sanitary Infrastructure Plan 2004-2007. In light of public budget restrictions, however, the municipality needed to explore alternative ways to finance the project, ultimately deciding on a PPP as the preferred option.
The choice of a PPP was based not only on the need for private financing, but also the desire to leverage the expertise and experience of Spanish contractors and their management capacity for non-clinical services.

Project Structure

A two-stage competitive bidding process was launched in December 2004 and, in March 2005, the concession was awarded to a consortium formed by ACS, Dragados, Bovis Lend Lease, and SUFI. The consortium later established a special purpose vehicle called Hospital of Majadahonda S.A. to enter into the concession agreement with Madrid. The time from the announcement of the bidding process to contract award spanned less than 6 months. Financial close was achieved in February 2006 and, in July 2007, the new hospital began operating.

The project entailed designing, building, financing, operating, and maintaining a 172,000 m^2 hospital with capacity for 700 beds, 20 operating rooms, and 70 urgent attention points, at an estimated investment cost of EUR 242 million. The contract's scope included the construction of the hospital, provision of equipment and furnishings, and operation and maintenance of the facilities. This included making the facility suitable for use through the provision of non-clinical services, such as cleaning, security, restaurant management, laundry, waste management, and transportation. In addition, the contract provided the private partner with the right to commercially exploit authorized complementary zones and commercial areas, such as shops, cafeterias, parking lots, vending machines, and commercial stands, which were expected to generate additional revenues for the private partner. No medical services would be provided by the project company. Hospital operation and maintenance was subcontracted to another company called Sociedad Hospital Majadahonda Explotaciones, S.L., created by the consortium shareholders.

To finance the project, the private partner would provide an equity contribution of EUR 27 million and obtain a syndicated loan of EUR 222.6 million (senior debt with a 27-year tenure) from the following financial institutions: Dexia Sabadell, ING, Ahorro Corporación Financiera, Santander Bank, Sabadell Bank, Banesto, Espiritu Santo Investment, La Caixa, MCC and RBS. The debt leverage of the project would be 90:100. Key to obtaining the high financial leverage and long-term tenure was the absence of 'white coat' risk, meaning the provision of health and sanitary services, and the good standing and reputation of the project sponsors.

The concessionaire assumed the following risks and responsibilities: obtaining permits and licenses; construction; furniture acquisition and maintenance; facility maintenance; and non-medical and non-sanitary services, all to be provided at agreed levels of service. The public partner was responsible for transferring the land to the private partner for construction, making regular payments for use of the facility, and re-establishing the economic equilibrium of the contract should the circumstances require.

The project's revenue sources would include commercial revenues generated through the exploitation of the commercial areas and the monthly availability payments paid by Madrid, which would include a variable and a fixed amount. These payments would be subject to reductions in

[196] Chance, Clifford. 2013. "PPP Projects in the Healthcare Sector." Clifford Chance. Accessed January 11, 2019. https://www.cliffordchance.com/briefings/2013/03/ppp_projects_in_thehealthcaresector.html;

Reiserer, Axel. 2015. ËBRD Co-Finances New Hospital in Zywiec." EBRD. Accessed January 11, 2019. https://www.ebrd.com/news/2015/ebrd-cofinances-new-hospital-in-ywiec-.html;

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Kosycarz, Ewa A., Beata A. Nowakowska, and Marcin M. Mikolajczyk. 2018. "Evaluating Opportunities for Successful Public-Private Partnership in the Healthcare Sector Poland." *Journal of Public Health: From Theory to Practice* 27: 1-9. https://doi.org/10.1007/s10389-018-0920-x.

[197] Antonio Rubio from Madrid, España (https://commons.wikimedia.org/wiki/File:Puerta_de_Hierro_Hospital.jpg), „Puerta de Hierro Hospital", https://creativecommons.org/licenses/by/2.0/legalcode

the event of service level breaches, reflecting either facility availability or quality factors.

Lessons Learned

The project was reportedly not delivered on time, although a review of the publicly available information did not disclose an explanation for the delay. To date, the hospital is reportedly functioning as planned and the project has been described as a success by the relevant stakeholders.[198]

This project benefited from the following:

- There was a clear social and economic need for the hospital, in line with the municipality's strategic development plans and priorities. Projects with a strong, fundamental justification are more likely to be viable as PPPs.
- The construction phase was not too complex. Proper planning and design can be key to delivering a successful PPP.
- The private consortium comprised seasoned experts in the sector, with high financial liquidity and demonstrated technical experience. Well-selected and well-designed projects tend to attract good investors, while competitive procurement can help municipalities select the most desirable private partner.

Clinical Services

96. Hemodialysis Centers, Dhaka and Chittagong, Bangladesh

Photo Credit[199]

Background

Kidney failure has been a leading public health concern in Bangladesh. Around 40,000 patients were reportedly dying each year due to kidney disease and approximately 150,000 patients were leading restricted lifestyles due to lack of access to treatment. Existing dialysis facilities at hospitals were seen as inadequate, relying on obsolete equipment and operating in rundown buildings. The cost of treatment was also not priced affordably for some poorer communities. In response, the Bangladesh PPP Office asked the International Finance Corporation (IFC)'s PPP transaction advisory team to help structure a PPP for the construction, operation, and maintenance of dialysis facilities in select hospitals in the country's largest cities, namely at the National Institute of Kidney Diseases and Urology (NIKDU) in Dhaka and the Chittagong Medical College and Hospital (CMCH) in Chittagong.

Project Structure

In 2015, following an open and competitive bidding process, the Bangladesh PPP Office awarded the PPP contract to an Indian company, Sandor Medicaids Private Limited. The winning bidder had a reputation as a well-regarded company that was already operating a network of dialysis centers across India. The private operator would be responsible for designing, refurbishing, procuring, and installing equipment, as well as financing, rehabilitating, and maintaining the operations of the dialysis centers for ten years. The NIKDU and CMCH would provide space, utilities, and nephrologists at the two centers. The private operator would employ and maintain all staff other than the nephrologists.

The project entailed the installation of 110 dialysis stations – 70 stations at the NIKDU at a total cost of USD 2 million, and 40 stations at the CMCH at a total cost of USD 1 million. The project was financed at a debt to equity ratio of 40:60, where the debt is mainly used for equipment and machine imports. The project would use a cross-subsidization model with dual pricing – one (highly subsidized) fixed tariff for government-supported patients, and a higher (though still below market price) tariff for private patients. The private operator was obliged to provide 1,950 dialysis sessions for free and 19,500 dialysis sessions for USD 5 for government patients, while private patients would be charged

[198] CCA. 2009. "Caso de Estudio del Hospital Puerta de Hierro de Majadahonda." CCA. Accessed August 15, 2019. http://www.cca.org.mx/ps/funcionarios/muniapp/descargas/Documentos_de_apoyo/experiencias_internacionales/Experiencia_espana/capitulo_6_2.pdf.

[199] Irvin Calicut at Malayalam Wikipedia (https://commons.wikimedia.org/wiki/File:Bed_side_Dialysis.jpg), „Bed side Dialysis", https://creativecommons.org/licenses/by-sa/3.0/legalcode

USD 27-28 per session, at most. The Government of Bangladesh would pay around USD 700,000 each year to the operator to subsidize the fees charged to patients.

The dialysis centers in the CMCH and NIKDU were opened in March and July 2017, respectively.

Lessons Learned

This project was featured as one of the two "Pioneering projects" in KPMG Infrastructure 100 World Markets Report 2015 and selected as one of the top 100 projects worldwide in 2015. The project reportedly increased Bangladesh's national treatment capacity for dialysis by 12.3 percent, potentially saving over 1,200 lives per year. Around 150 to 180 patients receive dialysis service at the centers each day. Nonetheless, there have been reports that dialysis service appointments at NIKDU are being sold illicitly by some hospital staff. The Government of Bangladesh has issued an official order to strengthen the monitoring system for how appointments are made and has stated it will take punitive action against any employee who is found to be involved in this practice.[200]

This project highlights the following:

- Procuring an experienced, qualified transaction advisor, in this case the IFC, can help deliver a well-structured PPP. Quality advisory services can, among other things, help ensure an appropriate allocation of risk between the public and private partners based on international PPP contracting standards, while adapting the contract terms to the particular jurisdiction.
- A transparent and competitive bidding process can help municipalities obtain the best possible deal, that is optimal delivery at the lowest price, and select the most suitable private partner, in light of the municipality's needs and objectives.
- The public partner's responsibilities do not end when a PPP project begins to be implemented by the private partner. The public partner should remain an active and supportive partner even after a PPP project enters into operation by the private partner, as it is ultimately the public authority's responsibility to deliver necessary services to the public. It should take a proactive role in monitoring the project and be prepared to take all actions reasonably within its powers to promote the success of the project – in this case making timely payments to the private partner as well as taking efforts to curtail the alleged illicit sale of dialysis appointments.

97. Hemodialysis Center at the National Kidney and Transplant Institute, Quezon City, Manila, Philippines

Photo Credit[201]

Background

The National Kidney and Transplant Institute (NKTI), a government hospital specializing in renal care in Quezon City, Manila, was facing several problems, including an insufficient number of hemodialysis machines, outdated equipment, and increasing costs stemming from the maintenance and repair of old equipment. As a result, the NKTI had trouble accommodating emergency cases and was reportedly forced to turn away one to two cases each day, which was contributing to increased dissatisfaction among patients. Initially, the NKTI planned to invest in a new hemodialysis center to help address these problems. However, due to budget constraints, the NKTI was unable to purchase sufficient equipment to meet demand. As a result, the NKTI decided to pursue a PPP to help address these problems.

Project Structure

On tendering the PPP project, the NKTI received three principal bids and awarded the contract to Fresenius Medical Care Inc. on the basis that it was the most responsive proposal. The project was structured as a five-year equipment lease agreement, reflecting the estimated useful life of a hemodialysis machine.

Under the agreement, the private partner would be responsible for: (i) supplying all hemodialysis equipment, including state-of-the-art water treatment and dialyzer reprocessing machines; (ii) maintaining this equipment, including by providing service technicians; (iii) ensuring the availability of hemodialysis supplies at all times; (iv) training staff; and (v) maintaining and upgrading other relevant technology and equipment.

In return, the NKTI would be obliged to: (i) provide space, staff, and access to utilities; (ii) maintain quality performance of health services in accordance with international standards; (iii) ensure compliance with government regulations and policies; and (iv) make timely lease payments to the private partner for the use of the machines, in the form of adjustable lease fees per treatment.

Lessons Learned

The hemodialysis center became fully operational in August 2003. Latest reports indicate that the NKTI has 47 state-of-the-art hemodialysis machines that operate 24 hours per day. The center helps ensure patient satisfaction by providing high quality hemodialysis treatment at competitive rates. The center reportedly accommodates about 120 outpatients each day, with an average number of 34,283 treatments per year. This has resulted in increased revenues from both hemodialysis services and other ancillary units, providing NKTI with income above the lease payments owed to the private partner. Based on this success, the NKTI entered into a second contract with Fresensius Medical Care Inc. in 2009. The International Finance Corporation and the Infrastructure Journal have recognized this project as one of the 40 best PPPs in the world.[202]

The project highlights how PPPs can leverage private sector technology, efficiency, and expertise to deliver more and higher quality services to end-users at the same or less cost than if the service was directly delivered by public entities, with less risk to the government. Accordingly, a PPP can provide value for money even where the municipality remains principally responsible for paying for the infrastructure asset or service provided.

[200] International Finance Corporation. 2016. *Public-Private Partnership Stories – Bangladesh: Bangladesh Dialysis Centers.* Washington, D.C: World Bank Group. Accessed November 27, 2019. https://www.ifc.org/wps/wcm/connect/c7f8f09e-eb45-40bc-80ce-c4b0e4695b1d/PPPStories_Bangladesh_DialysisCenters.pdf?MOD=AJPERES&CVID=lHozdpE;

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[201] Photo on the left: Judgefloro (https://commons.wikimedia.org/wiki/File:05375jfLung_Center_Kidney_Transplant_Institute_Quezon_Cityfvf_30.JPG), https://creativecommons.org/licenses/by-sa/4.0/legalcode.

Photo on the right: Judgefloro (https://commons.wikimedia.org/wiki/File:05350jfLung_Center_Kidney_Transplant_Institute_Philippinesfvf_08.JPG), https://creativecommons.org/licenses/by-sa/4.0/legalcode

[202] Herberholz, Chantal. *PPP in Health Manila 2012.* Manila: ADB, 2012. Accessed February 17, 2019. https://www.adb.org/sites/default/files/project-document/79124/41664-012-phi-tacr-01-a10.3.pdf;

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98. Dialysis Services, Andhra Pradesh, India

Photo Credit[203]

Background

The Government of Andhra Pradesh was facing a high demand for dialysis service requests from patients below the poverty line (BPL), which was straining the capacity of existing public facilities for providing such services. In addition, qualified facilities were charging around INR 1,200 to 2,000 (USD 17 to 28) per dialysis treatment, which was not affordable for many BPL patients in need of regular treatment. In response, the Government of Andhra Pradesh decided to pursue a PPP to increase its capacity to provide dialysis to low-income patients.

Project Structure

With the aim of improving the quality, accessibility, and affordability of dialysis care, especially for BPL patients, the Government of Andhra Pradesh selected B Braun Medical (India) Private Limited to build and operate dialysis centers in 11 tertiary care, state-run hospitals. B Braun Medical (India) is a subsidiary of B Braun Melsungen AG, a leading healthcare supplier from Germany. Private operations were to begin in 2010 and continue for seven years. After the contract term, the dialysis centers would be transferred to the government.

Under the PPP agreement, the private operator would establish the dialysis centers at an anticipated investment cost of about INR 45 million (USD 630,000). In return, the government agreed to pay about INR 1,200 (USD 17) per dialysis treatment, of which INR 1,080 (USD 15) was payable to the private partner and INR 120 (USD 2) was payable to the host hospital.

The government also took on responsibility for mobilizing patients, with the state-run hospitals responsible for providing space, an uninterrupted power and water supply, and clinical nephrologists. The hospitals also assumed clinical liability for the patients, as 90 percent of staff were expected to be hired from state-run hospitals to help make the project more cost-effective.

It was anticipated that through this PPP the population of Andhra Pradesh, including and especially BPL patients, would receive improved access to quality, affordable dialysis care. In particular, patients insured through Aarogyasri, a state-sponsored health insurance scheme, would be able to access dialysis treatments at no personal expense.

Lessons Learned

Following the end of the contract with B Braun in 2016, the Government of Andhra Pradesh expanded the scope of the project to cover 26 hospitals in the state at a lower cost per treatment, about INR 1,000 (USD 14). To deliver the expanded operations, the government selected another private partner, NephroPlus, through a competitive tender. Under the current scheme, the private operator is obliged to follow world-class protocols and undergo regular audits. In 2018, NephroPlus reported having served more than 5,000 patients through the project.[204]

This project highlights the following:

- Innovative project structures, in this case bundling service provision at multiple state-run hospitals into one contract, can leverage economies of scale and create opportunities for a private partner to provide services more efficiently, thereby lowering costs to end users. Similarly, bundling may help generate economies of scale for due diligence, project preparation, and the tendering process, thereby saving time

[203] Yedla70 (https://commons.wikimedia.org/wiki/File:Hyderabad_Financial_district,India.jpg), „Hyderabad Financial district, India“, https://creativecommons.org/licenses/by-sa/3.0/legalcode

[204] USAID India. 2012. “Public Private Partnership in Health Sector: Opportunities and Challenges.” Health System Hub. Accessed February 18, 2019. http://healthsystemshub.org/uploads/resource_file/attachment/567/PPP_in_health_sector_2-_Muraleedharan.doc.pdf;

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and money. Finally, bundling can help make the project more attractive to private investors and may help guarantee the same quality standards across the bundled projects.

- PPPs can leverage private sector experience and expertise to deliver services more efficiently and at the same or lower cost as compared to direct service delivery by public entities. Accordingly, a PPP can provide value for money even where the municipality remains principally responsible for paying for the service provided.
- A proper allocation of risks, for example those related to demand, the availability of facilities and basic infrastructure connections, and service delivery, is a key element of a successful PPP. A well-structured PPP should ensure that risks are shared and primarily borne by the party most able to mitigate them.

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[199] Irvin Calicut at Malayalam Wikipedia (https://commons.wikimedia.org/wiki/File:Bed_side_Dialysis.jpg), „Bed side Dialysis", https://creativecommons.org/licenses/by-sa/3.0/legalcode