Financing Waste Infrastructure

James Alexander
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Overview

- Financing
- Funding
- PPPs
Funding and Financing
Funding and Financing

£62,000 !!
Funding and Financing

£62,000 !!

£62,000

Subsidy
£5,000

£0
Funding and Financing

£62,000 !!

Loan
£57,000

Subsidy
£5,000

£0
Funding and Financing

£62,000 !!

Financing

Loan
£57,000

Subsidy
£5,000
Funding and Financing

£62,000 !!

- Loan £57,000
- Subsidy £5,000

Financing

Repayments from monthly salary
Funding and Financing

£62,000!!

Financing

Loan
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Funding

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Funding and Financing

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Financing

- Loan £57,000
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Funding

- Repayments from monthly salary
- Electricity Servicing, Tyres, etc
Funding and Financing

£62,000 !!

Financing

- Loan £57,000
- Subsidy £5,000

Funding

Repayments from monthly salary

Operating costs

- Electricity
- Servicing, Tyres, etc
Urban Finance and Funding
Urban Finance and Funding
Urban Finance and Funding

FINANCING

Finance Source 1
Financial Instrument 1
Finance Source 2
Financial Instrument 1
Finance Source 3
Financial Instrument 2

Financial Package

Project
Demand Org.
Implementing Org.

FUNDING

Other revenues – tax, transfers etc
Service Provision
Users
User charges
Project Financing

- Own source revenues
- Other sources of revenue
- Debt
- Equity
- Combination
How to Finance Urban Infrastructure?

What are the basic options for urban infrastructure finance?

What financing can be provided through the private sector?

What additional financing can be provided through the public sector?

What additional financing can be provided through international organizations?
What are the basic options for urban infrastructure finance?

- Local taxes
- Non-tax sources (e.g. fees, tariffs, charges, fines)
- Municipal Revenues
- Unconditional grants (non-earmarked)
- Earmarked (for particular purposes)
- Subsidies
- Loans (debt)
- Intergovernmental Transfers (grants)
What financing can be provided through the private sector?

- General obligation bonds
- Project bonds
- Municipal bonds
- Corporate bonds
- Bonds (debt)
- Green/climate bonds
- Social impact bonds
- Public-Private Partnerships (PPPs)
- Infrastructure Investment Funds (equity and debt)
- Crowdfunding (equity or debt)
- Privatization/Full Divestiture (equity)
- Private Risk Mitigation (debt and equity)
What additional financing can be provided through international organizations?

- Concessional Loans (debt)
- Financing Facilities (debt and grants)
  - Loans (sometimes at concessional rates)
  - Technical assistance grants
  - Challenge funds
  - Viability gap funding (grants or concessional loans)
- Export credit agencies (generally debt)
- Green and Climate Funds (debt, equity, grants, guarantees)
- Risk Mitigation (debt and equity)
- Private Sector Loans and Equity (debt, equity, grants, guarantees)
- Carbon Finance and Emissions Trading (equity)
What additional financing can be provided through the public sector?

- Municipal Development Funds (MDFs) and Government-Owned Development Financing Institutions (DFIs) (debt, guarantees and grants)
- Tax exemptions
- Pooled Financing (debt)
- Viability Gap Funding (grants or debt)
- Public Risk Mitigation (debt and equity)
How to Finance Urban Infrastructure?

What are the basic options for urban infrastructure finance?
- Local taxes
- Loans (debt)
- Intergovernmental Transfers (grants)
- Earmarked (for particular purposes)
- Subsidies
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What financing can be provided through the private sector?
- Bonds (debt)
- Project bonds
- General obligation bonds
- Municipal bonds
- Corporate bonds
- Proceeds bonds
- Green/climate bonds
- Social impact bonds
- Municipal Revenues
- Public/Private Partnerships (PPPs)
- Lease arrangement
- Construction or service contract
- Concession
- Joint ventures/partial divesture
- Unconditional grants (non-earmarked)
- Municipal Revenues

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- Risk Mitigation (debt and equity)
- Sharia-Compliant Finance (debt and equity)
- Equity-based: Mudarabah and Musharakah
- Debt-based: Istina’a
- Lease-based: Ijarah

Challenge funds
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Where to start? Eliminate options that are not possible for your city.

Consider elimination based on legal restrictions, political considerations, availability of subsidies, etc.
Development Banks as finance sources

2. Feasibility Study, PPTA Preparation
3. PPTA Implementation
4. Loan and ADTA Processing
5. Loan Negotiations
6. Loan Approval
7. Loan Effectiveness
8. Project Implementation
9. Supervision, Monitoring & Reporting
10. Completion
11. Evaluation
Development Banks as finance sources
Development bank pros and cons

• **Pros**
  • Concessional finance – can lend at considerably reduced rates
  • Carefully analyse the project to ensure its success
  • Assess a wide range of criteria, not just project finances
  • Can provide technical support for project preparation and enter at an earlier stage than private finance

• **Cons**
  • Take a long time to approve a transaction
  • Usually require central government approval or only lend to national governments
  • Often lend in external currencies eg USD or EUR
Creditworthiness
Creditworthiness

£62,000 !!

Loan
£57,000

Subsidy
£5,000

Financing

Funding
Repayments from monthly salary
What are the risks?

£62,000 !!

Financing

Loan
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Funding
Repayments from monthly salary

Default
What are the risks?

£62,000 !!

Loan £57,000
Subsidy £5,000

Financing

Funding
Repayments from monthly salary

To determine the likelihood of default happening the credit rating of the borrower is assessed.
Credit rating

• A credit rating is an opinion on the relative degree of risk associated with timely payment of interest and principal on a debt instrument. A simple letter system (AAA, AA, A, BBB, BB, etc) is normally used to convey a credit rating.

• Providers of private sector finance need to match their risk/return requirements with that of the investment. Credit ratings provide a basis for this.

• Some providers (eg pension funds) are explicitly constrained by regulation as to the level of risk they can accept.
City creditworthiness challenges

- Low revenue collection rates
- Accounting practices
- Planning
Project Funding
Three Ts of revenue raising – sustainable sources of funding for cities

- **Tariffs** (user charges)
- **Taxes**
- **Transfers** (non-repayable funds from other layers of government / other governments)
Common city challenges

• Lack of financing capacity
• Cost of project preparation
• Lack of awareness of needs of investors
• Competing priorities
• Fees and taxes set too low and not collected
• Limited powers to raise funds
• Poor creditworthiness and financial management
• Lack of certainty on revenues
• Political considerations – city and national level
Common city challenges

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**Note** – lack of available finance is **not** a challenge – there is lots of money available for well-prepared projects!
Project delivery through Public Private Partnerships (PPPs)

Definition:
“A formal agreement between the public and private sector to deliver a public service with full or partial transfer of risks to the private sector”
PPP opportunities exist across the full MSW sector

- Planning and process optimising
- Waste collection and transfer
- Waste separation
- Waste disposal and recycling
- Energy recovery
Objectives of a PPP

• Reduce use of city’s own funds
• Deliver higher quality services
• Achieve better value for money
• Ensure high standards of operation and maintenance
• Mobilise private sector investment

• NOTE: These elements can only be achieved when contracted correctly.
Some important contracting elements

- Description of services to be operated
- Contractual structure
- Specified technical outputs and standards to be met as well as penalties for failure to meet standards or deliver adequate service
- Transparent process for operator selection
- Outline role of city in regulation and enforcement
- Determine payments to be made and the circumstances under which they will/won’t be paid
- Determine the risks being shifted to the private sector
Basic diagram of parties and contracts

- **Sponsor**
  - Equity
- **Lenders**
  - Debt
- **Financing**
- **Project Company**
  - Revenue
  - Concession Agreement
- **Waste Generators**
- **Government**
  - Support Agreement
Types of concessions

• **Build-own-operate-transfer (“BOOT”):** the Project Company designs, builds, owns and operates the project, earning revenues throughout a set period of time, at the end of which ownership reverts to the public sector.

• **Build-operate-transfer (“BOT”):** the Project Company constructs the project and has the right to earn revenues from its operation; however, ownership remains with the public sector.

• **Build-transfer-operate (“BTO”):** these are similar to a BOT project, except that the public sector does not take over the ownership of the project until construction is complete.

• **Build-own-operate (“BOO”):** these are projects whose ownership remains with the Project Company throughout its life. Therefore, the Project Company gets the benefit of any residual value in the project.
## Types of concessions

<table>
<thead>
<tr>
<th>Concession model</th>
<th>Build</th>
<th>Operate</th>
<th>City ownership</th>
</tr>
</thead>
<tbody>
<tr>
<td>Build-own-operate-transfer (“BOOT”)</td>
<td>✓</td>
<td>✓</td>
<td>At end of contract period</td>
</tr>
<tr>
<td>Build-operate-transfer (“BOT”)</td>
<td>✓</td>
<td>✓</td>
<td>Always</td>
</tr>
<tr>
<td>Build-transfer-operate (“BTO”)</td>
<td>✓</td>
<td>✓</td>
<td>At end of construction</td>
</tr>
<tr>
<td>Build-own-operate (&quot;BOO&quot;)</td>
<td>✓</td>
<td>✓</td>
<td>Never</td>
</tr>
</tbody>
</table>
PPP development process

1. Contract legal, technical and transaction advisors if needed
2. Define project objectives and assess options
   • Identify risks
   • Financial modelling
3. Create new regulations if needed
4. Contract preparation
5. Tender process
6. Select winning bidder and sign Letter of Intent or MOU
7. Winning bidder to raise capital and sign contracts
8. Construction
9. Operation
   • Collect fees via agreed mechanism and repay financing
10. Transfer of ownership at agreed time
Tender process considerations

• In pre-qualification invite all interested parties to demonstrate the following:
  • Technical capacity to carry out the project
  • Financial capacity to carry out the project
  • Qualifications and prior experience
• Those that demonstrate this should be shortlisted to receive from the city a Request for Proposals where the city outlines the following:
  • Data on the market, waste quantities and composition
  • Availability, service, and other output requirements
  • Proposed pricing formula
  • Draft Concession Agreement
  • The bid deadline, form of bid required and the basis for evaluation
• Bidders responding to the RfP should be judged using a transparent process taking into account the technical and financial aspects of each bid
Risk assessment

• Assessing the risks of the project is critical
• Common risks cities face include:
  • Access to land
  • Minimum price guarantee
  • Minimum waste volume or composition
  • Inflation and utility prices
  • Force majeure (unforeseen circumstances beyond the control of any party)
  • Regulatory changes
  • Existing environmental issues
  • Termination of contract by the city (eg for political reasons, etc)
  • Transparency
• It is also vital the city considers the service delivery risks from loss or reduction in service caused by the contractor and costs this may incur
• Be particularly careful of ‘world/country first’ projects
Common challenge areas

- **Waste quantity and quality** – be as specific as possible
- **Land acquisition** – this often requires significant support from the city
- **Flexibility in technology and solutions** – balance between being specific enough to deliver the services required and flexible enough to make best use of new technology and attract a wide range of bidders
- **Project preparation is a painstaking process** – however extra effort at this stage is rewarded with better quality projects, contractors that deliver the service required and improved risk awareness/mitigation
Further reading

- C40 Cities Finance Facility explainer: “How to finance urban infrastructure”
  - [https://www.c40cff.org/knowledge-library/explainer-how-to-finance-urban-infrastructure](https://www.c40cff.org/knowledge-library/explainer-how-to-finance-urban-infrastructure)
Thank you

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  - The Climate and Clean Air Coalition
  - The Financing Sustainable Cities Initiative, supported by the Citi Foundation
Thank you

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