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Infrastructure Funding & Delivery: A KwaZulu-Natal Case Study

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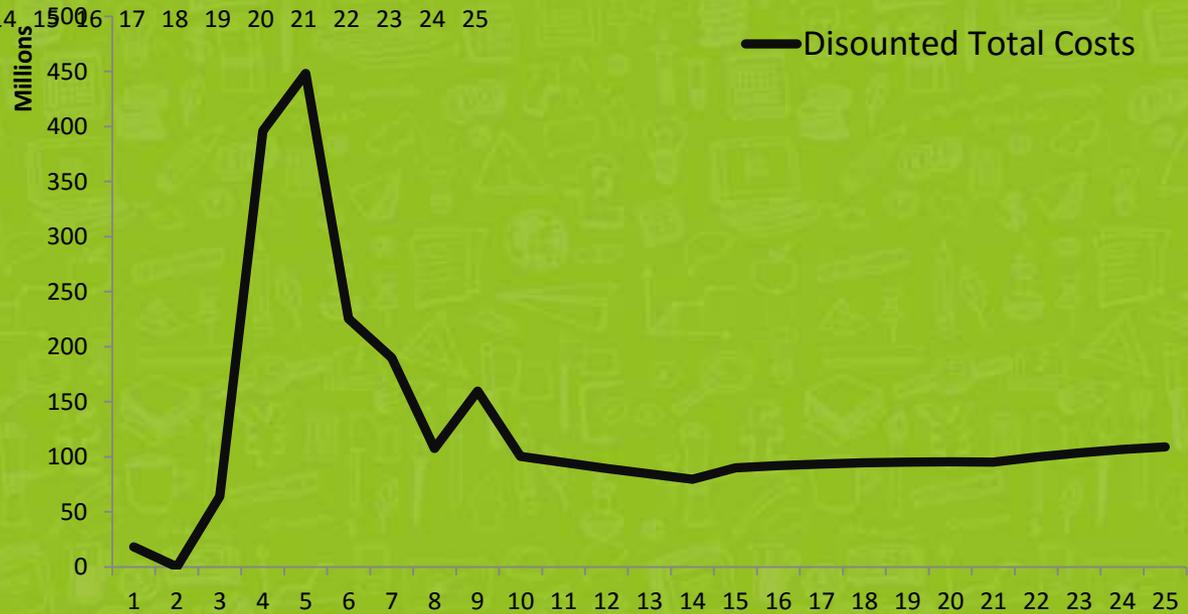
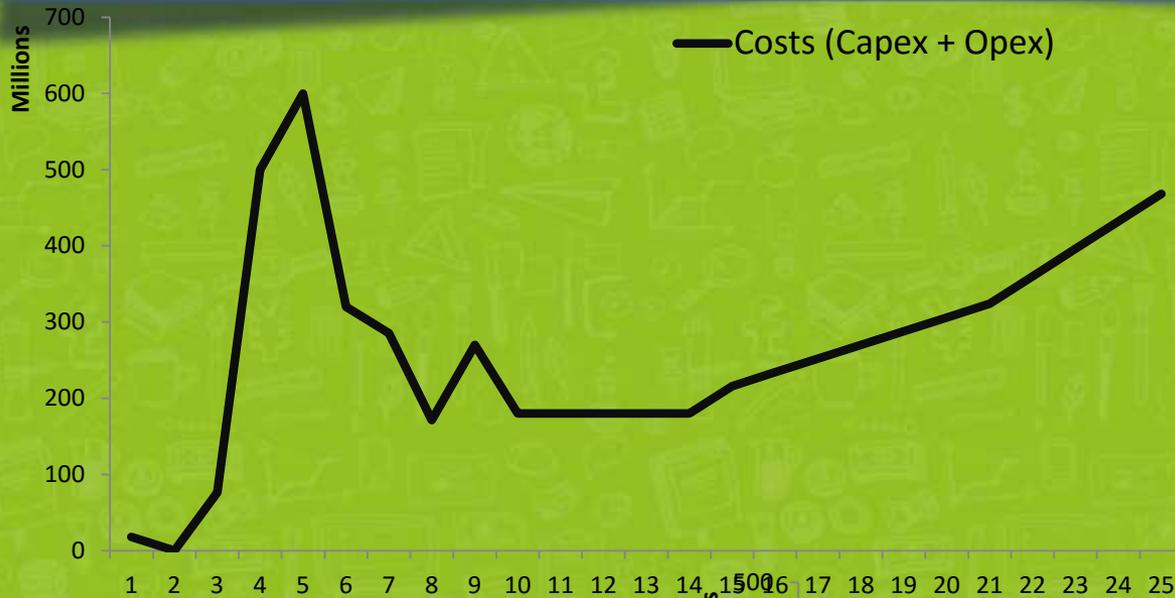
FUNDING MODELS FOR PROVINCIAL PUBLIC INFRASTRUCTURE

Section 4 suggests that the current provincial public fiscal infrastructure allocations (gross capital fixed formation) will be insufficient and that the provincial public infrastructure gap will continue to increase over the following number of years. It is therefore reasonable to urge that the provincial public's ability to finance the infrastructure gap is very limited. This is already very evident given the costs pressure faced by the provincial departments of health, education and transport.

The provincial government therefore essentially faces two options, i.e., the infrastructure gap are allowed to continue or alternative models are developed to finance the infrastructure gap. Given the social pressures and the need to growth the economy at above 4 percent levels per annum, option one seems undesirable and counterproductive. The provincial government thus has only one option and that is to develop and implement alternative funding models to address the infrastructure gap.

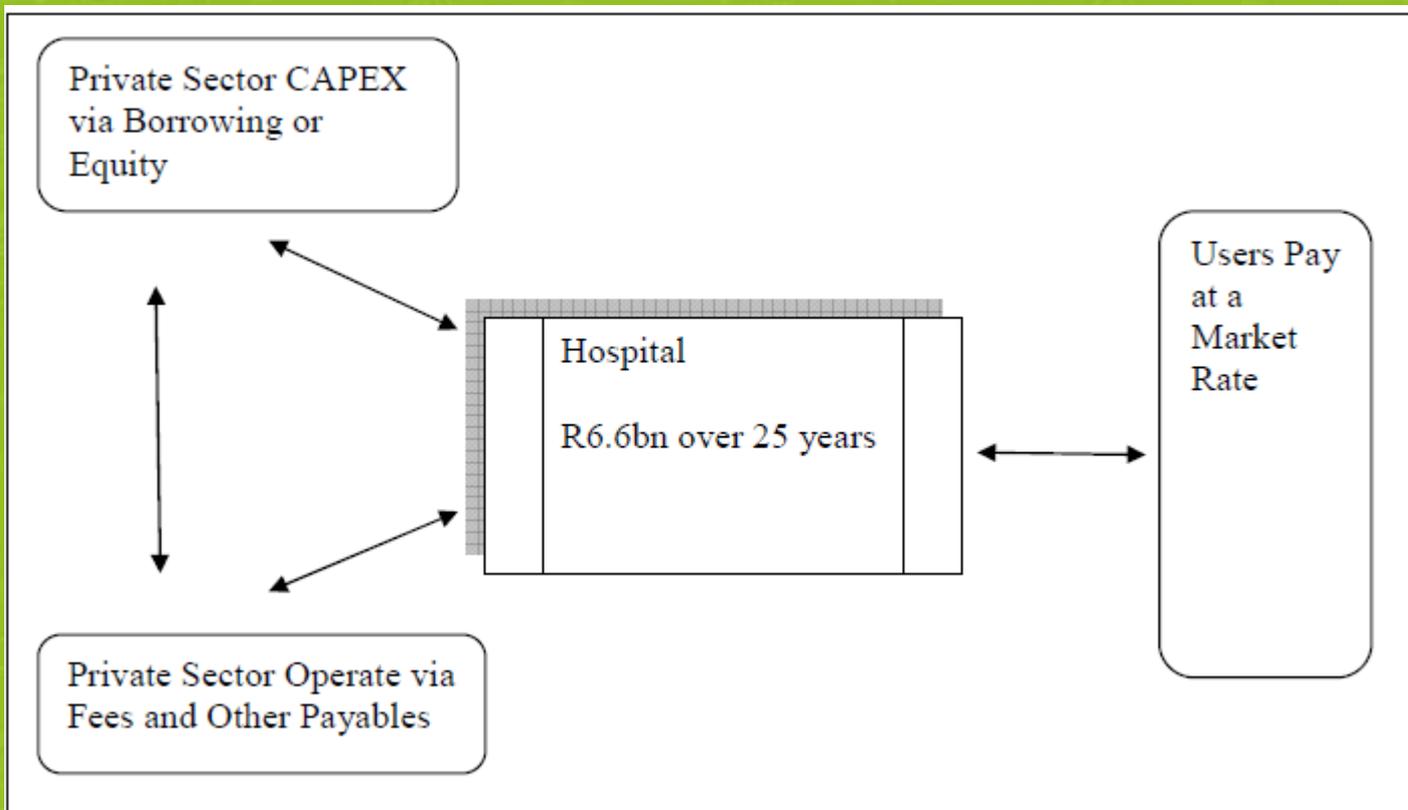
Dr John Dube Memorial Hospital. The hospital is planned to be located in the eThekweni (Durban) metropolitan region with a capacity of 450 beds. The construction period is estimated at 5 years with a total construction cost at R1.8 billion. This hospital is in the design phase, but will most probably not continue into the implementation phase because of the lack of funds. The projected budget per year is displayed in the graph below.

Estimated Total Budget for the Hospital (25 years)



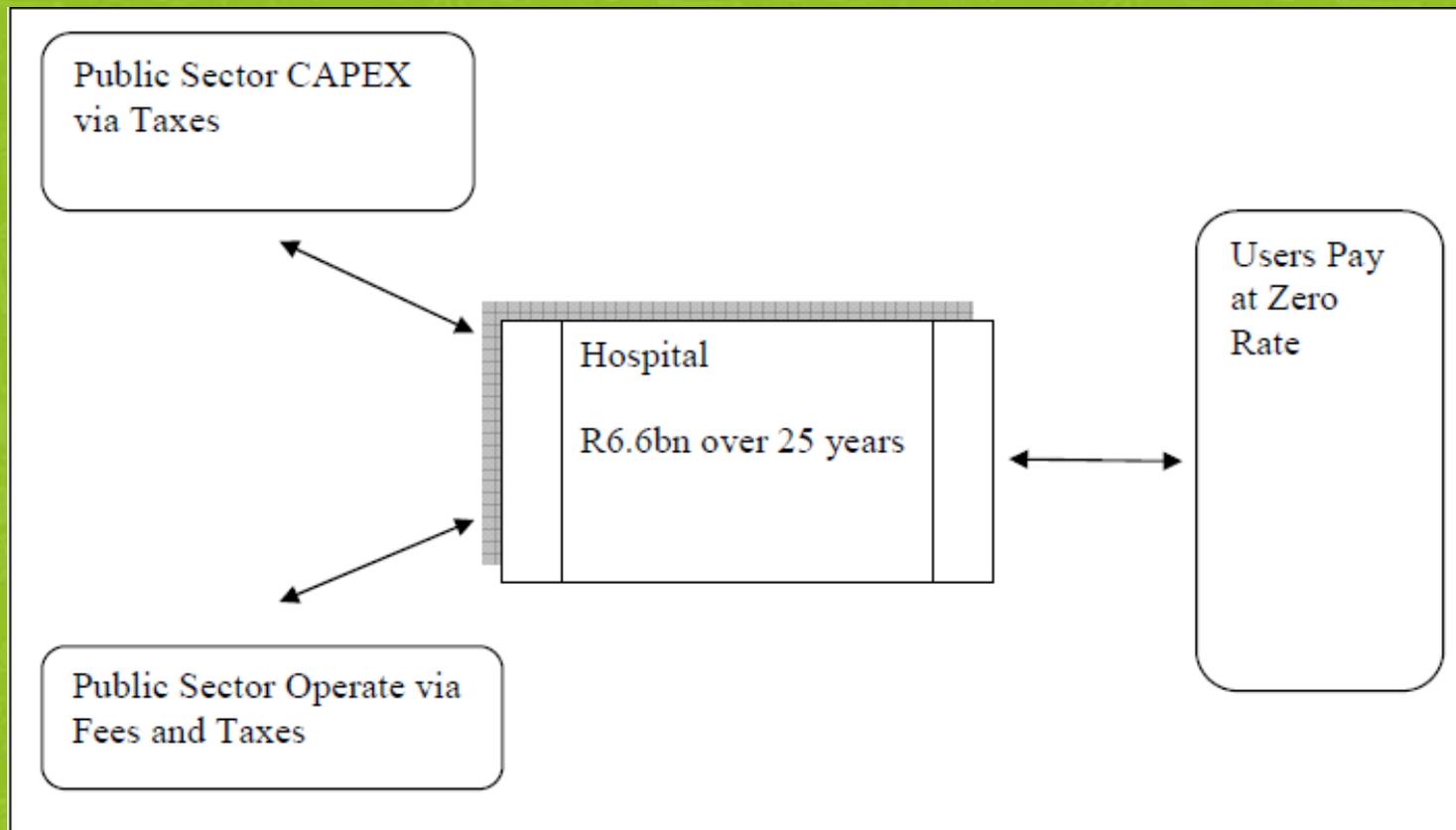
Supply of the Hospital (25 years)

Private Sector Model



Supply of the Hospital (25 years)

Public Sector Model



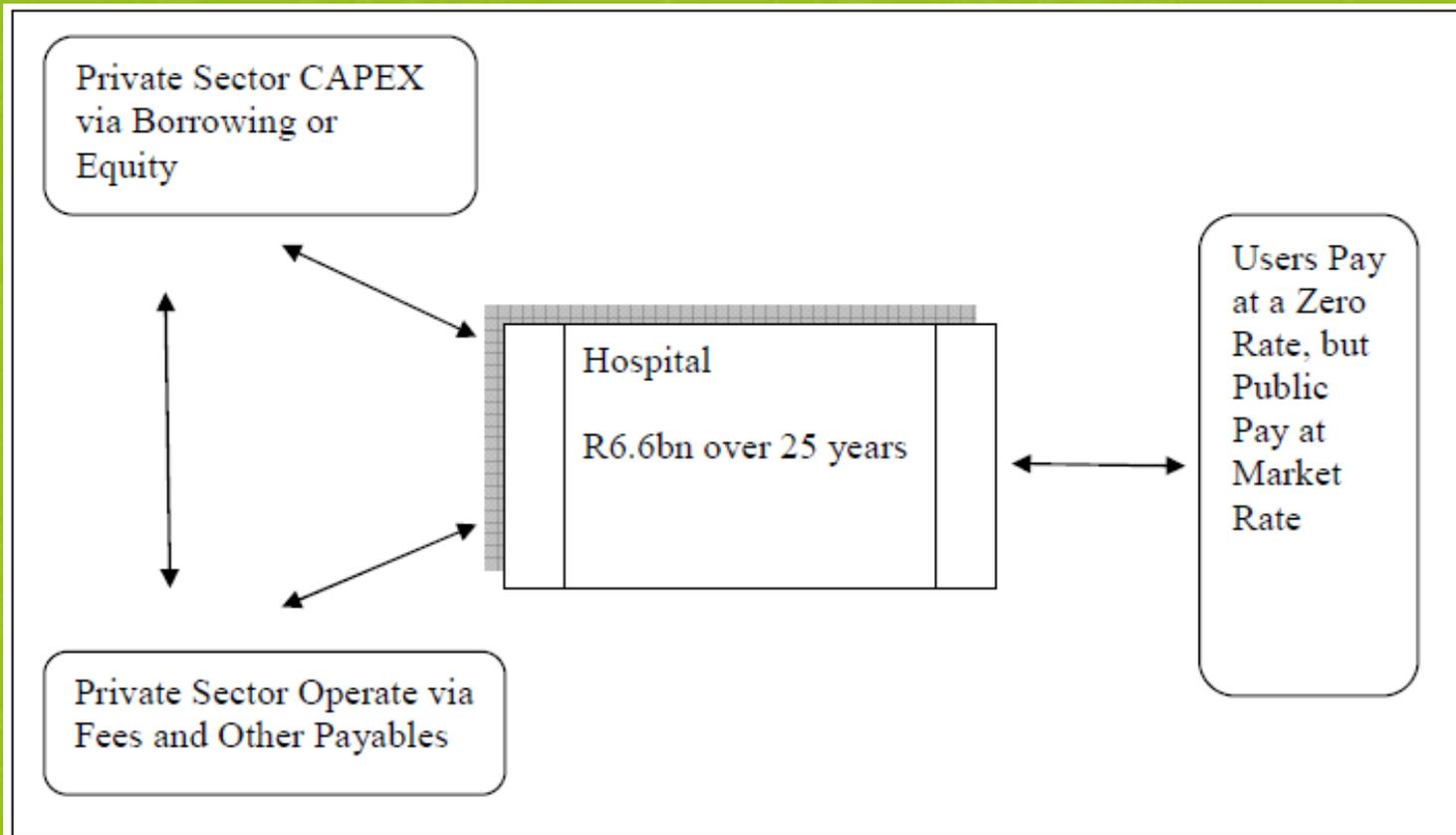
	Public Model			Private Model	
	Total Costs	Government Fund Capex and Opex	Users Pay	Government Fund Capex and Opex	Users Pay
1	18 230 000	18 230 000	0	0	18 230 000
2	0	0	0	0	0
3	76 270 000	76 270 000	0	0	76 270 000
4	500 000 000	500 000 000	0	0	500 000 000
5	600 000 000	600 000 000	0	0	600 000 000
6	320 000 000	320 000 000	0	0	320 000 000
7	285 500 000	285 500 000	0	0	285 500 000
8	171 300 000	171 300 000	0	0	171 300 000
9	270 000 000	270 000 000	0	0	270 000 000
10	180 000 000	180 000 000	0	0	180 000 000
11	180 000 000	180 000 000	0	0	180 000 000
12	180 000 000	180 000 000	0	0	180 000 000
13	180 000 000	180 000 000	0	0	180 000 000
14	180 000 000	180 000 000	0	0	180 000 000
15	216 000 000	216 000 000	0	0	216 000 000
16	234 000 000	234 000 000	0	0	234 000 000
17	252 000 000	252 000 000	0	0	252 000 000
18	270 000 000	270 000 000	0	0	270 000 000
19	288 000 000	288 000 000	0	0	288 000 000
20	306 000 000	306 000 000	0	0	306 000 000
21	324 000 000	324 000 000	0	0	324 000 000
22	360 000 000	360 000 000	0	0	360 000 000
23	396 000 000	396 000 000	0	0	396 000 000
24	432 000 000	432 000 000	0	0	432 000 000
25	468 000 000	468 000 000	0	0	468 000 000
Total	6 687 300 000	6 687 300 000	0	0	6 687 300 000

In the private model the capex and opex costs are carried by the private sector. With the private model the fees payable by the users are sufficient to offset the capital expenditure (capex) or investment and the operational expenditure over the 25 years, i.e., $\text{revenue} > \text{capex} + \text{opex}$ over the 25 years. However with the public model the fees payable by the users are insufficient to offset the capital expenditure (capex) or investment and the operational expenditure over the 25 years, i.e., $\text{revenue} < \text{capex} + \text{opex}$ over the 25 years.

Therefore the public (provincial government) has two options, i.e., to finance the capex and opex from taxes so that the costs to the users are zero or close to zero (capex + opex to the users = 0, tax payers pay) or to finance the users directly so that the fees payable increases to the market rate (revenue > 0, tax payers pay). In both instances the tax payers pay, however in the first option the capex and opex is financed compared to the second option where the users are directly financed. In the second option the private sector will be responsible to build, operate etc the facility so the capex and opex to the public is zero.

Supply of the Hospital (25 years)

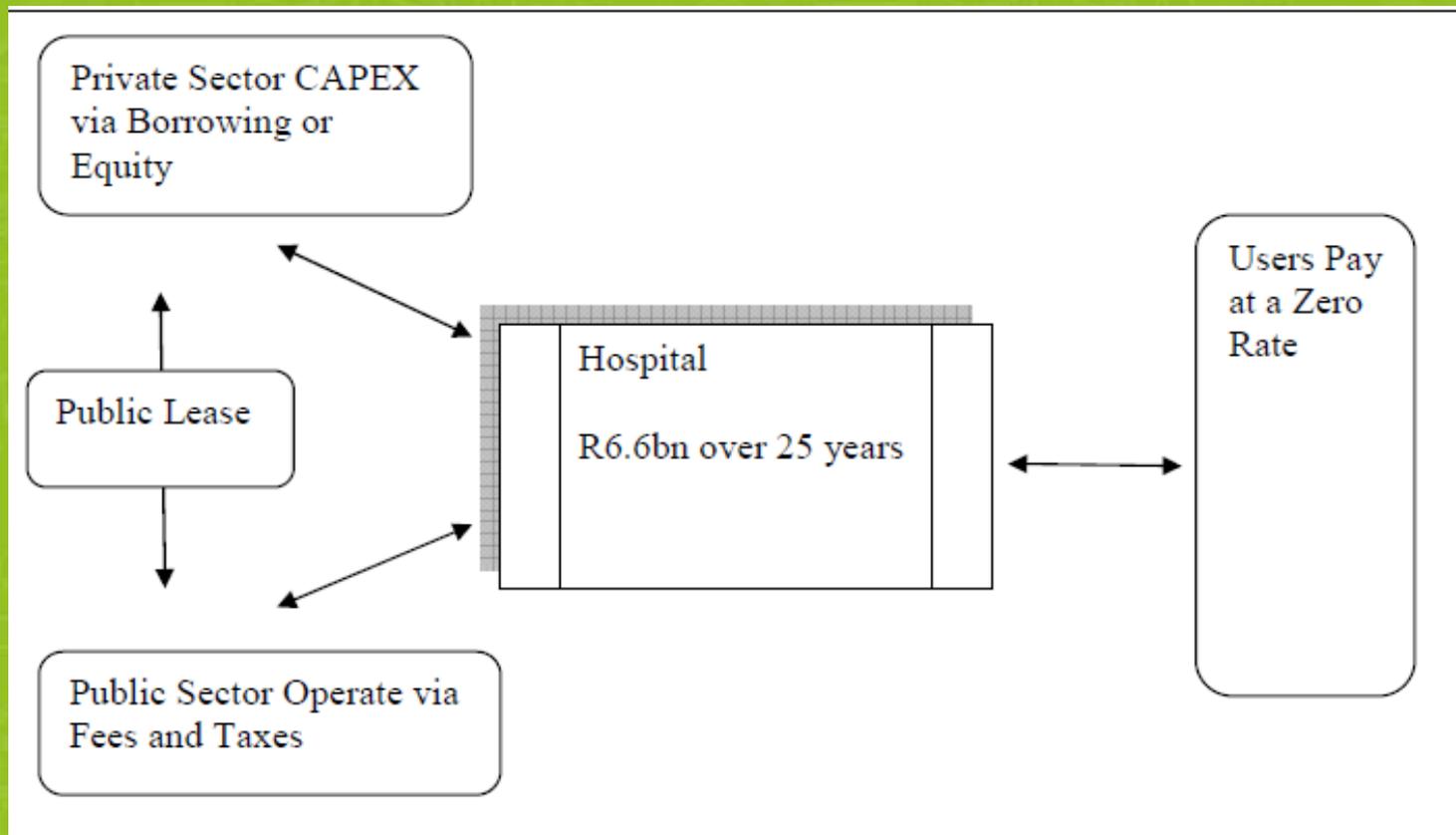
Hybrid Sector
Model -
Subsidy



Hybrid model relying on the private sector to build and operate the facility in the name of efficiency, i.e., capex and opex will be lower than if public build and operate. However the users will not be able to pay the market rate and therefore will pay a rate close to zero. The public will subsidize the zero rate to a market rate so that revenue $>$ capex and opex. In theory the public sets up a medical insurance entity that will be responsible to finance the users through taxes. The public then uses its collective power to negotiate a lower market price per individual than if the users individually had to negotiate a market price.

Supply of the Hospital (25 years)

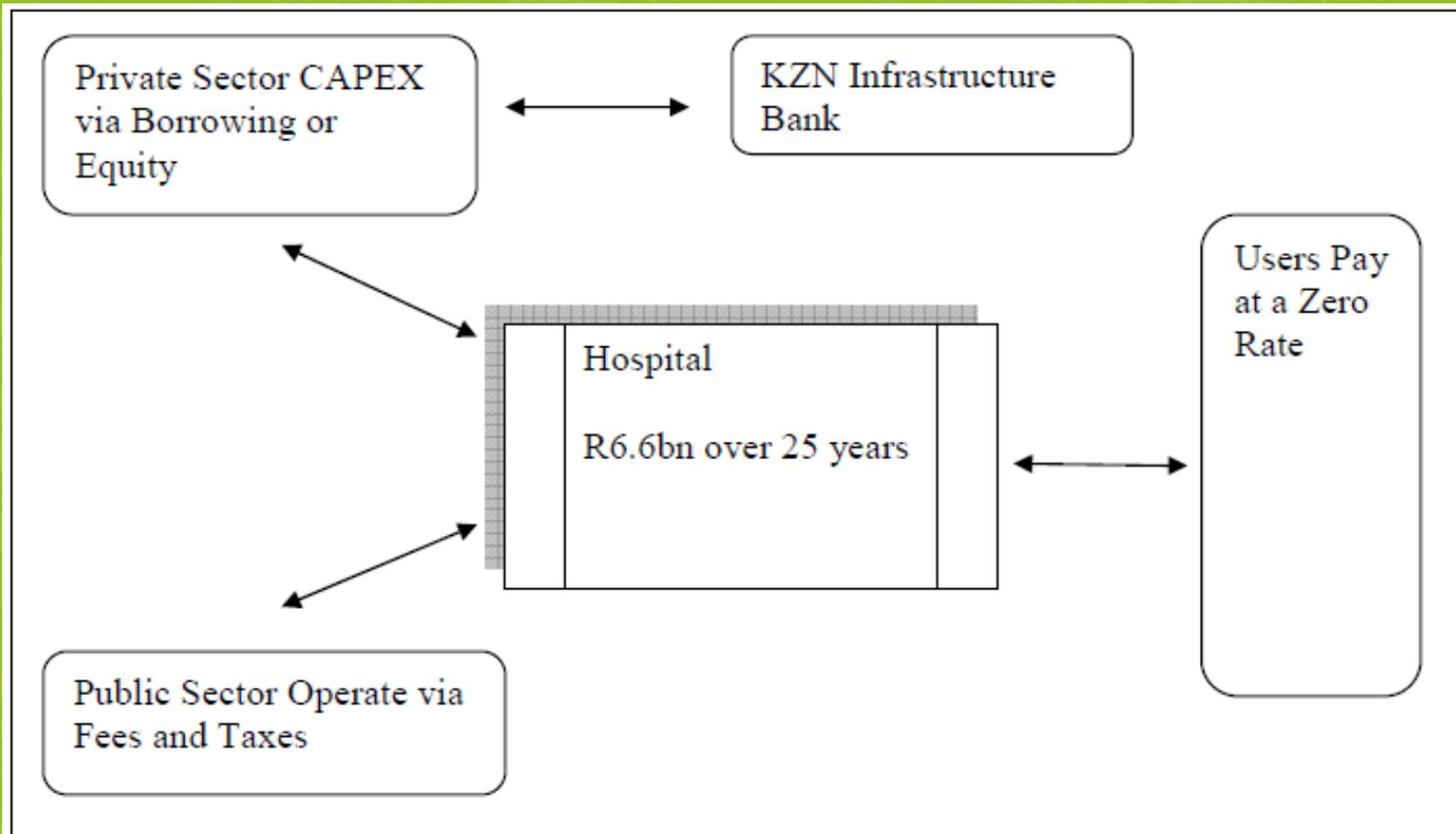
Hybrid Sector Model - Lease



Hybrid model relying on the private sector to build and maintain the facility in the name of efficiency, i.e., capex and maintenance will be lower than if public build and maintain. The users will not pay the market rate and therefore will pay a rate close to zero. The public will operate and lease the hospital such that $\text{lease} > \text{capex and maintenance}$. In theory the facility is privately owned, the public operates and lease the hospital through taxes.

Supply of the Hospital (25 years)

Hybrid Sector Model – KZN Infrastructure Bank



Hybrid model relying on the private sector to build the facility in the name of efficiency, i.e., capex will be lower than if public build and maintain. The users will not pay the market rate and therefore will pay a rate close to zero. The public will operate the hospital. The KZN Infrastructure Bank will finance the Capex. In theory the facility is publicly owned, the public operates the hospital through taxes. The CAPEX is financed through the Infrastructure Bank

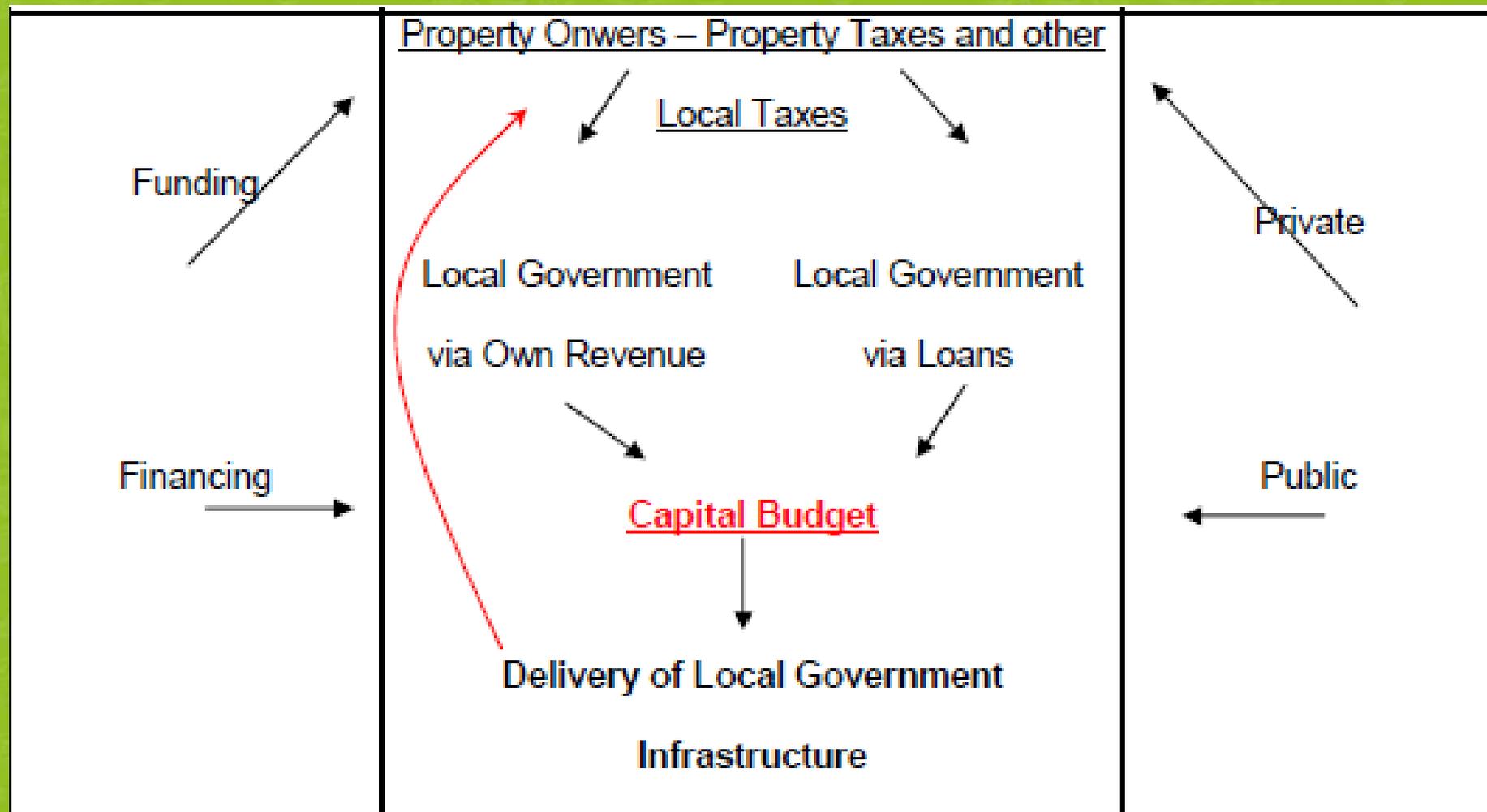
The KZN Infrastructure Bank is based on the “stockvel” principle. It’s a collective scheme with both the public and the various private sector companies contributing X amount every year to the Bank. The private sector is incentivized through tax incentives, CSI incentives and guaranteed work to participate in the Bank. Bank is managed via a PPP. Bank commission the hospital on behalf of the public and allocate the work to one or more of the participating private entities on a rotational basis.

Summarized Funding Models

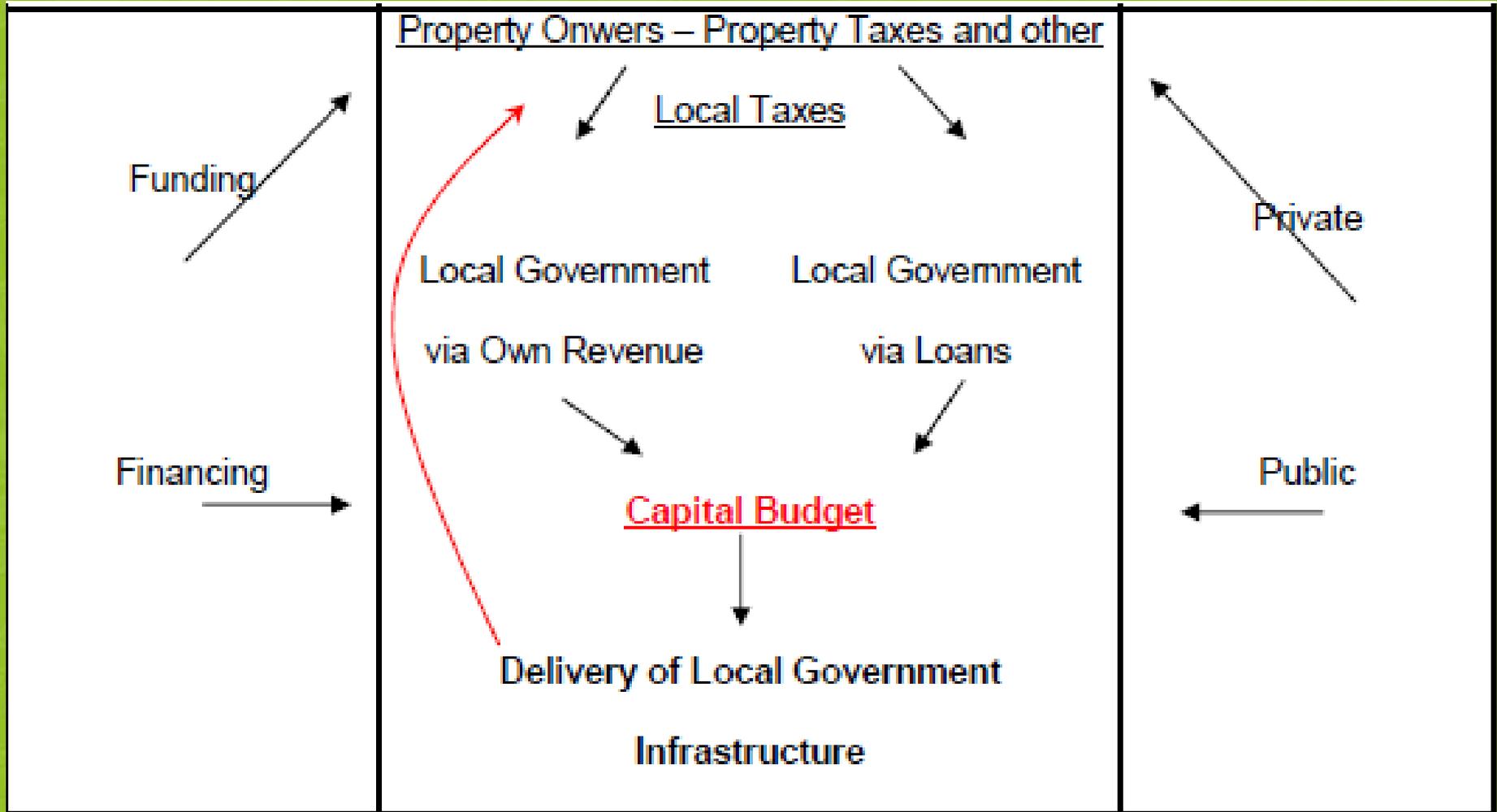
Funding Model	Model Type	Who Finance	Who Pay	Probability
Borrowing - Bonds	On budget	Provincial Government	Savers	Low
Borrowing - Corporate	On budget	Provincial Government	Savers	Low
PPP - Equity	On and Off Budget	Owner Entity and Provincial Government	Shareholders and Tax payers	Medium
PPP - BOOT	On and Off Budget	Owner Entity and Provincial Government	Shareholders and Tax payers	Medium
PPP - Lease	On and Off Budget	Provincial Government	Shareholders and Tax payers	High
Asset Sales	Off Budget	Provincial Government	Buyers	High
Finance the Users	On Budget	Provincial Government	Tax payers	High
Investment Bank/Fund	On and Off Budget	Provincial Government	Tax payers and Savers	Medium

FUNDING MODELS FOR MUNICIPAL PUBLIC INFRASTRUCTURE

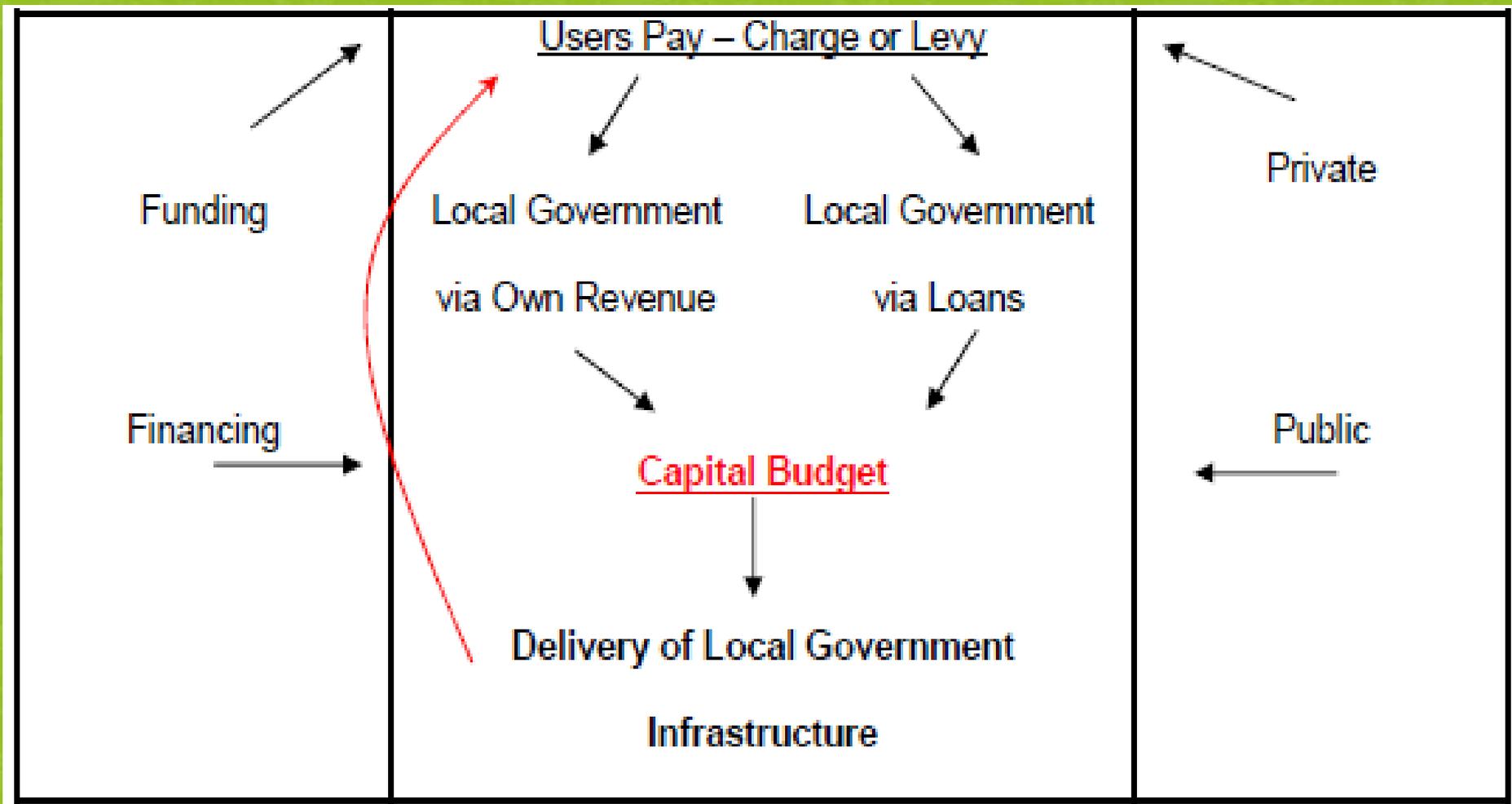
The majority of local government infrastructure in SA and KZN is financed by national government grants most notable the Municipal Infrastructure Grant (MIG). The MIG is specifically designed to finance infrastructure delivery at a local government level. MIG is a capital grant from national government MIG provides grant finance to cover capital costs of basic infrastructure for the poor. The funds are determined by formula, and are paid into the bank account of the municipality according to a MIG schedule agreed to with the municipality.



A **second** funding and financing model is the use of “local tax revenue” for infrastructure delivery. Local Government has a number of tax powers, i.e., they derive revenue from implementing local government taxes, most notable property taxes. Property taxes are a stable form of revenue since it allows only limited tax exportation. It acts as a rough form of benefit charge as well. Property rates are calculated on the value of the land and of any improvements or buildings.



A third funding and financing model is the use of “user chargers or fees”. Local Governments provides services to their customers, i.e., residents and in return the customers must pay for the services they receive, for example water and electricity. User charges differ from taxes in two important ways. First, user charges are a charge to people and businesses for benefits they receive specifically; taxes are general charges for services that benefit everyone in roughly equal shares. Second, user charges are to some extent voluntary and avoidable, while taxes are compulsory.



The above three models focuses on the various sources of municipal income, i.e., funding is generated/collected by the municipality either from national government (MIG) or from its residents and businesses (taxes and charges). There are various sources of income (Education and Training Trust, <http://www.etu.org.za/>) that can be used by municipalities to finance their expenditure for example:

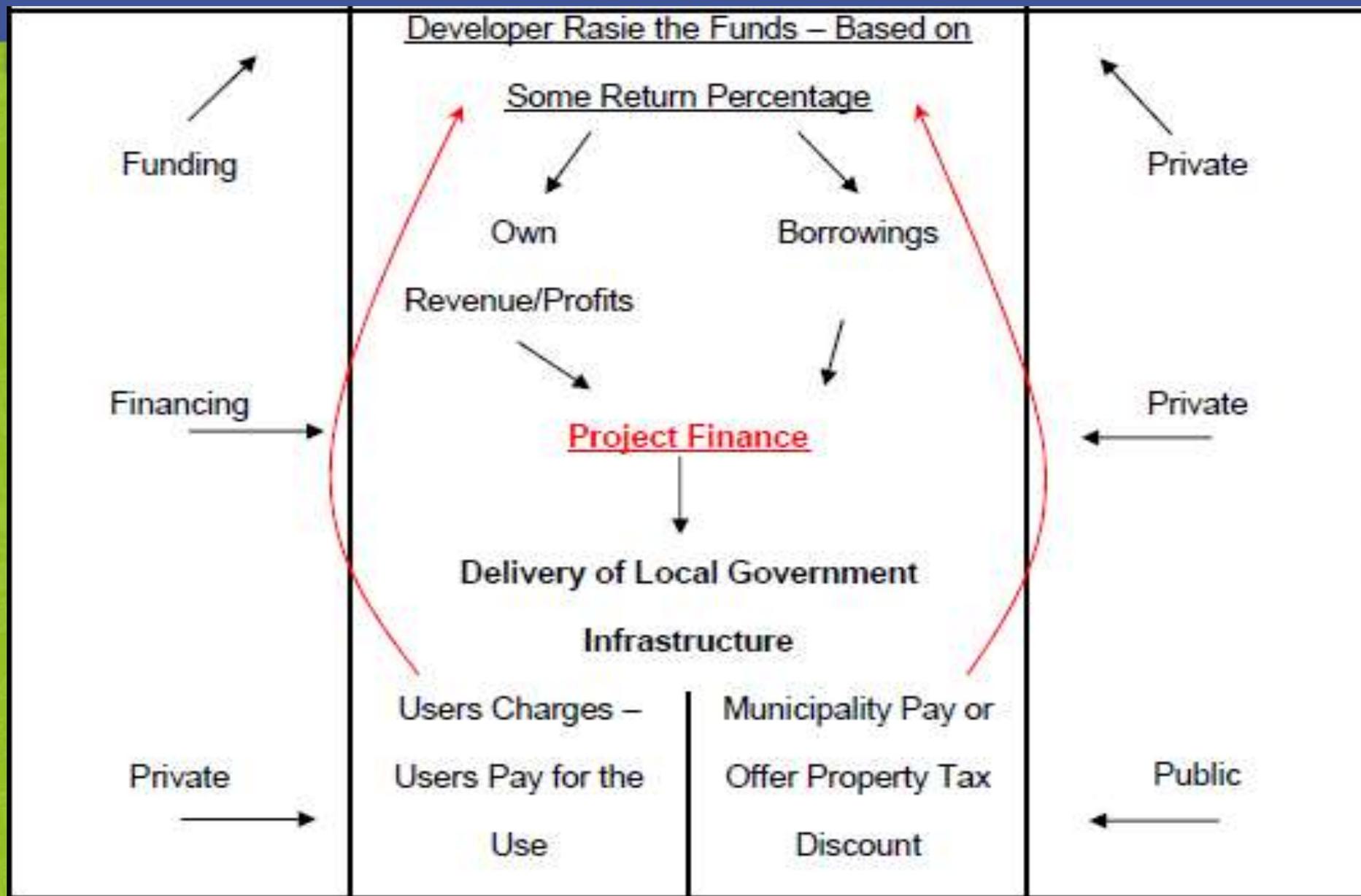
External loans.
Internal loans.
Contributions from revenue.
Government grants.
Property Rates.
Service Charges / Tariffs.
Fines.
Equitable share.

National Government will have to increase the size of the MIG or the equitable share, i.e., allocate more funding to the MIG and/or equitable share. This can be done by either increasing the revenue sources of the national government (increase taxes etc) or through the re-allocating of funds (move funds from one or more commitments to the MIG and/or equitable share).

Local Government can increase their current property and other taxes, expanding the tax base to new payers and/or implement new taxes.

Local Government can increase their charges and fees, expanding the base to new payers and/or implement new charges and fees.

A **fourth** options looks at the possibility of private funded and financed, i.e., the private sector fund and finance the local government infrastructure delivery. In the private funded and financed model the private sector allocate funds through either retained profits or borrowings towards the infrastructure delivery. The developer therefore funds and finance the project based on some estimated future rate of return percentage. The return on the infrastructure delivery is derived from user charges or some payment or discount agreement with the municipality.



The difference between the public and private model is essentially the financing mechanisms of the infrastructure delivery and not the funding. The funding mechanism is private (consumers and businesses) irrespective whether the model uses the public or private financing mechanism. Given the constraint ability by local government to increase and expand taxes and charges it seems fairly obvious that the use of first three models will continue to be of limited value to expand on the delivery of public infrastructure.

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SUMMARY AND CONCLUSIONS

The analysis support the argument of a long run public infrastructure gap.

On the other hand the provision of public infrastructure is economically and socially desirable and needed.

The current model of on-budget finance is inadequate and outdated

New and innovative models of public infrastructure finance is needed.

How do the private sector pay for public infrastructure?

Various options are practiced internationally.

These and other models have to be further studied and interrogated.

Its time for innovative and practical solutions to finance the growing public infrastructure gap.