

# **FINANCING IRPTN OPERATIONS: CONSIDERATIONS FOR CITIES IMPLEMENTING I(R)PTNS IN SOUTH AFRICA**

**C von der Heyden, K Laing, E Hastings, P Koch and T Reddy**

Pegasys Strategy and Development  
4<sup>th</sup> Floor, 4 Church Square, Spin Street, Cape Town 8001  
(P) 021 461 5476 (F) 086 511 5782  
[constantin@pegasys.co.za](mailto:constantin@pegasys.co.za)

## **ABSTRACT**

The case for investment in road-based public transport in South Africa is provided in the Public Transport Strategy for South Africa (2007) and subsequent policy positions by the national Department of Transport (DOT). This gave rise to the Integrated (Rapid) Public Transport Networks (I(R)PTNs) to be implemented in then 12 (now 13) priority cities. To support this implementation, the national Department of Transport created a conditional grant to the priority municipalities, first called the Public Transport Infrastructure Fund (PTIF), then the Public Transport Infrastructure and Systems Grant (PTISG) and now the Public Transport Infrastructure Grant (PTIG) and the Public Transport Network Operations Grant (PTNOG).

Planning, establishment and rollout of the I(R)PTNs in the 13 cities, over the seven years to 2014, has highlighted the real costs of these systems. There is an emerging recognition of the extent of the I(R)PTN operational costs. Initial expectations were that fare income from passengers would cover the operating costs (at least the direct operating costs) of the system. However, implementation in a number of cities to date has shown that the fare box is not sufficient to cover the direct operating costs of the I(R)PTNs, unless the fares in the new system are increased significantly above the current costs of existing public transport. Such an increase would not be economically feasible for passengers and consequently introduce unacceptable affordability issues and open the way for competition with the I(R)PTN.

As a result, cities have to consider alternative avenues to finance the direct operating costs of their I(R)PTNs. Some income sources are directly related to the new transport system (including advertising on the I(R)PTNs and congestion charges), some are commercial revenue options, and some are funding options from Municipal resources (eg increases in the rates bill, equitable share, services income). This paper explores the range of income options available to cities and the potential contribution to offsetting the shortfall.

Based on the evidence to date, the operational shortfalls of I(R)PTNs in South Africa are greater than anticipated and, despite the opportunities for additional funding explored here, it is likely that significant shortfalls will remain. This presents a financial risk for city treasuries with whom rests the ultimate responsibility for covering the I(R)PTN costs. A continued conversation about funding for I(R)PTNs is therefore urgently required.

## 1 INTRODUCTION

Prior to 2007, South Africa suffered from under investment in public transport infrastructure and public transport operations for over 30 years<sup>1</sup>. In addition, there had been a continuation of the existing government-contract bus service patterns without an upgrade or extension to integrated public transport systems. This led to a steady increase in private car use and the dominance of informal, unsubsidised peak-period taxi services while the proportional share use of subsidised, government-contracted rail and bus services went into decline. Those who can afford to do so switch to private transport as soon as they are able, due to a range of problems with the public transport options centred on reliability, connectivity, safety, comfort and convenience.

The public transport strategy of 2007, together with the increased investments associated with the 2010 FIFA football world cup, created the impetus to address the backlog in public transport investment and improvement. The focus was on 12 cities (now 13 cities) and 6 district municipalities, with the former representing the urban and economic centres of the country, and the latter the public transport needs in the rural setting. The strategy introduced the concept of the Integrated (Rapid) Public Transport Network (I(R)PTN) as an integrated, total system response to public transport needs. This was institutionalised in the legislation of 2009, the National Land Transport Act (NLTA).

Initial expectations were that the fare revenues from I(R)PTN passengers must be able to cover the operating costs (at least the direct operating costs) of the system<sup>2</sup>. This continued expectation is evident in the most recent Public Transport Network Operations Grant (PTNOG) framework<sup>3</sup>. However, global experience suggests that this expectation was unrealistic and public transport systems, especially those in cities with lower densities like South Africa, often require subsidy to cover fare box shortfalls<sup>4</sup>. The purpose of this paper is to demonstrate that I(R)PTN operating incomes are lower than expected and thinking about funding for shortfalls is urgently required.

The three key elements to understanding operating shortfalls are (1) costs, (2) direct (fare) revenues and (3) other sources of income, including grants. As outlined above, expectation in South African I(R)PTNs was that (2) would cover (1). This was based on a likely underestimation of costs and an overestimation of revenues. In South Africa, there are additional factors which contribute to the high costs of public transport systems; these are relatively low densities and long travel distances (set in place by Apartheid spatial planning) and the high cost of transitioning the established

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<sup>1</sup> A Business Case for an Extended Programme of Capital and Operational Funding for Road-Based Public Transport (Pegasys, prepared for the Department of Transport, December 2012)

<sup>2</sup> For examples see <http://www.itdp.org/wp-content/uploads/2014/07/52.-Bus-Rapid-Transit-Guide-PartIntro-2007-09.pdf> (Pg 8), and [http://unhabitat.org/wp-content/uploads/2013/06/GRHS.2013.Case\\_Study\\_Johannesburg.South\\_Africa.pdf](http://unhabitat.org/wp-content/uploads/2013/06/GRHS.2013.Case_Study_Johannesburg.South_Africa.pdf), and <http://www.capetown.gov.za/en/irt/Pages/FAQs.aspx>

<sup>3</sup> Specifically, "...from the start of operations, IRPTN/IPTN systems must recover all the direct operating costs of contracted vehicle operators from fare revenue, other local funding sources and, if applicable, from any Public Transport Operations Grant contributions."

<sup>4</sup> A Business Case for an Extended Programme of Capital and Operational Funding for Road-Based Public Transport (Pegasys, prepared for the Department of Transport, December 2012)

existing public transport industry into the I(R)PTN model. Considering fares, all examples of implementation to date have demonstrated that the fare box is insufficient to cover the direct operating costs of I(R)PTNs, at least in the present day. Ridership appears to be lower than expected, either due to travel preferences of patrons or to continued competition from the existing industry, or a combination of these and other factors. Combined with losses in fare box revenues through leakage, the shortfall between costs and fare revenue have proven very significant indeed. At present, it is not economically feasible to increase fares for current passengers who are captured public transport users, too poor to use private alternatives. Raising fares would open the way for already entrenched informal competition which has a substantial cost advantage given informal sector working conditions and a relatively unregulated competitive environment. Although there is potential future growth of fare box from car users shifting, this is likely some way off given the entrenchment of private car use and the continued infrastructure expansion to support this trend.

Evidence suggests that cities are in a tight corner when implementing I(R)PTNs, given the cost and fare dynamics outlined above. This places significant emphasis on the ability of the city to generate additional income through (3), to cover the operating shortfall. This paper explores the operational shortfall in South African I(R)PTNs, focussing on the options to cover the difference between costs and fare revenue. The paper provides an overview of operating costs and funding for operating costs in I(R)PTNs and evidence of operational costs to date in I(R)PTNs which have been implemented or are in the advanced implementation stage (having concluded or advanced negotiations with the existing industry). Next this paper provides an outline of the funding available and explores possible additional funding sources for I(R)PTNs. It concludes with a discussion around the impact of operational shortfalls on the municipal fiscus.

## 2 OVERVIEW OF OPERATIONAL COSTS AND FUNDING SOURCES IN SOUTH AFRICAN I(R)PTNS TO-DATE

### 2.1 Operating Costs

Operating costs of I(R)PTNs are broadly divided into two categories:

- **Direct Operating Costs** - the costs of bus operations predominantly made up of Vehicle Operator Company (VOC) overheads (e.g. management costs, office and systems costs), fixed vehicle costs (e.g. vehicle purchase, driver salaries, insurance and maintenance) and variable operating costs (e.g. fuel and tyres).
- **Indirect Operating Costs** - the costs of the auxiliary support services to the bus operations, including the costs of the management entity for the I(R)PTN (oversight entity, ticketing services, control centre operations, maintenance of fixed public transport assets, security services, station management, passenger information and marketing).
- **Establishment costs** – a significant additional cost to South African I(R)PTNs, apart from the traditional establishment costs such as infrastructure development and planning, is compensation for the economic rights of existing operators. It may not be appropriate to include it under 'operating' costs, except that some cities are concluding contracts with an inflated profit margin, to allow the operating company to pay dividends to its shareholders

(affected former bus and taxi operators) in compensation for surrendering their operating licences. In some cases the payments are made direct to the operators, not as a capital lump sum, but as an annuity over 5 to 12 years. In this case the cost resembles an operating cost rather than a once-off establishment cost.

## 2.2 Main Sources of Funding in I(R)PTNs To-Date

The main sources of funding for I(R)PTNs in South Africa to-date include:

- **Fare revenue** – As described above, this is the key source of income expected to offset direct operational costs.
- **National grant funding** – This includes two main grants: (1) the Public Transport Network Operations Grant (PTNOG)<sup>5</sup> (converted to the Public Transport Network Grant in 2015), which can be used to cover some of the indirect operating costs, and (2) the Public Transport Operations Grant (PTOG), which can be used to cover direct operating costs, but is already fully allocated to existing provincial contracts and can only be put toward I(R)PTN operations if the city assumes the full contracting authority and operating licensing authority functions. The potential use of PTOG will be discussed in further detail below.
- **Municipal contributions** – This includes contributions from a municipality's rates and taxes, or from other municipal funds. These contributions can be used to offset either direct or indirect operational costs.
- **Other sources of revenue** – For example, income from advertising on I(R)PTN-related infrastructure. These contributions can also be used to offset either direct or indirect operational costs.
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While national grants are available to support public transport systems in South Africa, it is important to note that the responsibility for service delivery falls to the municipal level, including entering into the contracts needed to support operations. As a result, financial responsibility for system operation rests ultimately with local government and as this paper demonstrates is proving to be considerable.

## 2.3 Quantifying the Operational Shortfall

Table 1 below sets out indications of the estimated operational costs in cities which have rolled out or are in the implementation phase<sup>6</sup>. Two cities which have successfully implemented are City of Cape Town (CoCT) and the City of Johannesburg (COJ). There are several cities which are scheduled to roll out between now and 2016.<sup>7</sup> An average has been taken over the years of operation for those cities already operating and an average of city projections for the Medium Term Expenditure Framework (MTEF) 2014-2017 for those in the implementation stages.

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<sup>5</sup> The PTNOG is a conditional grant allocated to municipalities in terms of Part B of Schedule 5 of the Division of Revenue Act. PTNOG is not a new grant, but rather it is an allocation designed to cover certain costs which would previously have come under the Public Transport Infrastructure and Systems Grant (PTISG). The current PTNOG grant conditions stipulate that 70% of indirect operating costs can be covered for the first two years of operations and after this only 50%.

<sup>6</sup> 'Implementation phase' here defined as having concluded or advanced negotiations with the existing industry

<sup>7</sup> The cities reviewed here the City of George which recently achieved roll out on 8 December 2014, and the Cities of Ekurhuleni and eThekweni which are scheduled to roll out in March and June 2016.

The first key observation is that fare revenue does not cover direct operational costs, either as projected or in practice. For the cities that have implemented, fare revenue covers an average of 34% of direct operational costs. This leaves the majority of the direct operational costs to be covered by other sources, which is contrary to the expectation that fare revenue could cover direct operating costs. It is possible that coverage will increase over time as passenger numbers increase, but a significant increase would be required to achieve full coverage of direct operational costs. Cities that have not yet implemented estimate this coverage to be around 72%, which may or may not materialise, but still leaves a fairly significant shortfall in terms of direct operational costs.

As fare revenue may cover around one third of the direct operational costs, and direct operational costs generally make up about 60% of the total operational costs<sup>8</sup>, this means just over 20% of total operational costs are covered by fare revenue (this is consistent with the findings in Table 1 below). This means that other sources of funding, including national grant funding and municipal contributions, must play a significant role.

**Table 1: Average ratio of operational costs and income of I(R)PTNs 2009 – 2013 and as projected for MTEF 2014 – 2017 for those in implementation**

	Average: Cities Already Commenced I(R)PTN Operations	Projected Average: Cities Currently in Implementation Stages of I(R)PTN
<b>Direct Cost</b>		
% of direct costs covered by fare revenues	34%	72%
<b>Total Costs</b>		
Fares as % of Total Costs	22%	35%
PTNOG funding as % of total costs	31%	27%
<b>Remaining % of total costs to be covered by the City &amp; Other income</b>	<b>47%</b>	<b>38%</b>

Data Sources:

<http://www.treasury.gov.za/search.aspx?cx=018115738860957273853%3Aj5zowsrmplicof=FORID%3A11&q=IRPTN>

The PTNOG covers a further 31% of the total operating costs in cities that have implemented, and it is estimated to cover the same in cities preparing for implementation. This is a significant contribution, but still leaves approximately 45% of total operational costs to be funded by other sources for cities after implementation.

Finding additional sources to fund this remaining 45% of operational costs is difficult, and strains already limited resources at the municipal level.

<sup>8</sup> A Business Case for an Extended Programme of Capital and Operational Funding for Road-Based Public Transport (Pegasys, prepared for the Department of Transport, December 2012)

In summary, among cities which have already roll out an I(R)PTN service, as well as those that are in the implementation phase, there is the realisation that the fare revenues and PTNOG grant funding (under current grant conditions) are insufficient to cover the total operating costs of I(R)PTNs and there is an urgent requirement upon the cities to find other income sources and / or provide additional operational funding from their own treasuries.

### **3 ADDITIONAL FUNDING SOURCES FOR I(R)PTNS**

This section explores the options available to cities to fund the operational shortfall after fare revenue, and considers the relative merits as well as the implications for cities. Some of these sources have been briefly discussed above, and are explored in more detail below.

#### **3.1 National Transport Grants**

##### ***PTNOG/PTNG***

As discussed above, the PTNOG is a national grant that may be used to offset indirect operational costs. The PTNOG is a conditional grant allocated to municipalities in terms of Part B of Schedule 5 of the Division of Revenue Act. PTNOG is not a new grant, but rather it is an allocation designed to cover certain costs which would previously have come under the Public Transport Infrastructure and Systems Grant (PTISG). The current PTNOG grant conditions stipulate that 70% of indirect operating costs can be covered for the first two years of operations and after this only 50%.

Considering that indirect operational costs constitute approximately 40% of total operational costs, if the PTNOG limiting conditions remain, PTNOG can be expected to cover approximately 30% of total operational costs in the early years of operation, and 20% thereafter. This puts the PTNOG contribution approximately equal to fare revenue for those systems that are operational, and at about half of what fare revenue projections indicate.

##### ***PTOG***

The Public Transport Operating Grant (PTOG) framework provided in the 2014 Division of Revenue Act (DORA) currently restricts the use of PTOG funds to subsidise service contracts entered into by provincial departments of transport. As such, the PTOG cannot be used to subsidise Municipal I(R)PTNs, unless the subsidised contracts are devolved to the municipality (from Province) and restructured under the I(R)PTNs thereby capturing the grant funding into the I(R)PTNs. This devolution must be accompanied by the devolution of the regulatory authority function and whilst applications in this regard have been made by some cities, devolution has not yet been granted.

Furthermore, the total PTOG fund of R5 billion is already fully allocated to existing services, many of which are long distance, rural-urban connections which address key historical urban planning patterns. Whilst the existing PTOG contracts will be restructured with the rollout of I(R)PTN networks, analysis of these contracts suggests that overlap is fairly limited and will not yield significant grant funding into

the I(R)PTN. There is currently no indication that PTOG will be increased to cover additional I(R)PTN services and made available to Municipalities, although it is possible this may be reviewed in the future.

Given the above, PTOG contributions toward I(R)PTNs will not be substantial. At most, the contribution will support the I(R)PTN services that replace existing contracted operations, which will form only a part of full I(R)PTNs.

### **3.2 Municipal Resources**

#### ***Municipal Charges - Inclusion in the rates bill***

The implementation of I(R)PTNs is supported by extensive national grant funding, but financial responsibility for system operation rests significantly with local government. An expectation may be that local government can feasibly add a percentage on to its rates base and earmark this increase for the public transport system, as discussed above and has been the case in Cape Town.

While this is a reasonable expectation and the co-funding imperative is an important incentive for cities to implement affordable systems, in practice the amount which could potentially be raised by local taxes is likely to be low relative to the cost of the public transport system.

To cite an example, the City of Cape Town approved a contribution from its rates revenue to the MyCiti roll out. Council agreed a limit of 4% of rates income be allocated to the I(R)PTN. To date, half of this allocation (2%) has already been applied to offset the operating costs of the first phase of the MyCiti<sup>9</sup> with three subsequent phases still to be implemented. The city's contribution is currently capped at R187m escalated at 6% per year<sup>10</sup>. Noting that the subsequent phases are anticipated to be significantly larger than Phase 1, the funding challenge to the City is self-evident. As a result, the city has instituted a review of the proposals, to investigate alternative models that impose more modest operational costs<sup>11</sup>. This illustrates that although municipal rates can be considered a reasonable source of income, there are limits to the applicability and to the extent to which the income offsets the operating cost deficit. No city can afford to fund the full operating deficit out of rates income alone, assuming that current networks are rolled out across the city.

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<http://www.capetown.gov.za/en/MediaReleases/Pages/MajorexpanansionofMyCiTinetworknowpossible.aspx>

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[https://www.capetown.gov.za/en/irt/Documents/MyCiti\\_BusinessPlan\\_2012\\_Final\\_with\\_ExecSum1.pdf](https://www.capetown.gov.za/en/irt/Documents/MyCiti_BusinessPlan_2012_Final_with_ExecSum1.pdf)

<sup>11</sup> Presentation by Melissa Whitehead, Making Integrated Public Transport Affordable and Viable, Case Study: City of Cape Town, South African Transport Conference, 10 July 2014, <http://www.satc.org.za/index.php/2014-09-04-15-06-10/2014-09-04-15-49-57>

### ***Equitable share***

A third internal source of income may be equitable share. However, this situation will vary from city to city. Cities face competing demands across housing, healthcare, roads, and services, all of which fall under their developmental mandate. Most cities in South Africa are running budget deficits<sup>12</sup> and thus diverting equitable share into public transport will mean reprioritisation away from another area of municipal responsibility. This adjustment of priorities must be approved at the highest level in the municipality (i.e. Council) – and the competing demands of constituencies may make this difficult to achieve.

## **3.3 Other Government Funding Sources**

### ***Provincial Cooperation***

Provinces currently carry out the majority of transport related functions outside of the major metros and are a source of capacity in the sector. There is therefore scope for close cooperation between municipalities and provinces in the establishment of I(R)PTNs. Collaboration may create opportunities for greater efficiencies around funding, including subsidisation. An existing example from the Western Cape is the City of George which is receiving supportive funding towards its IPTN<sup>13</sup>. However, it must also be noted that, outside the example, provincial departments of transport are generally under resourced and existing funding is over allocated and hence finding significant additional funding for I(R)PTNs may prove challenging.

### ***Other Local Government Grants***

In some recent cases, cities such as Ekurhuleni have used grants managed by non-transport departments, such as the Urban Settlements Development Grant (USDG) and Neighbourhood Development Partnership Grant (NDPG)<sup>14</sup> for transport related expenses in developing an I(R)PTN. This has been encouraged by the Department of Transport given it is supportive of integrated planning. Note, however, that this utilisation has been limited to capital grants to date and there are no obvious (non-transport) operational grants that could be used to fund the public transport deficit. While there may also be a possibility of reviewing the scholar transport allocation there are a series of challenges which render it unlikely. The scholar transport function is currently located in provincial departments of education in certain provinces and the relevant funding is not accessible to the cities. Moreover, it is unlikely scholar transport would be incorporated into an I(R)PTN because scholar services are unique in their service requirements.

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<sup>12</sup><http://www.ffc.co.za/index.php/docman-menu-item/reports/603-2014-2015-tr-chapter-5-measuring-fiscal-distress-in-south-africa-local-government-sector>

<sup>13</sup> <http://www.treasury.gov.za/search.aspx?cx=018115738860957273853%3Aj5zowsrmpIi&cof=FORID%3A11&q=IRPTN>

<sup>14</sup> <http://www.treasury.gov.za/search.aspx?cx=018115738860957273853%3Aj5zowsrmpIi&cof=FORID%3A11&q=IRPTN>



### **Fuel Levy**

The revenue generated from the fuel levy is not ring fenced by national government; however a part of the revenue is now shared with the eight metropolitan municipalities. This sharing of the general fuel levy was introduced in 2009/10 as a permanent replacement to the former Regional Services Council (RSC) and Joint Services Board (JSB) levies. The sharing of the general fuel levy is based on proportional fuel sales.

The table below indicates the revenue generated from the fuel levy and the amounts allocated to the Metropolitan municipalities<sup>15</sup>.

*Table 2: Revenue from Fuel Levies 2009-2016*

R'm	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16
<b>Fuel Levy Revenue</b>	24 884	28 833	34 418	26 602	40 410	46 876	54 376	63 076
<b>Metro share</b>	-	6 800	7 542	8 573	9 040	9 613	10 190	10 659
<b>Surplus Revenue</b>	<b>24 884</b>	<b>22 033</b>	<b>26 876</b>	<b>18 029</b>	<b>31 370</b>	<b>37 263</b>	<b>44 186</b>	<b>52 417</b>

Sources: <http://www.thesait.org.za/news/173132/Allocations-to-Metropolitan-municipalities-of-general-fuel-levy-revenue.htm>,

<http://www.treasury.gov.za/publications/tax%20statistics/2013/TStats%202013%20WEB.pdf>

National Government is currently obtaining an estimate of R54bn from fuel levies. DORA indicates that approximately R10bn is allocated to the eight Metro municipalities. The remaining R44bn is already allocated elsewhere by the national fiscus. Funding for public transport from this levy would therefore mean a fiscal reprioritisation in other areas. Thus, while a theoretical option and a significant source of funding which has a direct relationship to private car use and transport, reallocation of part of the levy to the cities for public transport funding is unlikely in the short-term. Nevertheless, the fuel levy presents a compelling long-term option to fund public transport operations, and should be investigated further.

### **3.4 Commercial Revenue**

#### **Advertising & Commercial Revenue**

There are significant advertising opportunities associated with the fixed infrastructure of I(R)PTNs. This, coupled with the volumes of commuter traffic, creates potential to reach a significant number of consumers via buses, stations and commuter way billboards. An EU benchmarking study carried out in 2006 established that most cities earned in the region of 1%<sup>16</sup> of total revenues from advertising<sup>17</sup>. Although cities should certainly seek to leverage advertising opportunities as a viable source of income, their contribution to offsetting the deficit is still very small.

<sup>15</sup> The 2008/09-2011/13 numbers are the actual figures. For the period 2013/14-2015/16, the Fuel Levy Revenue is estimated to increase at approximately 16%, and the Metro Share is per DORA.

<sup>16</sup> There were exceptions (such as Paris at 11% and London at 4%),

<sup>17</sup> A Business Case for an Extended Programme of Capital and Operational Funding for Road-Based Public Transport (Pegasys, prepared for the Department of Transport, December 2012)

Similarly, there are potential revenue opportunities associated with renting out retail space in stations, parking fees at park and ride facilities, hire of facilities and hosting telecommunications masts. This source of revenue is also not expected to be significant and, at most, helps to cover the cost of maintenance of the transport infrastructure (stations and stops).

### ***Carbon Credits***

Carbon credits were considered a potentially important source of income for I(R)PTNs and CoJ's Rea Vaya and CoCT's (MyCiti) were attempting to register their Bus Rapid Transport (BRT) systems in order to reap the benefits of carbon credits and their associated income. However, current carbon credit prices are relatively depressed and the future carbon market is not known. Other cities will need to take a position on whether it is worth pursuing carbon credits in the longer term based on the potential source of income for the new system.

### ***Land Value Capture***

Land value capture is composed of two income generating elements – a once-off capture of value or an on-going 'betterment tax' on property. In the former, land value is captured when a Municipality purchases property in the vicinity of the I(R)PTN system before the value of the land increases and thus makes a gain on the investment on disposal or development of the land. In the latter, value is captured when the Municipality designs taxes to capture the increase in land-values in privately owned properties in proximity to the newly implemented I(R)PTN system.

The US<sup>18</sup> and Australia<sup>19</sup> both offer examples to demonstrate the additional benefits of encouraging development on land whose value has increased through new public transport infrastructure. The developed land attracts higher property taxes which are earmarked for use in the transport system. It must be noted, however, that increases in land value are likely to be limited to densely populated areas where there is a scarcity of well-located property.

While this is a promising source of income for an I(R)PTN, capturing land value increases in order to recoup investment in public transport requires significant forethought and coordination with Municipal spatial planning and is unlikely to be reaped in early years of an I(R)PTN. Particularly the purchase and development of land precincts is the subject of a high degree of uncertainty and thus speculative. Fiscal constraints may restrict the extent to which cities can pursue this option.

### ***Congestion Charging***

Congestion charges present a method to capture the positive externalities of the I(R)PTN which are experienced by car users who benefit from less congestion associated with system implementation. It is both appropriate and useful to introduce a congestion charge in areas where there is both congestion and where there are alternative, car-competitive public transport options (such as a Bus Rapid Transit lane). A congestion charge captures the value of the benefit of the BRT derived by

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<sup>18</sup> [http://www.lincolnst.edu/pubs/2181\\_Are-Property-Related-Taxes-Effective-Value-Capture-Instruments](http://www.lincolnst.edu/pubs/2181_Are-Property-Related-Taxes-Effective-Value-Capture-Instruments)

<sup>19</sup> [http://ecotransit.org.au/ets/files/land\\_value\\_capture\\_mdoherty2004.pdf](http://ecotransit.org.au/ets/files/land_value_capture_mdoherty2004.pdf)

the car user or encourages car users to switch to public transport (and hence increases the fare box).

This is both a potential source of income and an additional contribution to the long term sustainability of the system by incentivising behaviour change. However, congestion charges are also politically challenging and thus slow to implement. It is far less easy to introduce congestion charges in an area which does not suffer from congestion and/or where there is no alternative transportation option and the palatability to commuters and the costs of enforcement increase substantially.

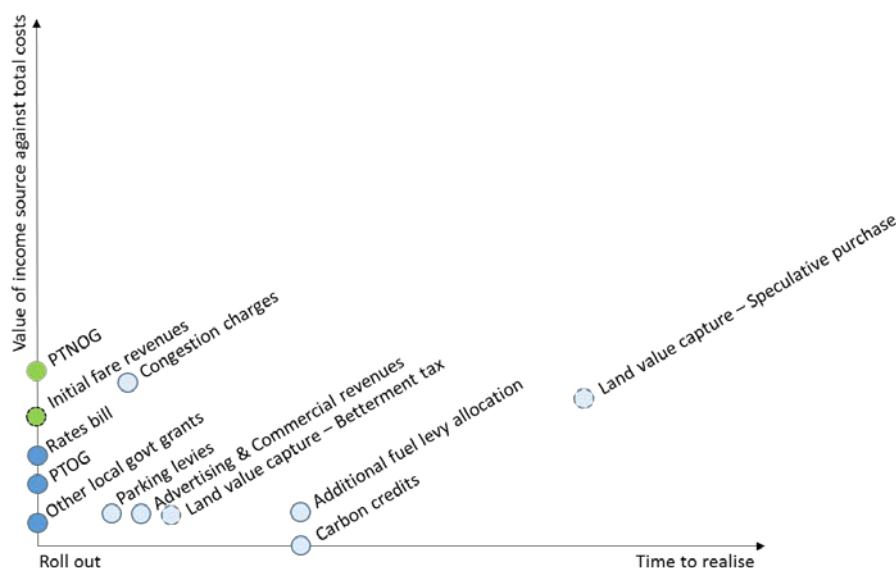
### ***Parking Levies***

Similar to congestion charges, parking levies capture the positive externalities of the reduction in car traffic due to the implementation of the I(R)PTN and present an incentive for car users to shift to public transport. Similarly, a municipality could also charge higher fees for establishing parking garages and parking space in buildings in the city. A parking levy would operate in a similar fashion to a congestion charge and would contribute to controlling problems associated with traffic congestion and encourage the use of the public transport system where it is available. Parking levies can be implemented on commercial parking areas and/or municipal parking bays.

### **3.5 Summary of Funding Options**

The graph below illustrates the potential and likely timing of the various sources of income available to an I(R)PTN in addition to fare revenue in order to offset any operational shortfalls. The graph is necessarily illustrative as the situation will vary from city to city.

- No single income source (in addition to fare revenue) is the silver-bullet solution and a bundle of income sources should be explored.
- Some options are sources of greater income than others.
- Some options can be realised from the start of operations while others will only be realised in the future (and the timing delay should be factored into planning.)
- Land value capture opportunities in particular may have some significant potential for income generation but take time to realise and can be the subject of some uncertainty.
- Even after pursuing all of the recommended funding options it is likely a fairly significant operational shortfall will nevertheless remain.



**Figure 1: Illustration of the relative value of various I(R)PTN income sources against total operating costs and the time to realise each source**

#### 4 IMPACT OF I(R)PTN OPERATIONAL SHORTFALLS

Despite initial expectations that I(R)PTNs should be able to cover direct operating costs with fare revenues, the implementation of systems in South Africa has demonstrated that fare revenues fall short of direct operating costs. This is consistent with international experience in public transport, and the South African urban landscape, including population densities, distances travelled and income levels, make it even more difficult to cover direct operational costs with fare revenue alone. On top of direct operational costs, indirect operational costs for critical systems, such as fare collection or station management, further increase costs and increase the operational shortfall. While the South African national government provides grant funding to help cover these costs, a significant operational shortfall remains, as has been observed in implementing cities in South Africa.

Several funding opportunities are available and should be explored. These include increases in rates at the municipal level or reallocation of resources, or use of other government funds to support public transport. This can be justified in part because public transport is a public good investment with significant benefits for connectivity, urban transport options and, ultimately, poverty alleviation<sup>20</sup>. However, these options may also be difficult to achieve as they put additional pressure on already strained resources and require a discussion of trade-offs between different service delivery objectives.

There are also commercial funding opportunities to explore. Many of these, like advertising, may augment revenue somewhat but will not likely result in significant contributions, as has been the international experience. Land value capture is an

<sup>20</sup> A Business Case for an Extended Programme of Capital and Operational Funding for Road-Based Public Transport (Pegasys, prepared for the Department of Transport, December 2012)

interesting opportunity to explore with potentially large benefits, but it will require significant planning, coordination and time to realise this type of opportunity.

Despite the opportunities for additional funding, it is likely that a significant operational shortfall will exist if implementation of I(R)PTNs proceeds according to first phase examples. Implementation of I(R)PTNs is proving to be a significant financial risk for city treasuries to undertake alone and even with the additional sources of income highlighted above it will be difficult for cities to cover the operational shortfalls.

Ultimately, this means that South Africa needs to either find more funding – likely at a national level - possibly reprioritising away from other sectors, or I(R)PTN costs must decrease.

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