

“GO GEORGE ” (GIPTN) – A QUALITY PUBLIC TRANSPORT SYSTEM, ELEMENTS FOR CONSIDERATION

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ABSTRACT

The paper provides an overview of the approach adopted for the Go George Integrated Public Transport Network (IPTN) project. It discusses some of the reasoning and decisions taken, and the processes followed in getting the GIPTN operational.

It outlines some of the project strengths and weaknesses, as well as some of the successes and failures. The transformation approach adopted for George, while appropriate in most respects at the time, was difficult to implement, and from this has come suggestions as to how to do it differently in future. There is however consensus that there is a definite need to shift from the current mini-bus type service model into the formal public transport realm, as it brings with it significant socio-economic benefits.

The Go George system comprises a network of main and community routes operating within the built urban areas of George. Thus, offering a conventional scheduled public transport network operating between 14-18 hours per day at varying frequency levels, that makes use of a mixed bus fleet that allows for service optimisation (using mostly the smaller vehicles during off-peak times, for example) and operations cost (thus subsidy) minimisation. The services is to be extended to the rural areas, and offer inter-town services between George and neighbouring towns.

INTRODUCTION & BACKGROUND

The George Integrated Public Transport Network (GIPTN) or as it is known by the public, the Go George system, has its origins in the development of the Sandkraal Road Corridor Mobility Strategy, this within the George Local Municipality, Western Cape. While initiated in 2003, the need to amend the original scope into a town wide mobility strategy with the primary focus on the development of the formal public transport system was soon recognised. It aimed to recognise the catalytic role a formal public transport system could play through urban integration, the rejuvenation of blighted areas, corridor densification, the creation of more liveable environments, and the achievement of the stated national transport vision.

The first step in the project was to begin the transformation process required to turn convert the existing minibus type operations present in George into a formal scheduled quality public transport system.

The project, which has been referred to as 'flagship' and 'pilot', is significant in many respects. It was the first attempt made in the RSA to engage fully with the local mini-bus taxi and bus operators with the objective of canvassing their full participation, establishing them into a private company, and awarding them the responsibility of operating a 12-year negotiated bus contract as permitted in terms of Section 41 of the National Land Transport Act (NLTA – Act 9 of 2009). Engagement with the minibus taxi industry in George commenced in 2007 with George being one the first cities and first non-Metropolitan area to attempt this. However, the award of the FIFA World Soccer Cup to South Africa placed an emphasis on the metropolitan cities of Cape Town & Johannesburg who then took the lead on implementation. While at critical points during the process allowance was made for the possibility of aborting the project, Provincial Government in conjunction with George Municipality took the decision on each occasion to proceed to full implementation, as challenging as this was at times.

The project was initiated by the Province of the Western Cape, who are partners through an Inter-governmental Agreement and Financial Agreement with the George Municipality. This is provided for in terms of Section 12 of the NLTA, the Act requiring that a municipality be the Contracting Authority.

AIM & SCOPE OF THE PAPER

The paper provides an overview of the approach adopted for the Go George project, giving reasons for some of the logic and decisions taken. It discusses some of the processes followed in getting the GIPTN operational. The paper also discusses some of the project strengths and weaknesses, as well as some of the successes and failures. The transformation approach adopted for George, while appropriate in most respects, was difficult to implement, and from this has come suggestions as to how to do it differently in future. There is however consensus that there is a definite need to shift from the current mini-bus type service model into the formal public transport realm, as it brings with it significant socio-economic benefits.

The aim of the paper is to share the experiences and lessons learnt in the hope that others will benefit from the discussion. It is recognised that all municipalities have a responsibility to develop their public transport system, but for the majority of non-metropolitan cities & towns, this is a tall ask without the support of the Province (or neighbouring city) as partner, and National Government as primary funder.

The development and implementation of an IPTN is a complex process and cannot be covered in one paper, so this paper aims to identify and provide a high level introduction to certain elements in IPTN development and in some cases a more detail experience in the development of the GIPTN. The main areas of discussion relate to the following interest fields:

- Development process
- The Network
 - Network description and coverage
 - System design philosophy and intended benefits
 - Replicating the MBT type operations
- Industry engagements
 - Formal negotiation process
 - Operator Licence holders and affected persons
- The infrastructure light approach
- The bus supply dilemma

Elements on institutional arrangements, the role of consultants/advisors, GIPTN Management and Operations monitoring and capacity building (education and training) in general, while are fundamental in developing a quality public transport system have not been addressed in this paper.

DEVELOPMENT PROCESS

The discussion which follows provides a general overview of the GIPTN system, and of a number the challenges needing overcoming in getting to eventual system rollout. The development process took some 10 years is illustrated by the timeline in Figure 1 below.

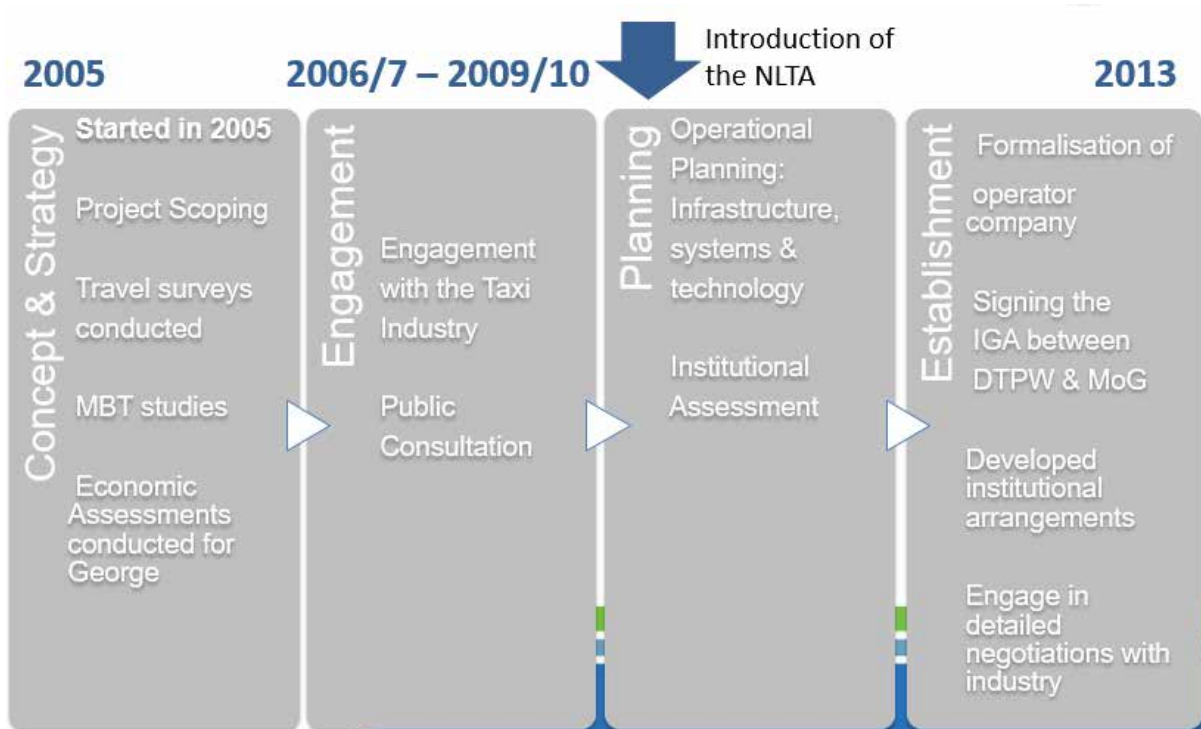


Figure 1: Planning & implementation process

THE NETWORK

Network description and coverage

The GIPTN network includes both the urban and rural environment, in the George Municipality with the exception of Uniondale at this stage. The system does allow expansion at a later date. Services commenced in December 2014 with a phased introduction over 6 months into the areas of Rosemoor, Loerie Park, Denneoord, Blanco, Pacaltsdorp and the CBD. The areas of Thembaletu, Wilderness, Herold's Bay are planned to be introduced in late 2016 and 2017.

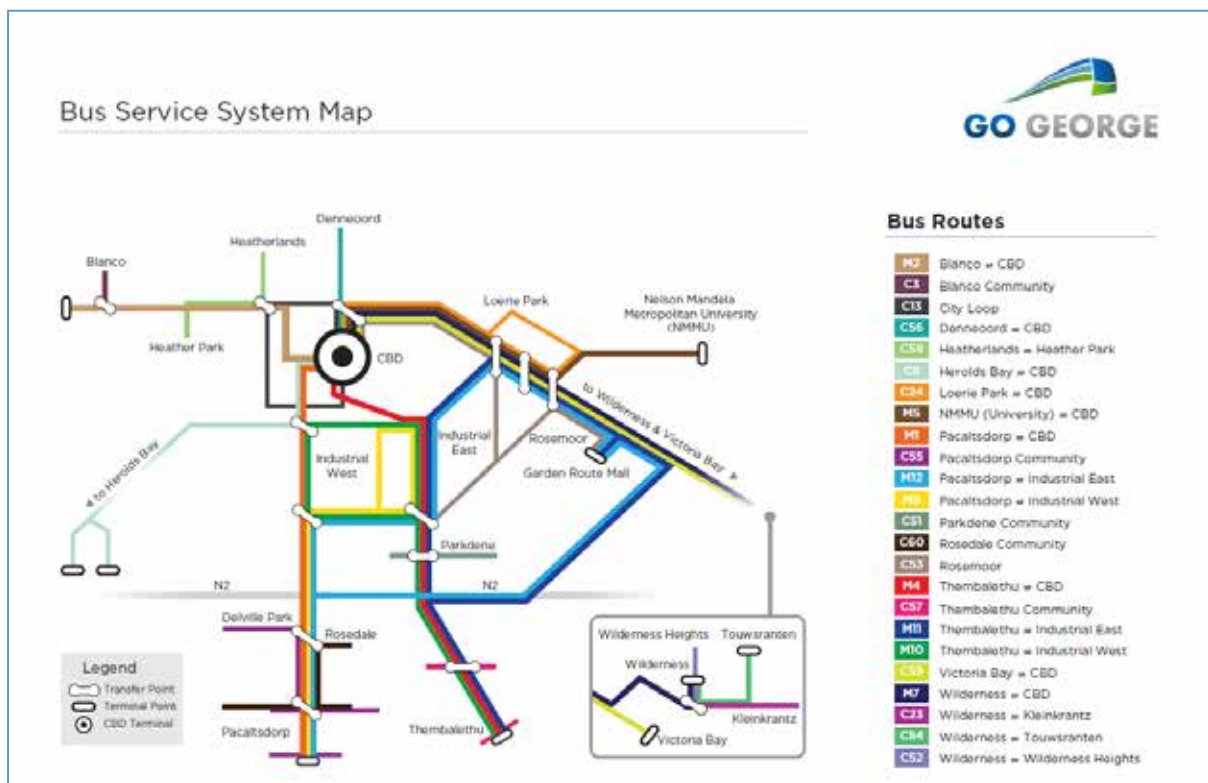


Figure 2: GIPTN - System route map

Figure 2 provides an indication of the route coverage of the GIPTN operations, which includes a network of main routes, community or feeder type services, services linking rural settlements (inter-suburb), and inter-town services between George and the neighbouring towns of Mossel Bay, Oudtshoorn and Knysna. The network is served by some 28 routes, it will offer services between 14-18 hours per day, seven days per week.

Service frequency will be based on a 'policy service level' as a minimum service appropriate to the route, which will be increased where demand requires. An objective is that at least 85% of the built urban area will have access to the GIPTN operations within 400m of place of residence, and place of work. A mixed fleet of three different bus sizes are being deployed to meet route and time of day passenger demand. In some cases there are roadway constraints that restrict the nature of the bus that can be used.

When introduced, inter-town services will operate on a reciprocal basis, thus services shared with relevant operators based in the three adjacent towns. It is planned that some form of 'demand responsive' services will be introduced to service the deeper rural farming and forestry areas.

Further, it is envisaged that the present sedan taxi operations (not those already part of the MBT association structures absorbed into the GIPTN) will be converted to metered taxi type operations, and augment the GIPTN services in various ways, in particular during those periods when the bus service is not operational.

Not covered are the inter-city services which will continue to operate as commercial ventures.

System design philosophy & intended benefits

A starting point must be the realisation that virtually all formal public transport operations throughout the world require some form of government subsidy. While this can take various forms, the notion that the 'user pay' principle can apply is unrealistic, particularly so in a country with a high portion of poor and unemployed persons. This is further amplified by the apartheid legacy in South Africa which forced the poorest of the poor to be located on the outskirts in the city, causing long travel distance and time for work opportunities. For the GIPTN, national & provincial government have provided funding for the planning, operational establishment & infrastructure, with the Province underwriting operational deficits.

However, it is seen as essential that any IPTN is established and operated in a manner that will minimise the financial burden on both the user and government. For the GIPTN the fare policy & structure is based on a user affordability criteria (this linked to the gazetted minimum labour rate for an urban domestic worker), thus fare setting is not linked to an operations cost recovery model. It is hoped that this approach will find favour throughout the RSA in due course.

This emphasises the main intent of establishing an IPTN, that being to provide the urban poor with less costly access to employment, social services, commercial facilities and recreational activities, to reduce the proportion of household disposable income spent on transport, and in the process contribute to a better quality of life for all. For many, the cost of the existing minibus taxi services is unaffordable, while service coverage and quality of service is reported as poor.

Given that the quality of service provided is set and maintained at an appropriate quality level, this will impact on the extent to which private car owners choose to make use of those vehicles. The introduction of car-use constraints being a future consideration. It can be argued that public transport operations must be placed back into the hands of government as then as a consequence, it better positions government to deal with a wide range of social and environmental issues.

Figure 3 presents the 'quality triangle', which in effect emphasises government's role in consulting with, and providing its constituents (the public) with public transport services, and that it contracts in a service provider to deliver these required services.

Thus the operator is no longer the decision maker as to what services will be provided.

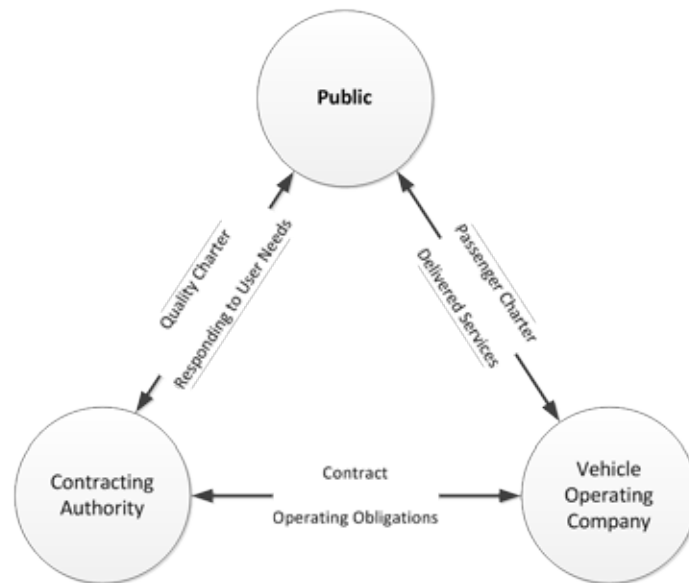


Figure 3: The "quality triangle" (origin unknown)

What becomes critical is that the design of the system provides scope for operational efficiencies be maximised, and thus operational costs (and subsidy support) to be minimised. The achievement of this does require that a number of aspects are in place.

Replicating MBT type operations

One of the possible fallacies is that of believing that the new IPTN bus operations should in some way replicate previous MBT & bus operations. Certainly the operational design must draw from the Current Public Transport Record, but it must also draw from other information sources, which in the case of the GIPTN included census information, household surveys, and a number of specific on-the-ground surveys.

The George MBT operations were strongly Association linked, with the three MBT associations Uncedo, the George Taxi Owners Forum and the George Huurmotorvereniging and thus reflect situations unique to the environment in which they operated. In addition, the bus operations in this country have existed for more than thirty plus years in competition with MBT type operations. The notion of a substantial shift to a differently structured network is a challenge to both the former MBT operators and their advisory team who assist in building capacity to existing operators, and brings with it pressures to revert to a MBT type thinking.

The notion of a single bus operations contract, under which the GIPTN currently operates, had its origins in;

- a. An understanding that the Province would be the contracting agent in most of the non-metropolitan sub-regions. The NLTA changed this and requires that municipalities be the public transport contracting authorities, but provision is made for the joint controls in s12 of the NLTA.
- b. The desirability of removing any racial bias or competition that might arise from operator contracts that were association based. While there is logic in the thinking, it does mean there is reduced competition between operators within a local municipality, and that the competition will be between municipalities. This does not suggest there is no prospect of the GIPTN being divided into two or even four contracts after the initial 12-year contract is concluded. This would need to be led by the Contracting Authority and their respective partners if the service has expanded to such an extent that this could be warranted.

MBT, by virtue of their size, are able to operate on township roads that are unsuitable for normal bus operations. In some respects MBTs can offer services more closely related to a sedan taxi or even the private car, given that the passenger is prepared to pay the fare charged. Operating a scheduled bus operation that attempts to replicate the MBT operations will be cost inefficient and unaffordable. Thus a feasible or affordable bus operation requires acceptance that that on offer is not a MBT type service and that it will be expected that some passengers will stand on buses during the peak demand periods. There will also be the need for some passengers to transfer between routes in order to complete a desired trip, which happens in minibus taxi type operations as well, but to a lesser degree. In addition, it requires an acceptance that a mixed fleet will form the basis of any operation.

While waiting for a bus, and transferring between routes, is not what the passenger wants, but if it can be shown that with a reliable accessible service where timetables are integrated as far as possible and adhered to, passengers will adapt and learn to trust the system, thus deriving considerable benefit over that previously on offer. The term **accessible** relates to **spatial** (proximity of bus stop), **cost** (fare payable) and **time** (hours covered & frequency) perspectives. The optimised cost of providing the service relies on an acceptance that bus size and service frequency will alter depending on temporal demand but will respect the fundamental premise of a policy based service frequency for each route. Thus it is essential that there is in place an operations cost model that is continually used to evaluate system performance and minimising operational costs.

INDUSTRY ENGAGEMENTS

As indicated in Figure 1, the first engagements with the three local George MBT associations and the local bus operator commenced in 2007. What is often overlooked is the fact that at that time, there were no quality public transport operations in South Africa that could be used to reference that under discussion. Few of the existing operators have ever travelled abroad and thus experienced

mobility without a car. Their only reference is their familiarity with local MBT & bus type operations. The eventual outcome of these engagements was the signing of a memorandum of agreement prior to a formal negotiation process being entered into. It should be appreciated that the engagement process commenced under the NLTTA which did not permit formal negotiations with operators other than those on interim contracts. The introduction of Section 41 under the NLTA changed this.

Formal negotiation process

The formal negotiation process deal with the operator contract, as well considerable time was spent on the matter of *bus fleet ownership*, and on the development of an acceptable *compensation model* to operators for the relinquishment of their operating licenses (OL).

At a very early stage it was agreed that the bus fleet would be owned by the operating company to be formed through the negotiation process. The NDoT grant funding conditions changed this to ownership by the Municipality where grant funding was to be used to purchase the fleet at the time negotiations were underway, this condition has subsequently changed. As could be appreciated, this matter did not rest easy with the operators, but was eventually accepted after much discussion. Their concern relating to the residual value of the company and accumulated assets at the end of the 12-year operator contract. While government's position was simply that it cannot hand over assets to a private operator without a preceding tendering process (legislated financial management rules could not be circumvented).

The issue of operator compensation for relinquishment of operator licenses was similarly a lengthy negotiation process. The notion of compensating operators was not initially deemed necessary, but was in a sense required as a consequence of the processes around operator license relinquishment that followed in Johannesburg, Cape Town and Port Elizabeth leading up to the 2010 World Cup services that were implemented. The options eventually given to all existing legal operators is illustrated in the figure below. In effect they had to choose to buy-in, buy-out, or continue business as usual with no assurance that their current local Operating Licences would be renewed in future. (It is to be noted that an operator with multiple licences could buy-in and buy-out. It is not an option, however, to buy-in or out with some licences and to continue own operations with others.)

What this process has shown is that the MBT industry can be persuaded to convert from the informal to formal operations. Where this is particularly evident is among the drivers and other employees, who are now in secure employment, working fixed hours, and enjoying the other benefits normal to a formal employment environment.

Operator Licence Holders & Affected Persons

The NLTA is specific on the point that formal negotiations can only be with persons holding valid Operator Licences (OL's). For the GIPTN this meant operators with local George based OL's (origin(A) and destination(B) points within George), and those with George as A point and B point in one of the three adjacent towns. Long distance and chartered OLs could remain as the GIPTN service focused on commuter routes.

All operators, and persons directly affected by the proposed GIPTN operations were requested to register their interest in being kept informed of the process. This was done by published notice in local newspapers, and directly informing the associations and bus operator. The 'affected persons' being all those who derive their income from local MBT and bus operations, including illegal operators, drivers, mechanics, etc. The promise given was that nobody should lose their job as a consequence of the conversion process. The reality turned out very differently, and it became necessary to re-advertise, and re-open the registration lists on a number of occasions. Although the list is graded, the affected persons register grew from a manageable 400 persons to over 1300 persons; this far exceeding the number of employment opportunities on offer. Managing both the process and the expectation remains a challenge.

During the early engagement process, the major concern expressed by the MBT industry related to OL's, and the accuracy of the records of the Provincial Operating Licencing Board, or Provincial Regulating Entity as it is now referred to. Handling the queries and disputes continued for a number of years, with literally hundreds of engagements, which added considerably to the planning costs and added to the number of people requiring compensation.

The fact that George, Cape Town & Johannesburg now have working examples that demonstrate the desired outcome, something that was once considered not possible to achieve, there is no doubt that the engagement and formal negotiation processes can be substantially reduced from the 9 years from concept to service commencement in George, to a much shorter period.

THE INFRASTRUCTURE LIGHT APPROACH

A bus rapid transit (BRT) or rail based (Light Rail Transit or High Speed Rail Transit) system requires considerable up-front investment in securing and establishing the right-of-way necessary. The GIPTN is a conventional bus operation which uses the existing road network, and thus offers an attractive starting option where there is no demand for priority operations. As was the case in George, there was uncertainty as to whether the system would eventually get off the drawing boards, and as a consequence, holding back on up-front infrastructure investment to a minimum had considerable merits, but also has its disadvantages. The big advantage being that the prospect of abortive and wasteful expenditure is minimised through this approach.

Essential infrastructure elements include a bus depot, the provision of minimal starter bus stops, and the selected upgrading of roads and provision of bus turn facilities.

Before elaborating further, it is important to appreciate that funding made available for operational establishment and infrastructure was prioritised towards the payment of operator compensation, and towards the purchase of the bus fleet, thus avoiding the payment of interest on borrowed capital.

The down-side of this approach is that it then becomes necessary to play catch-up once the services become operational. The passengers have been disadvantaged by the approach through the very limited provision of bus shelters, this being aggravated by operational issues, with the need for on-bus ticket purchasing the most significant of these. Possibly of greater concern is the quality of the existing road network, particularly the structural condition of 'township' roads. During the pre-operational period an assessment was undertaken of all proposed bus routes to determine what treatment was required to accommodate the bus operations. Unfortunately, the needed infrastructure funding was directed elsewhere, which now has had a significant impact on the road network once the system became operational.

The lesson in this is to recognise that the road pavement damage from the use of rear engine buses is significant, and needs to be factored in at an early stage.

THE BUS SUPPLY DILEMMA

The local bus market is largely focused on the supply of mini-bus taxi type vehicles in the small bus category, high floor midi-buses for touring in the middle bus sizes, and high-floor conventional buses for the commuter and touring markets.

The National Department of Transport (through the Public Transport Network Grant PTNG) requires all public transport networks, regardless of mode, to provide an inclusive services that accommodates passengers with special categories of need. The approach required is through one of universal access design, to which South Africa committed itself by signing the United Nations Convention on the Rights of People with Disabilities in 2007. Universal Access is the ability of users to have equal opportunity and access to services, products, systems and environments, regardless of economic situation, social situation, religious or cultural background, gender or functional limitation.

There are broadly two aspects to Universal Access:

- Direct Access, which is directly related to Universal Access Design and refers to direct adaptations to products, environments, services or system designs that significantly improve their accessibility;
- Indirect Access, which uses assistive technology such as wheelchairs, screen readers etc., refers to product, environment, service or system interfaces that enable an add-on assistive technology to provide the user with full access

This requirement has a direct impact on the type of bus that may be used, and the current reality is that the local bus market has yet to appropriately adapt to providing suitable mini-, midi- and conventional low floor or low entry buses that are suitable for the available road networks. As a mixed fleet is required for the GIPTN operations three vehicle classes are currently in operation, a minibus, a midi bus and a standard bus. For the GIPTN, considerable effort went into the development of a compromise mini-bus with wheelchair hoist (an accessible minibus). Midi-buses are a shortened conventional bus (10.5m rather than 12m) and are physically too wide for most

township roadways. In order to achieve the standards of universal accessibility that are still being defined, considerable research and development had to be done with the respective vehicle body builders to arrive at a workable and affordable solution.

There is no doubt that once there is some consensus on specifications for IPTN's the bus suppliers will meet the requirements, but some work is required in expanding the range of size of universally accessible buses to cater for different demand environments, especially in non-metro areas..

CONCLUSION AND RECOMMENDATIONS

There is no doubt that the GIPTN is a flagship public transport project breaking new ground on number of elements in IPTN development.

With the elements discussed in the paper, what this process has shown is that;

- The existing MBT and bus operators can be encouraged to participate, and will take up the challenges with the appropriate levels of support & a measure of compensation.
- The provision of the service should focus on the user needs and if so, will be utilised.
 - Critical, is having a fare policy and structure that does significantly reduce the share of household expenditure on transport. Assisting the poor must be a top priority.
 - The system must be accessible from a spatial, cost and time perspective, and must be seen as safe.
- The operating costs can be minimised through the effective use on a mixed bus fleet, and service delivery matched closely to passenger temporal demand.

The target must be *quality public transport* service delivery. This can only be provided where government takes ownership, and fulfils its mandate as provided for in the NLTA, and other policy documents. Gone should be the days where the public transport operator is able to decide what services should be provided to the public. Government must agree the quality of service to be delivered with its constituents (the public), and make use of preferably contracted-in operators to deliver (refer the quality triangle – Figure 3).

ACKNOWLEDGMENTS

There are no guidelines on how to tackle a project of this nature. The concept plan and initial business plan were prepared jointly by Dr Wayne Duff-Riddell Pr.Eng., and E J (Robby) Robertson Pr.Eng., both having many years of practical experience in the transportation field. The GIPTN concept and implementation drew from Wayne's doctoral thesis on operational cost optimization, and from the development of the very successful UCT 'Jammie Shuttle' in 2007.

The fact that the GIPTN is where it is today is due to the efforts of many organisations, and the long list of many dedicated and talented people, which includes representatives from the client, the Department of Transport & Public Works, PGWC, the Civil Engineering Department of the George Municipality and the National Department of Transport. Also MPBS Consultants, Pegasys Strategy Development, Tess and numerous other consulting firms and service providers, together with representatives of the local mini-bus taxi associations, and bus operations.