SUCCESS AND DELAY IN IPTN PROJECTS: CASE STUDY ANALYSIS OF THREE SOUTH AFRICAN CITIES

M MANUEL and R BEHRENS

Centre for Transport Studies, University of Cape Town, Private Bag X3, Rondebosch 7701; Email: MNLMIK001@myuct.ac.za; roger.behrens@uct.ac.za

ABSTRACT

Following the 2007 Public Transport Strategy the implementation of city-wide Integrated Public Transport Network (IPTN) improvements has proven difficult. Only five of the 13 cities that embarked upon this process have managed to install service operations. The aim of this paper is to identify the underlying factors that have caused both success and delay in IPTN projects in a selection of these cities (George, Nelson Mandela Bay and Tshwane). While some successes have been achieved, implementation in the three IPTN projects described in the paper has stalled. At the end of 2017, all three IPTNs were experiencing lower than expected operational performance, higher than expected infrastructural cost, longer than expected implementation timelines and higher than expected industry transformation costs. Case study analysis indicates that these outcomes have been the product of a range of underlying factors, most dominant of which have been institutional in nature. In George, there was intergovernmental cooperation to ensure the necessary institutional capacity and funding, but a disjoint between national government objectives and the local context has hampered the project. The Tshwane planning department faced capacity and resourcing constraints, which contributed to A Re Yeng's delay. While Nelson Mandela Bay Municipality's efforts to negotiate with the minibus-taxi industry to implement the Libhongolethu ITPS was hamstrung by corruption allegations.

1. INTRODUCTION

A decade after the 2007 Public Transport Strategy and Action Plan (PTSAP), it is now apparent that its milestones towards the objective of replacing minibus-taxi services with scheduled city-wide Bus Rapid Transit (BRT) networks have not, and will not, be achieved. Thirteen cities across South Africa have been working towards transforming their public transport networks under the PTSAP. BRT systems were to be implemented in 12 of the cities. George, the 13th city, intended to implement a conventional bus system. All 13 cities aimed to make public transport an attractive mode for all users, transform the public transport industry and make the cities accessible for all. Five cities, of the 13, have achieved some of their initial project objectives and have or had services in operation. Three of those cities are discussed in this paper, namely George, Nelson Mandela Bay and Tshwane.

This paper will identify the successes and delays of each IPTN project, and their underlying causes, by detailing events and decisions in a chronological sequence. Thereafter, the paper will discuss findings to find similarities and differences across the three case studies, to gain insight into the challenges of public transport reform in South Africa.

2. RESEARCH METHOD

The research was conducted following a multiple case study design. The PTSAP, implemented over the last ten years, constitutes a contemporary phenomenon, which can be investigated in its context using a case study strategy (Yin, 2014). Multiple case study design was pursued because theoretical and literal replication was possible with multiple cities implementing IPTN projects under the PTSAP (Yin, 2014). Each city was designed to be a single unit of analysis. The three case studies presented in this paper drew on multiple sources of evidence: academic papers; news articles; government reports and plans; and qualitative semi-structured face-to-face interviews. The research was conducted on the basis of analytical generalisation (Yin, 2014). Initial propositions were developed through a review of the literature on public transport reform in South Africa and international examples of BRT implementation. This guided the data collection. Two frameworks of analyses were applied to the data. The first framework was used to determine whether the IPTN projects are in a state of success, delay or failure. This was done by assessing each project in terms of its own objectives for accessibility, attractiveness, infrastructure and operations. The second framework of analysis assessed the causal events, identified through chronological sequencing, against the initial propositions. The initial propositions were as follows:

1. The IPTN projects are delayed due to a lack of capacity within government to implement large, complex transport projects.
2. The IPTN projects are delayed due to the short implementing timeline objectives set out in the 2007 Public Transport Strategy and Action Plan.

3. RESEARCH FINDINGS

The research findings are divided into two sections. The first section is a tabulated overview of the status of each project. The second section is an extract from each project's timeline.

3.1. Case study IPTN project status

Table 1 summarises the intended system design criteria of each project and the guidelines set out in the PTSAP. Success, delay or failure was determined by assessing the design outcomes, at the end of 2017, against the intended design. A green tick represents a criterion 'achieved', whereas a red cross represents a criterion 'not-achieved'. The outcomes of the assessments are briefly summarised below:

3.1.1. Case study 1: GoGeorge IPTN (George)

The GIPTN only fell short on two of its design criteria: it had not provided access to 85 percent of the urban built environment, because its fourth phase is yet to be launched. And, secondly GoGeorge had not implemented electronic fare payment and used a cash payment system instead. The system launched almost three years later than intended. GoGeorge has failed to reach its predicted passenger trips per day, as well as its predicted annual fare revenue. At the end of 2017, the George Local Municipality (GLM) was still pursuing its IPTN project therefore it is concluded that the GIPTN is in a state of delay.

37th Annual Southern African Transport Conference (SATC 2018)
Proceedings ISBN Number: 978-1-920017-89-7
Produced by: Jukwaa Media : www.jukwaa.net

Table 1: Tabulated overview of the design criteria for the 2007 PTSAP and each case study.

		2007 PTSAP	GoGeorge IPTN		Libhongolethu IRPTN		A Re Yeng IRPTN	
Accessibility	Walking distance to trunk/feeder stop	1000m	400-600m	✓	400m	✓	500m	✓
	Headway	High: 5-10mins; Low: 10-30mins	High: 15mins; Low: 1 hour	✓	High frequency	✗	Trunk: 3-5mins; Feeder: 15mins	✗
	Daily operational hours	16-24 hours	14-18 hours	✓	16-24 hours	✗	16 hours	✗
	Weekly operational days	7 days	7 days	✓	7 days	✓	7 days	✓
	Percentage of population within walking distance of trunk/feeder	85%	85% of urban built environment	✗	"all citizens"	✗	"most residents"	✗
Attractive	Vehicle and station/interchange experience	Stations and vehicles that are safe, clean, modern and universally accessible. BRT users should have access to maps, timelines and real-time information.	Stations are simple, safe, clean, some universally accessible vehicles but universally accessible stops and stations.	✓	Stations and vehicles that are safe, clean, modern and universally accessible. BRT users should have access to maps, timelines and real-time information.	✗	Stations and vehicles that are safe, clean, modern and universally accessible. BRT users should have access to maps, timelines and real-time information.	✓
	User service experience	A successful IPTN is scheduled, reliable, affordable, friendly and all schedules, fares and routes are integrated.	A successful IPTN is scheduled, reliable, affordable, friendly and all schedules, fares and routes are integrated.	✓	A successful IPTN is scheduled, reliable, affordable, friendly and all schedules, fares and routes are integrated.	✓	A successful IPTN is scheduled, reliable, affordable, friendly and all schedules, fares and routes are integrated.	✓
Infrastructure	Roads	High speed, dedicated, median lanes	Roads able to withstand rear-axle vehicles with high loads	✓	High speed, dedicated, median lanes	✗	Trunk: Dedicated, median lanes, priority at intersections. Feeder and complimentary routes run in mixed traffic with some priority.	✓
	Vehicles	Multiple, wide doors with platform level boarding	Combination of standard, midi and mini buses. High and low floor.	✓	Modern, articulated buses with multiple doors on both sides, low floor.	✓	Only low floor buses with level boarding. 18m articulated bus and 12m rigid bus.	✓
	Fare system	Pre-board electronic fare payment	Pre-board electronic fare payment	✗	Pre-board electronic fare payment	✗	Pre-board electronic fare payment	✓
	Stations	Enclosed, attractive design and landscaping	Simple stops. Either a pole and bus stop sign or bus stop with single shelter	✓	Centralised median lane platforms and kerbside stops.	✓	Enclosed, attractive design and side walk bus stops	✓
Operations	Predicted passenger trips per day	N/A	51 628	✗	450 000	✗	Phase 1: 127 000	✗
	Predicted fare revenue per annum	N/A	R120 500 367 (2013/14)	✗	R1 billion	✗	Upon completion of phase 1: R254 million	✗
	Intended first operations date	2009	January 2012	✗	June 2011	✗	April 2014	✗
	Intended all operations date	2020	July 2015	✗	January 2014	✗	Completed phase 1: June 2017	✗
	Actual first operations date	N/A	December 2014		February 2013 (terminated Nov 2013)		November 2014	
	Actual passenger trips per day	N/A	12 400		51 868		4500	
	Actual fare revenue per annum	N/A	R37 301 620.00 (2016/17)		R0.00 (2016/17)		R5 952 293.00 (2016/17)	

3.1.2 Case study 2: Libhongolethu IPTN (Nelson Mandela Bay)

Libhongolethu was assessed against its 2013 pilot phase operations because, by the end of 2017, these were the only operations that had run. The vehicles ran on dedicated lanes and in mixed traffic. A cash payment system was used instead of an electronic fare system. Libhongolethu launched the pilot phase more than two years later than intended. These services were terminated ten months later: no bus has run since the conclusion of the pilot phase. The pilot phase operations failed to reach the daily ridership that was predicted for the first year of operations. The Nelson Mandela Bay Municipality (NMBM) continues to pursue the implementation of Libhongolethu, therefore it can be concluded that it is in a state of delay.

3.1.3 Case study 3: A Re Yeng IPTN (Tshwane)

A Re Yeng operates for 15 hours a day at greater headways than were intended, however the feeder services operate more frequently than were intended. The system has not reached 'most residents' because only phase 1A was operational at the end of 2017. Phase 1A was launched in November 2014, eight months late, and Phase 1 is yet to be implemented in its entirety. The system is not meeting its predicted daily passenger trips nor its annual fare revenue. Tshwane Municipality continues to implement the system; therefore, it is concluded that A Re Yeng is in a state of delay.

3.2. Case study IPTN project timeline analysis

The sections below detail sections of the project timelines in each case study. For the GoGeorge IPTN, the timeline between the project's inception and the arrival of the universally accessible minibus-taxi fleet is detailed. For the Libhongolethu IPTN, the timeline between the project's inception and a preliminary forensic investigation into corruption allegations is detailed. For the A Re Yeng IPTN, the timeline between the project's inception and the outcome of the Line 2B planning participation process is detailed. In each case, the timelines only provide an excerpt of a broader narrative and therefore only some propositions are put forth as the causes of the delays described above.

3.2.1. Case study 1: GoGeorge IPTN (George)

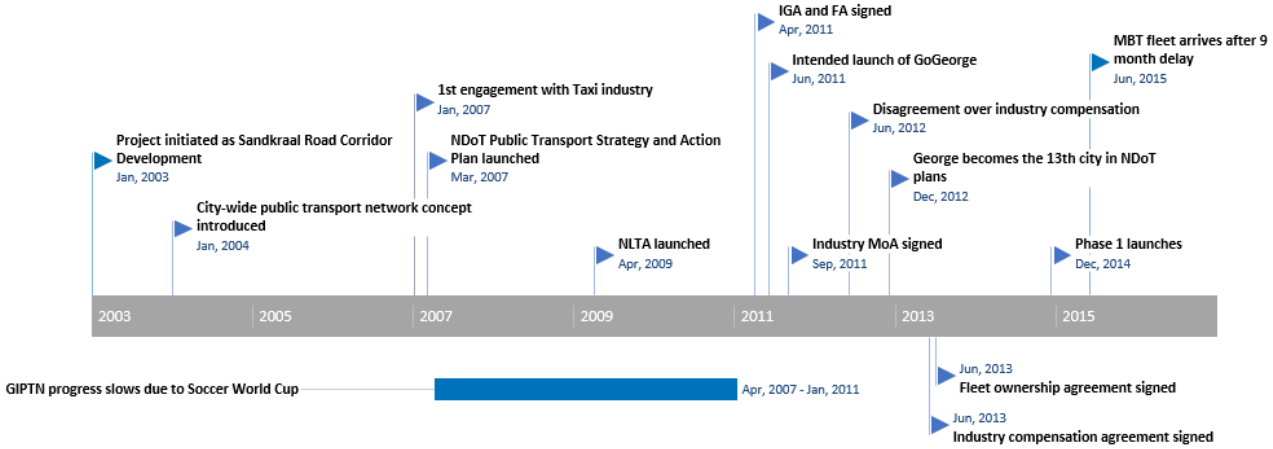

Figure 1: GIPTN project timeline from 2003 to 2015
(Source: Various interviews, media reports, academic papers and project plans)

GoGeorge had humble beginnings, dating back to 2003, as a community integration project between Thembalethu (Robertson, Aboo & Daniels, 2016), the Apartheid-era blacks-only area, and the George CBD. A year later, the corridor project evolved into the George Mobility Strategy as a joint project between the Western Cape Department of Public Works (DTPW), the GLM and the Eden District Municipality. The George Mobility Strategy sought to develop

a comprehensive city-wide bus network, rather than a single corridor project (Mooiman and Esson, 2013). The George Mobility Strategy was renamed to the George Integrated Public Transport Network (GIPTN), branded as GoGeorge. The bus system was first designed in 2006 (GIPTN consultant, personal interview, 2017). Provincial government initiated engagements with the minibus-taxi industry in 2007 to determine their willingness to transform into a formally contracted bus company (Aboo & Robertson, 2016; GIPTN consultant, personal interview, 2017).

At the time, the National Land Transport Transition Act (NLTTA), of 2000, was the governing legislation. It only allowed for a 'provincial government, transport authority or core city' to negotiate with public transport service providers, where the service provider already had an existing interim contract. The NLTTA was replaced by the National Land Transport Act (NLTA), of 2009. The NLTA made provision for a 12-year negotiated contract with a service provider, once only, where the service provider could be an 'operator of unscheduled services' as well as other operators listed in section 41(2) of the NLTA. The NLTA also placed the responsibility for planning, implementation and management of IPTNs with the local municipality. Provincial government was given the responsibility to reinforce local governments who lack the capacity and resources to fulfil their land transport functions.

The PTSAP was launched in 2007, which diverted attention to the major cities in preparation for the 2010 World Cup. (GIPTN project consultant, 2017). Therefore, between 2007 and 2011 progress on the GIPTN slowed but when the project had started again, conditions had completely changed.

Three events resulted in the delayed implementation; this in turn increased infrastructure costs, increased industry transformation costs and forced the system to run on a less efficient schedule using different vehicles than initially hoped. All three events stems from the promulgation of the 2007 PTSAP and the 2009 NLTA. The events were: the signing of an Inter-Governmental Agreement (IGA) and Financial Agreement (FA) between the DTPW and the GLM; operating license compensation negotiations; and the request for funding from national government. National government funding resulted in a change of the vehicle ownership agreement and introduced a new universally accessible vehicle design.

The IGA and the FA came into being because the GLM lacked the capacity and resources to implement its public transport plans. The PTSAP required the local government to be contracting authority. Consultation between the DPTW and the GLM began in 2009 and were concluded two years later in April 2011 (GIPTN consultant, personal interview, 2017). The two spheres of government became jointly responsible for the planning, management and funding of the GIPTN. The GLM gained engineering, financial, town planning, legal skills and institutional knowledge, from the DTPW, to enable it to manage the GIPTN system. Under the FA, the DPTW agreed to subsidise the operational deficits of the GIPTN (George Local Municipality [GLM], 2011; Mooiman & Esson, 2013). A full transfer of skills from the DTPW to the GLM was to occur by July 2016 (GLM, 2011) but this had not happened by September 2017 (GIPTN consultant, personal interview, 2017).

> *"The local and provincial government sign the IGA and the FA and Province agreed to underwrite the entire thing because they believed in the transformation" GIPTN consultant.*

With the inter-government relationship outlined, the government initiated negotiations with the public transport industry. The first 'Affected Persons Register' (APR) was opened in June 2011 and a second APR in 2013. The register sought to identify all industry stakeholders that wished to participate in the GIPTN (Aboo & Robertson, 2016; GIPTN consultant,

personal interview, 2017). The APR was followed by the signing of a Memorandum of Agreement between government and the industry in September 2011. The first project and technical meeting with the industry took place in November 2011. (GIPTN consultant, personal interview, 2017). However, the late start meant that negotiations only began in earnest in 2012. By June 2012, negotiations had stalled for six months over disagreement on operating license compensation.

The original idea put to the industry during the 2007 engagements did not include operating license compensation. The industry agreed to this arrangement, in principle. The arrangement was that the industry would relinquish their operating licenses and in return they would receive company shares, employment benefits and training. However, by 2010, Cape Town, Johannesburg, Tshwane and Nelson Mandela Bay municipalities had agreed to compensate the industry for their operating licenses in their IPTN programmes. This set a precedence for compensation for operator licenses, which the industry in George now demanded (GIPTN consultant, personal interview, 2017).

Operator compensation ballooned the cost of the GIPTN. As a result, provincial government could no longer solely underwrite the project, therefore additional funding was sought from National Treasury. After six months of discussions, George was included as the 13th city in the Public Transport Infrastructure and Systems Grant (PTISG) and for these six months the industry negotiations stalled until funding was secured. (GIPTN consultant, personal interview, 2017)

> *"…it was then decided to go to national and request for George to be the 13th city [in the PTISG]. Constitutionally you cannot deny us finding even though we are not one of the 12 cities. And we were able to present a strong enough argument and as well as demonstrate how far along the process we were, that they agreed to grant us funding. At the end of 2012, we became the 13th city" GIPTN consultant*

With extra funding secured, negotiations could continue. Agreement over operator license compensation was reached in June 2013. Each operator had to sign a Participation Commitment Declaration Agreement before compensation could be issued (GIPTN consultant, personal interview, 2017). By this stage, the GIPTN was two years behind schedule.

National government funding solved the compensation problem, but it introduced an issue with fleet ownership. Initially the Vehicle Operating Company (VOC) was to own the fleet, but national government funding conditions required that the fleet be owned by the municipality. This was a difficult point for the public transport industry but after four months of negotiations the industry agreed to the new fleet ownership arrangement. The new fleet ownership model was agreed and signed in October 2013. (GIPTN consultant, personal interview, 2017)

During the fleet ownership negotiations, the National Department of Transport (NDoT) introduced a framework that prevented any national government funding from being used for anything that is not universally accessible (GIPTN consultant, personal interview, 2017; Robertson, Aboo & Daniels, 2016). This complicated matters for the GIPTN team because it believed that a mixed-traffic bus service with a fleet that comprised of standard buses, midi-buses and mini-buses was the best solution for George (GIPTN consultant, personal interview, 2017). The trouble that this presented was that there were no universally accessible minibuses available in South Africa and to import one would have ballooned costs.

"…national was so focused on doing BRT BRT BRT, we came in and said we are not doing BRT, we are doing a conventional bus service...We said that we would like to have a mini-bus vehicle but there are no universally accessible minibuses in the country. To import one would cost the same price as bringing a standard bus which disrupts your entire funding plan…that threw a wonderful spanner in the works" GIPTN consultant

The GIPTN team and the NDoT discussed the use of ordinary mini-bus vehicles (GIPTN consultant, personal interview, 2017). After six months, the GIPTN team agreed to design and manufacture South Africa's first universally accessible mini-bus. Even though this was a significant achievement for the country, it came at an increased project cost and time delay for the GIPTN project. Following this, a further nine months were added for vehicle design and manufacture (GIPTN consultant, personal interview, 2017).

As a result of this process, Phase 1, launched on 8 December 2014, had to run without mini-buses (GIPTN consultant, personal interview, 2017). Phase 1 was launched three and a half years after the original intended roll-out date. The initial lack of universally accessible vehicles increased the start-up operation costs (GIPTN consultant, personal interview, 2017)

Prior to 2007, the GoGeorge project presented itself as a cost-effective public transport solution that brought together different spheres of government and the paratransit industry, to achieve the goals of national government with minimal assistance needed from the fiscus. It appeared to be a truly transformational project in multiple spheres. However, the 2007 PTSAP changed the course of the GIPTN project.

Propositions on why there is a delay in the GoGeorge IPTN**:**

A series of key events caused the delay in the GIPTN. First, a taxi-industry compensation precedent was set by other cities that were implementing the 2007 PTSAP. Second, as a result of the increased industry transformation costs, the GLM sourced financial support from the NDoT and National Treasury, which came with two conditions that caused both time delays and cost escalations. The fleet ownership conditions delayed negotiations, which in turn delayed the launch date. The universal access vehicle conditions increased both the capital and operations cost. Therefore, it is posited that the GIPTN is delayed because the creation of the 2007 PTSAP caused an increase in the industry negotiation cost and time. It is further posited that a disconnect between national government funding conditions and local context operational requirements, has caused the delay in the GIPTN.

3.2.2 Case study 2: Libhongolethu IPTN (Nelson Mandela Bay)

The Libhongolethu IPTS began with the publishing of a draft business plan for its public transport operations in 2008 (Nelson Mandela Bay Transport Forum, 2009; Nelson Mandela Bay Municipality [NMBM], 2011). The minibus-taxi industry protested against the IPTS plans in early 2009 (Schalekamp & Behrens, 2010). The industry opposed the IPTS plans on two grounds. First, that they were not consulted in the drafting of the plan, and second, that the municipality did not factor in the transition costs that would accompany the industry transformation plans (NMB Minibus-taxi industry stakeholders, 2017). .

It is worth noting that the taxi industry leadership was never opposed to the implementation of IPTS, but rather to the way it was pursued (Siyongwana & Binza, 2012). From the taxi industry's perspective, it really came down to the level of engagement between itself and the NMBM. Following the protests, the NMBM agreed that the industry should contribute to the IPTS planning and paid for a transport consultant to assist the industry during the planning process (NMB Minibus-taxi industry stakeholders, 2017; Independent transport

specialist, personal interview, 2017, November 20). The Nelson Mandela Bay Public Transport Forum (The Forum) was born from this process and the industry published its own Strategic Business Plan in March 2009. This Strategic Business Plan lead to the creation of five primary cooperatives, comprising of the ten taxi associations found in Nelson Mandela Bay and then the creation of Laph'umilanga, a secondary cooperative, which was mandated to negotiate with government on behalf of the taxi industry (NMB Minibus-taxi industry stakeholders, 2017; NMBM official, personal interview, 2017). For an industry that traditionally is fractious, the formation of Laph'umilanga was a significant milestone in its history.

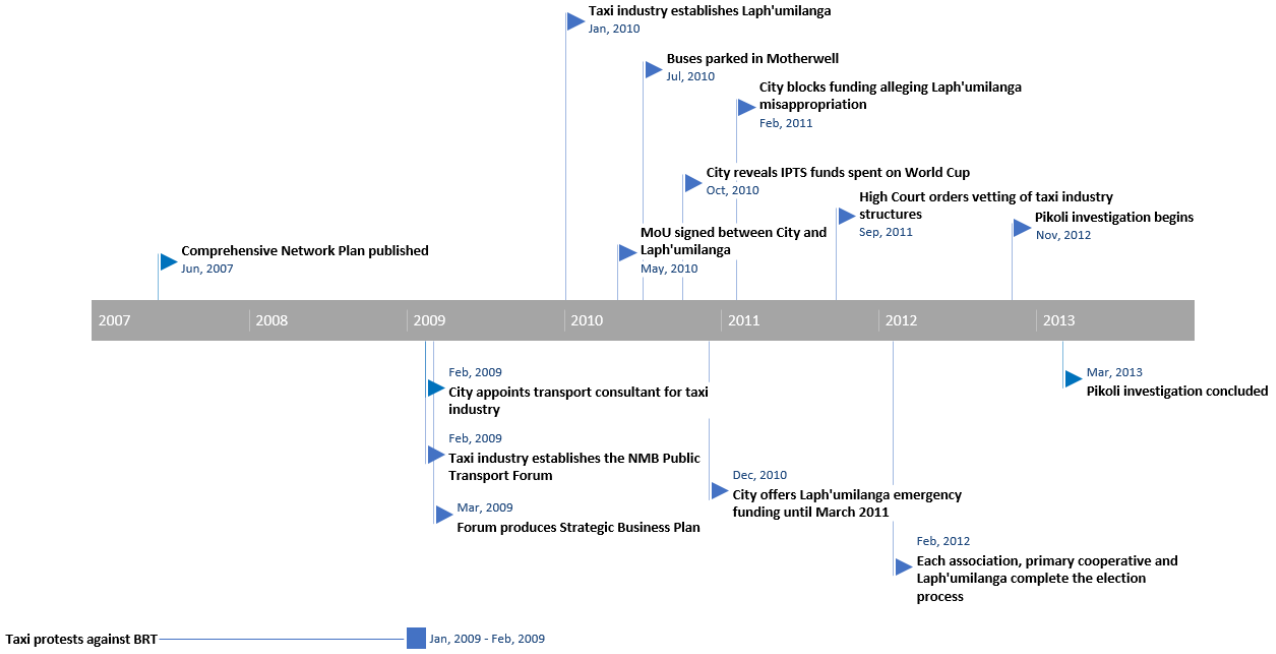

Figure 2: Libhongolethu IPTN project timeline from 2007 to 2013
(Source: Various interviews, media reports, academic papers and project plans)

> *"one of the achievements was that the city was able to unite the industry under one negotiating body." NMBM Official*

The transport consultant and The Forum worked together for one year until the signing of a Memorandum of Understanding (MoU) between Laph'umilanga and the NMBM in May 2010. This MoU recognised the cooperative structures, roles and responsibilities of the NMBM and the industry and the process to follow going forward. This agreement included that the taxi industry would operate the IPTS buses for the duration of the World Cup, with the intention to negotiate during the World Cup for the post-World Cup IPTS operations (NMBM official, personal interview, 2017). By July 2010, the negotiations never took place and as a result, the buses were parked in Motherwell, a suburb on the outskirts of NMB, where they have been stored at least until the end of 2017 (NMBM official, personal interview, 2017; 'Nelson Mandela Bay buses worth R100m gather dust in 'failed project'', 2015).

This World Cup period was marred with confusion between the taxi industry and the NMBM on the intentions of the funds released just before the World Cup operations. The NMBM had paid Laph'umilanga for the operational and start-up costs associated with running the IPTN services for the duration of the World Cup only. However, Laph'umilanga had believed that this amount was partly intended to cover their start-up costs to begin operating the IPTS, including and beyond the World Cup (NMB Minibus-taxi industry stakeholders, 2017.

"Then it turns out that [the funds released in preparation for the World Cup] was part of the capital to run the services so they still hadn't given the start-up capital that they had indicated at that point to be ready to be able to deliver. But because they gave an advance on the actual transport contract they were able to establish offices, get teams in place and deliver that whole thing." Mary Brennan, CFO Laph'umilanga Transport Services.

It became evident that Laph'umilanga and the NMBM were not in accord when Laph'umilanga requested the remaining budget after the World Cup. In October 2010, Laph'umilanga was told, by the NMBM, that they had spent the IPTS money on the World Cup. Furthermore, at this stage, the NMBM also said that they required a Memorandum of Action (MoA) before they could release more funding. The cooperative complied with the request for a MoA but by December 2010, Laph'umilanga had not received any of the promised funding. However, in December 2010, the NMBM offered to pay an emergency amount to cover Laph'umilanga's expenses until March 2011, at which point the NMBM would pay the balance of what was promised after the World Cup (NMB Minibus-taxi industry stakeholders, 2017.

However, in January 2011 Laph'umilanga received a letter from the NMBM alleging that Laph'umilanga had misallocated funding and in February, the taxi cooperative received another letter informing them that the funding had been blocked (NMB Minibus-taxi industry stakeholders, 2017). Eventually, these allegations were resolved and negotiations could continue. However, it should be noted that two years later, through an audit by Deloitte in 2013, Laph'umilanga were cleared of the financial misappropriation allegations (NMB Minibus-taxi industry stakeholders, 2017).

It was not long until the negotiations were stalled again and eventually a high court judgement on 21 September 2011 instructed that the entire industry membership and election process had to be vetted. This process, to verify the validity of Laph'umilanga's mandate, was led by Adv Max Boqwana (Independent transport specialist, personal communication, 2018; CFO NMB Minibus-taxi industry stakeholders, 2017), Each taxi association held an AGM and the primary cooperative boards were elected in January 2012. The secondary cooperative board was elected in February 2012 (NMB Minibus-taxi industry stakeholders, 2017). At this stage, the city was satisfied that Laph'umilanga had the authority to act on behalf of the industry (Independent transport specialist, personal communication, 2018). Therefore, Laph'umilanga again requested that the balance of the start-up funds, promised in 2010, be transferred so that they could continue their operations. However, the taxi industry was told that the grant vote had been used to pay a consulting firm for allegedly fraudulent concert preparations (de Kock, 2014; Olver, 2017:80; NMB Minibus-taxi industry stakeholders, 2017).

Laph'umilanga began to question the dealings of the NMBM because R2 billion had already been spent with nothing to show for it (NMB Minibus-taxi industry stakeholders, 2017). This lead to a preliminary forensic investigation into the IPTN in November 2012. Adv Vusi Pikoli was commissioned, to conduct the investigation, by Brown Braude and Vlok, a law firm which sits on the NMBM legal panel (de Kock, 2014). The investigation's findings were concluded by March 2013 (de Kock, 2014; 'IPTS scandal Jordaan say disciplinary action already underway', 2015; NMB Minibus-taxi industry stakeholders, 2017). In brief, the commission found that there were sufficient amounts of irregularities to warrant a full investigation. Irregularities were found in the form of 'inflated salaries, bonuses, unauthorised loans and donations' on the part of the taxi industry, amongst others (Kimberly, Makunga and de Kock, 2013). The commission's findings also came at a time when the 2013 mid-term budget indicated that the NMBM overspent by R216 million (Asmal, 2015;

Nelson Mandela Bay buses worth R100m gather dust in 'failed project', 2015). Although there were many allegations of corruption, some stemming from forensic investigation, no evidence was found during this research that these allegations have been tested in court.

The Libhongolethu IPTN had a promising start in 2007, however it quickly unravelled through a gradual breakdown of trust and the relationship between the minibus-taxi industry and the NMBM.

Propositions on why there is a delay in the Libhongolethu IPTN:

The timeline detailed above only shows a selection of the events and decisions that lead to its status at the end of 2017. However, it sufficiently demonstrates a sequence of events that suggest that at least two factors have caused the delay.

Firstly, it is posited that the IPTN project is delayed because of a lack of capacity within the municipality to sufficiently prevent corrupt practices from infiltrating municipality processes. This proposition is found on the basis of the many allegations of corruption coming from different sources.

Secondly, it is posited that the IPTN project is delayed because of a lack of capacity within the municipality to effectively negotiate and engage with the minibus-taxi industry. The fact that the minibus-taxi industry was able to unite under one body and operate formal services, with some assistance, during the World Cup is a success. However, this success was marred by the confusion that followed the World Cup period, the unfulfilled promises of payment, and allegations of funding misappropriation, the court case and the vetting requirements. Ultimately, these events demonstrate a lack of trust and relationship which are essential elements in any negotiation.

3.2.3 Case study 3: A Re Yeng IPTN (Tshwane)

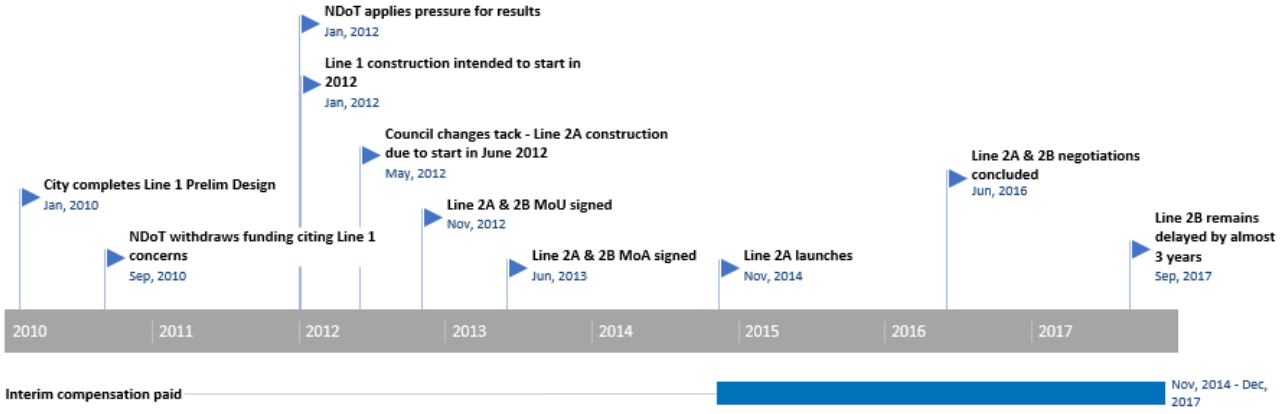

Figure 3: A Re Yeng IPTN project timeline from 2010 to 2017
(Source: Various interviews, academic papers, media reports and project plans)

The initial Operational Plan for A Re Yeng was adopted by Council in 2009 (City of Tshwane, 2012b), followed by the completion of the preliminary design and environmental approval of Line 1 (City of Tshwane, 2012a). The BRT system was supposed to be running by the World Cup (A Re Yeng Consultant and CoT Official, personal interview, 2017) However, national government raised concerns about the preliminary design towards the end of 2009 (City of Tshwane, 2012b) and later withdrew the PTISG funding in September 2010. The funding was withdrawn for the following reasons: Line 1 directly competed with the

Mabopane to Tshwane Priority Rail Corridor; inaccessible stations along the R80 highway; high project cost; and the absence of a full IPTN plan (CoT, 2012c). As a result of the National Government concerns, the CoT rerouted Line 1 and produced a new operational plan, with the intention to start Line 1 construction in 2012 (Re Yeng Consultant and CoT Official, personal interview, 2017).

The NDoT applied pressure on the CoT in 2012 to produce results for the planning work that they had been doing since 2010, or funding would be redirected to other cities. As a result, Line 1 plans were put on hold and a 'quick-win' solution was found in a route between Hatfield and the CBD, Line 2A (A Re Yeng Consultant and CoT Official, personal interview, 2017). The route linking Hatfield was originally envisaged as a complementary service to the CBD – Menlyn trunk route. It would operate initially in mixed traffic through Hatfield, in a loop, and then run on dedicated lanes that were to link the CBD and Menlyn. However, in May 2012, the council was informed of a decision to change the Hatfield complementary route into a trunk route that links to the CBD. It was further decided that the original kerbside station in Hatfield would be redesigned to be a median station. Construction of the station was due to start in the second week of June with a showcasing event scheduled for 28 June 2012 (CoT, 2012c).

> *"Because there were a lot of commitments on the part of the CoT, but nothing was happening. Treasury threatened to direct the funds to other cities so that is why they decided just to do something short just for operational purposes just so that they can see that something is happening." CoT Official*

The Hatfield station sod-turning took place, and construction only started, in July 2012 (Odendaal, 2012; Barrabas, 2016). The first phase was intended to be operational in April 2014 (CoT, 2012b), but the first buses began operations on Line 2A on 11 November 2014 (Mudzuli, 2014). The CBD-Hatfield route, Line 2A, was described as the inception phase: Phase 1A, in the official 2012 Operational Plan but through interviews it became evident that the reality was different. "Line 2A was the forced route and we started with Line 2A" (A Re Yeng Consultant and CoT Official, personal interview, 2017). This 'forced route' has had significant impacts on the operational performance of A Re Yeng, overall project costs and NDoT funding allocations.

The decision to convert the Hatfield complementary loop, which would have run in mixed traffic, into a trunk route, which would run on dedicated lanes to the CBD, had far reaching negative consequences (CoT official, personal interview, 2017).

> *"…that is why we don't have the passenger numbers because no one is travelling Hatfield – CBD." A Re Yeng Consultant*

The 2012 Operational Plan does allow for complementary routes to be upgraded to trunk routes 'during a later phase of the Tshwane Rapid Transit development' (CoT, 2012b). However, the demand from Hatfield was not high enough to justify this change at this early stage in the IPTN project. The CBD was originally intended to be an O-D pair with Menlyn (A Re Yeng consultant, personal interview, 2017). This decision to operate an O-D pair between the CBD and Hatfield received some opposition from the minibus-taxi industry.

> *"And this I must say has created a lot of problems that we are still sitting with, even now, in terms of industry transition. Because ideally, we were going to negotiate for an O-D which is CBD to Menlyn and before we even formally start negotiations there was this pressure to roll-out this [CBD-Hatfield] which is not even an O-D." CoT Official*

The CBD to Hatfield trunk route breaks up a natural O-D established by the taxi industry - CBD to Menlyn. Through this, the concept of “interim compensation” is introduced.

Initially, the minibus-taxi industry had opposed the Phase 1A implementation date – April 2014, on the grounds that they believed that the negotiations would not be complete in time (A Re Yeng Consultant and CoT Official, personal interview, 2017). The first consultation for pre-negotiations was expected to take place in June 2012 (CoT, 2012c). Hatfield fell on the CBD-Menlyn route that minibus-taxi operators were originally plying, therefore negotiations with the minibus-taxi industry were initially intended to encompass the CBD – Menlyn O-D.

The taxi industry was concerned that introducing a Hatfield – CBD BRT service would cause the industry to lose market share. This would weaken their negotiating position and they could lose out on the compensation that they were owed (CoT Official, 2017). Even though the industry disagreed on rolling out Phase 1A before negotiations were complete, their commitment did not waiver. They were willing to remove their taxis and operate the services, but made it clear to the CoT that they were not happy about the fact that they would be losing out financially (CoT official, personal interview, 2017).

As a result of this the CoT then introduced ‘interim compensation’. Interim compensation was designed to allow the CoT to operate the CBD to Hatfield BRT services in parallel to the existing public transport services in the area (CoT official, personal interview, 2017). The Menlyn-CBD O-D was operated by the Menlyn Taxi Association. It was agreed that each operator would remove, and receive compensation for, one vehicle. These vehicles would stop operating between the CBD and Hatfield, Line 2A, but would continue to operate from Hatfield to Menlyn. When the Hatfield to Menlyn section, Line 2B, was ready for roll-out all minibus-taxi operations would be removed from the route. The operators would then receive compensation for all their vehicles, according to the ‘per-vehicle’ value agreed from the interim compensation negotiations (CoT Official, personal interview, 2017 November 23).

The CoT viewed this a suitable solution because it expected the interim period to be ‘a really short period’. However, that did turn out to be the case (CoT official, personal interview, 2017).

> *“If you put the interim conversation plus the compensation together then it [the total compensation cost for Line 2A and Line 2B] is a lot higher than was expected.” CoT Official*

After the interim compensation agreement was reached, negotiations for full industry transition, along Line 2A and 2B, continued. A MoU was signed between the CoT and the minibus-taxi industry in November 2012, and a MoA was signed in June 2013. The negotiations for Line 2A and 2B were only concluded in June 2016, but as mentioned above, operations started in 2014. The CoT had already been paying interim compensation for two years, and had hoped to conclude interim compensation at the conclusion of Line 2A negotiations in June 2016 (CoT official, personal interview, 2017). However, the City continued to pay interim compensation throughout 2017 because the shift to full compensation relied on the Hatfield to Menlyn operations commencing.

The Hatfield to Menlyn route, Line 2B, was delayed due to public opposition that stemmed from the planning decisions to reduce the lanes for general traffic from two lanes to one (A Re Yeng consultant, personal interview, 2017; Moatshe, 2017). Line 2B was originally planned to begin operations in April 2015 (CoT, 2012b) but this was later extended to March 2016 (Barrabas, 2016). However, by late 2017 the line continued to be delayed with the CoT reinvestigating its infrastructural options to accommodate the IPTN buses and general traffic (A Re Yeng Consultant, personal interview, 2017; Moatshe, 2017).

The A Re Yeng IPTN seemed to be plagued by planning woes from its inception. As the project unfolded over the seven-year period detailed in this paper, it is seen that the concerns raised by the NDoT about the 2009 plan, delays the IPTN project by two years. This is followed by a 2012 decision to change the Hatfield complementary loop into a Hatfield-CBD trunk route, again due to NDoT concerns. This decision increased the cost of construction, operations and industry transition, as well as reducing the overall system ridership.

Propositions on why there is a delay in the A Re Yeng IPTN:

The decision to adapt the original plan to run Line 2A in phase 1 was made in-lieu of national government concerns over progress. This adaption lead to higher than expected infrastructure costs, lower than expected system ridership and increased the industry transition costs. The opposition to the initial Line 2B infrastructural plan in the public participation process continued to contribute to the delays at the end of 2017. Therefore, it is posited that a contributing factor to the delay of the A Re Yeng IPTN is the lack of capacity within the CoT to make planning decisions that are cognisant of complex long-term implications.

4. CONCLUSION

The objectives of the 2007 Public Transport Strategy and Action Plan have not been achieved in full. The minibus-taxi industry's in all three cases had been partially transformed, while none of the IPTN systems were implemented within their initial timelines. Neither, did any of the IPTN systems achieve all their design criteria.

Collectively, the three case studies point to capacity constraints within government. In the GIPTN case, there is an apparent lack of capacity within national government to appropriately apply national policies to local contexts. However, in the GIPTN case, we also see the provincial and local government possessing the capacity to work together to the benefit of the citizens of George. In Tshwane it is proposed that capacity constraints within the planning department contributed to the delays found at the end of 2017. While NMBM's efforts to transform its minibus-taxi industry was hampered by corruption allegations.

This apparent lack of capacity was postulated at the outset of this research. Furthermore, based on the second initial proposition, it is posited that, had the 2007 PTSAP objectives been given longer timelines, it may have been possible for Tshwane and Nelson Mandela Bay to implement their IPTN's within the bounds of their capacity. As with George, the GIPTN may have been able to implement its IPTN with shorter time delays and smaller cost escalations, had the 2007 PTSAP objectives been more adaptable to the local context. Therefore, it is posited that the key to the success or delay of a comprehensive reform project is government's capacity to both develop project plans that are appropriate for its context and government's capacity to implement these plans.

ACKNOWLEDGEMENTS

The authors acknowledge and thank the National Research Foundation and the National Department of Transport for providing scholarship funding, as well as the Volvo Research and Educational Foundations for funding travelling costs during the data collection phase. The authors also wish to thank the government officials, consultants and industry stakeholders that generously gave of their time and knowledge in interviews.

REFERENCES

Aboo, S. & Robertson, E. J. 2016. “Go George” (GIPTN) – a Quality Public Transport System, Elements for Consideration. Proceedings of the 35th Southern African Transport Conference. 2016. Pretoria. 677–688.

Asmal, F. 2015. BRTs gain momentum. *Mail and Guardian*. 23 October. Available: https://mg.co.za/article/2015-10-23-00-brts-gain-momentum. [2017, 19 April].

A Re Yeng. 2015. Available: http://www.tshwane.gov.za/sites/areyeng/Pages/BusSchedules.aspx. [2018, April 25].

Ayres, L. 2012. Thematic coding and analysis. SAGE Research Methods.

Barrabas, S. 2016. A Re Yeng – Tshwane Rapid Transit system, South Africa. *Creamer Media’s Engineering News.* 8 January. Available: http://www.engineeringnews.co.za/print-version/a-re-yeng-tshwane-rapid-transit-system-south-africa-2016-01-08. [2017, June 12].

City of Tshwane. 2012a. *BRT Line 1 Final Preliminary Design Report.*

City of Tshwane. 2012b. *Operational plan for Phase 1 (2012 - 2017) of the city of Tshwane’s Bus Rapid Transit System.*

City of Tshwane. 2012c. Council resolution BRT progress report. Council of the City of Tshwane.

City of Tshwane. 2017. *Consolidated Annual Financial Statements.*

De Kock, R. 2014. Fed-up Pikoli demands answers. *Herald Live*. 20 May. Available: http://www.heraldlive.co.za/news/2014/05/20/fed-up-pikoli-demands-answers/. [2018, January 5].

George Local Municipality. 2017. *Annual Financial Statements.*

GoGeorge. 2016. Available: http://www.gogeorge.org.za/routes/current-routes/. [2018, April 25].

IPTS scandal Jordaan say disciplinary action already underway. 2015. *Rnews*, 27 August. Available: https://www.rnews.co.za/article/ipts-scandal-jordaan-says-disciplinary-action-against-officials-already-underway. [2017, 3 August].

Kimberley, M, Makunga, N and de Kock, R. 2013. Pikoli blows lid on Bay's squandered millions. *Herald Live*. 26 August. Available: [2018, January 5].

Moatshe, R. 2017. Tshwane's BRT east line snag. *Pretoria News*. 19 September. Available: https://www.iol.co.za/pretoria-news/tshwanes-brt-east-line-snag-11272958. [2017, September 19].

Mooiman, L. & Esson, R. 2013. Key considerations in the implementation of public transport in smaller municipalities. Proceedings from IMESA Conference. 23-25 October. Nelson Mandela Bay. 3–7.

Mudzuli, K. 2014. Tshwane BRT it's all systems go. *IOL News.* 12 November. Available: https://www.iol.co.za/news/south-africa/gauteng/tshwane-brt-its-all-systems-go-1778896. [2017, 20 September].

Municipality of George. 2011. *Business Plan for the George Integrated Public Transport Network*.

National Treasury. 2017. *Estimates of National Expenditure.*

Nelson Mandela Bay Municipality. *2017. 2016/17 Annual Report*.

Nelson Mandela Bay Municipality. 2011. *Comprehensive Integrated Transport Plan 2011/12.*

Nelson Mandela Bay Public Transport Forum. 2009. *Strategic Business Plan.*

Nelson Mandela Bay buses worth R100m gather dust in 'failed project'. 2015. *City Press*. 26 April. Available: https://www.news24.com/Archives/City-Press/Nelson-Mandela-Bay-buses-worth-R100m-gather-dust-in-failed-project-20150429. [2017, June 12].

Odendaal, N. 2012. Tshwane starts construction on R2.6bn BRT system. *Creamer Media's Engineering News*. 11 July. Available: http://www.engineeringnews.co.za/article/tshwane-starts-construction-on-r26bn-brt-system-2012-07-11. [2017, 12 June].

Olver, C. 2017. *How to steal a city: The battle for Nelson Mandela Bay.* Jeppestown: South Africa. Jonathan Ball Publishers

Robertson, E. J., Aboo, S. & Daniels, L. 2016. "Go George" (GIPTN) – Provision of Public Transport Fixed Infrastructure, and Move Towards Providing Universal Access Compliant Pedestrian Environments'. Proceedings of the Southern African Transport Conference. 2016. Pretoria. 396–407.

Schalekamp, H. & Behrens, R. 2010. Engaging paratransit on public transport reform initiatives in South Africa: A critique of policy and an investigation of appropriate

engagement approaches. *Research in Transportation Economics*. 29(1):371–378. DOI: 10.1016/j.retrec.2010.07.047.

Siyongwana, P. Q. & Binza, M. S. 2012. Challenges Facing the Transformation of the Public Transport System in Nelson Mandela Bay, South Africa: History in the Making. 37(1): 191–212.

Yin, R. 2014. *Case Study Methods: Design and Methods.* California: United States. SAGE Publications.

INTERVIEWS

George Integrated Public Transport Network Consultant. 2017, October 2.

Nelson Mandela Bay Municipality Official. 2017, August 14.

Nelson Mandela Bay Minibus-taxi industry stakeholders, 2017, August 16.

Nelson Mandela Bay Conventional bus industry stakeholder, 2017, August 16.

Independent Transport Specialist. 2018, November 13.

City of Tshwane Official. 2017, November 23.

A Re Yeng Consultant. 2017, November 23.