

Pathways to Effective Public Participation for Sustainable Transport Infrastructure Development: Experiences of the Gauteng Freeway Improvement Project

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1 ABSTRACT

World cities, particularly in the global south, have been experiencing rapid urbanisation. Seemingly, rapid and high urbanisation levels that have been experienced are forcing governments at all levels to plan and implement transport infrastructure that meet the ever increasing travel demand. Coincidentally, sustainability discourses have been gaining momentum in the past few decades. At the heart of the quest to develop and manage sustainable and inclusive transport infrastructure is the adherence and promotion of public participation throughout the project life cycle. If the effectiveness of public participation is not monitored, such processes are perceived to be limited to simply informing the public or manipulation of the public and controlling of planning outcomes by authorities. Consequently, this paper explores the different types of public participation experienced during the conceptualisation, planning, implementation and management of the Gauteng Freeway Improvement Project (GFIP). The work adopted a qualitative research approach wherein an exploratory research design was applied in the GFIP case study in South Africa. We sought to get insights into the extent and scope of engagement of stakeholders throughout the GFIP project lifecycle. Research findings reveal that the public outcry over the GFIP electronic payment tolling (e-tolling) resulted in defiance of the payments. The e-toll debate in Gauteng has caused widespread criticism and this strong response to the method of road levy rests on the perception that decision makers undertook insufficient public participation. Besides the statutory public participation requirements executed in terms of the applicable by-law, public engagements were perceived to have not been effective, yet the user-pay scheme makes the user or public an important component of the project. Future studies are necessary for assessing the public participation from conceptualisation, not after the implementation of plans. This study reviews a project already implemented and it might be necessary to analyse a project before implementation so that processes involved are analysed during the real-life cycle. The public participation process must be interrogated before project commencement and future research is necessary.

Keywords : Public, stakeholder, participation, urbanisation, sustainability, transportation, infrastructure

2 INTRODUCTION

The United Nations estimated that by 2050, approximately 66% of the population of the world will be living in cities (Bibri and Krogstie 2017:184) resulting in cities expanding the spatial footprint and surpassing the limits of transport infrastructure. Like any cities in developing countries, South African cities largely depend on road transport infrastructure for daily commuting (Gumbo et al 2022). Rapid urbanisation is resulting in a variety of technical and infrastructure-oriented problems (Risimati et. al 2021). This results in a self-organising process from regular to complex, causing increasing environmental pressure within the transport segment and thereby increasing air pollution through the high usage of global oil and energy (Gumbo and Moyo 2020; Wang et al 2022:2, Shi et al 2021:9). Critical to this research is the significance of urban sustainability, transportation planning and the just planning practices which recognise public participation as a critical planning and implementation component. Of importance is the notion of urban sustainability which requires sustainable transportation solutions to be part of an integrated solution. To achieve urban sustainability, public participation is central to achieving desirable outcomes. The public participation concept gained momentum in 1992 after principle 10 of the Rio Declaration was developed and further reiterated in Chapter 23 of Agenda 21 at the Earth Summit (Mauerhofer 2016:481). In South Africa, irrespective of the legislative framework for strengthening public participation in managing the environment, several challenges persist (Sabela-Rikhotso et al. 2021:6). The paper seeks to explore the role the public played during the planning and implementation of GFIP and to assess the government stance after the publicised public outcry and this requires careful planning to extract the necessary information. This paper

starts by briefly explaining the setting of the research topic and conceptual framework. It goes on to describe GFIP and the research methodology which outline the data collection and analysis procedures. It ends with recommendations for effective public participation to achieve sustainable transportation solutions and the conclusion.

3 CONCEPTUAL EXPOSITION

Urban sustainability has become important for mitigating the negative impact of rapid urbanisation. Provision of transport infrastructure is crucial for achieving urban sustainability and it cannot be reviewed in isolation. The overarching objective of this research is to model for achieving sustainable transportation. The essence of this paper is public participation and how it can be incorporated during the planning of transport infrastructure.

3.1 Urban sustainability

Urban sustainability emanates from the overall sustainable development awareness. The transportation segment within urban areas has a direct impact on sustainable outcomes. According to Asadzadeh et al. (2022:2), currently 55% of the global population is in urban areas and by 2050 it is projected that 67% of the population will be residing in urban areas. As a result, rapid urbanization result in challenges such as imbalanced supply of essential infrastructure. To achieve sustainable outcomes several social, economic, and environmental variables should be concurrently evaluated and considered (Mehlawat et al. 2019:2). Achieving urban sustainability requires a comprehensive approach to planning. Coordination of the sustainability attributes are relevant for realising liveable cities when dealing with the ever-increasing urban areas. Sustainability has been applied to cities in metropolitan areas to advance the working standards of the quality of life desired by the current generation without diminishing the future generation's options within urban boundaries and beyond (Zeng et al 2022:10). Addressing urban sustainability must entail a more comprehensive approach, and this paper seeks to model a comprehensive pathway to capture various attributes.

3.2 Rapid motorisation and transport planning

The boom of private cars within urban areas has resulted in undesirable consequences and the need to reduce car dependency requires a comprehensive approach by transportation advances, land use planning and other holistic solutions like environmental planning. From inception, the transportation concept was based on the importance of cars and accessibility, however, since the urban sustainability concept gained momentum there has been a paradigm shift to reducing the use of cars and increasing alternative mode of transportation (Hansson 2020:3). This gave a new meaning to transportation provisions and the necessity for alternative concepts that align with the sustainable development era. As a result of urban sustainability, a change in thinking, in planning was necessary, whereby transportation planning became an important agenda for governments. According to Holz-Rau and Scheiner (2019:128) the alignment of the transportation planning concept and land use entails aspects such the regulations of densities, the intensity of uses, travel demand management and the provision of transport infrastructure. In planning, density denotes the number of dwellings, individuals, and places of employment within a precinct (Litman and Steele 2019:13) and this is a vital component for supporting alternative transportation provisions, as higher densities can support public transport efficiently. The density measure within urban areas is crucial for setting development parameters and achieving the appropriate balance necessary to support alternative modes of transport. Integrating land use and transport planning within urban areas should emphasise the provision of improved quality of life, public participation and social inclusion, pollution reduction and safe transport infrastructure facilities (Holz-Rau and Scheiner 2019:134). Critical to this paper is the significance of urban sustainability, transportation planning and the just planning practices which recognise public participation as a critical planning and implementation component.

3.3 Public participation and stakeholder engagements

As indicated in preceding sections, urbanisation recognises that the urban population has been increasing rapidly and as such, the public has become crucial within urban settings. To achieve urban sustainability, the public participation concept is central to achieving desirable outcomes, necessitating the establishment of relevant pathways. Ideally, for public participation to be effective throughout the planning process, the public

must be allowed to influence decisions such that the ownership of such decisions is shared by all stakeholders (Arbab et al. 2020:2). Public participation is necessary as urban scenarios are complex and may require diverse inputs. Principle 10 of the UN Rio Declaration became a global commitment for the ordinary public to become part of responding to environmental challenges (Stec and Jendroska 2019:534). The fundamental goal of Principle 10 is to ensure that the sustainable development is achieved through suitable discussions with the citizens and by ensuring that the public contribute to decision making processes (Orellana 2016:52). Agenda 2030 adopted by the United Nations member states in 2015 also emphasised the importance of the concept of public participation for the successful implementation of the UN Sustainable Development Goals (SDG's) and, more importantly, the role played by normal people and community-based associations (Khan et al. 2018:68). Procedures must be in place to achieve comprehensive high-level inclusion, information sharing, extensive engagements, and the flexibility to change the plans to accommodate experts' and non-experts' contributions. The main advantages of public participation during planning are regarded as recognizing the public as part of the collaboration, enhancing transparency, all-encompassing and fair decision-making (Kim et al. 2022:2, Brown and Eckold 2019:85). Literature on policy that adopts scenario planning includes concepts such as participatory scenarios, stakeholder engagement and stakeholder integrated exploration outcomes (Andersen et al. 2021:4). To clearly understand the notion of stakeholder engagements, it is relevant to first define stakeholder. For transportation planning, stakeholders are defined as those who can affect or be affected by outcomes and in the context of transportation, all citizens within urban areas are directly affected by the policy outcomes or indirectly affected because of external traffic (Brůhová Foltýnová et al. 2020:4). The view that all citizens are directly or indirectly affected by transportation outcomes may render stakeholders as all the people within the area and this research explores how the transport planning leaders incorporate the citizens.

The efficient provision of transport infrastructure requires stakeholder inclusion of ordinary people, transport users, and users of diverse modes may be involved to address the various requirements (Keseru et al. 2021:3). Identifying stakeholders for the planning and implementation of transport infrastructure is relevant for the study, especially in the context of the institutions tasked with identifying the stakeholders and deciding who is relevant or not and how they conclude who is relevant. When it comes to reviewing transport infrastructure provisions within urban areas, Ariza-Álvarez et al. (2022:277) classifies stakeholders as policy makers, transport planners, environmentalists, business communities, property developers and the society. Stakeholder engagements is not limited to non-expert stakeholders but to all stakeholders to accommodate outsider perspectives and align it with scientific knowledge during engagements which can result in improved understanding and collective outcomes (Andersen et al. 2021:10). In this regard, Beck and Storopoli (2022:4), argue that urban managers could acknowledge stakeholders' insights to develop accepted urban policies. In some cases, the concept of stakeholder engagement outcomes maybe so diverse that it becomes challenging to reach consensus. This scenario may result in uncertainty and indecision which is dependent on the previous knowledge about the preferences of the stakeholders (Laurila-Pant et al. 2019:2). The uncertainty due to diverse opinions is relevant and can be explored to understand the effect on transport infrastructure. Relevant to this research is understanding the main ideologies behind transportation planning and to effectively comprehend the subsequent provisions of transport infrastructure.

4 THEORETICAL FRAMEWORK

Central to public participation and stakeholder engagements is the concept of democracy and justice. It is important to understand the interplay between public participation and the provision of transport infrastructure within democratic states. They are essential for understanding different preferences from non-experts, thereby rendering citizens as important components of policy formulation. There are many theories covering the evaluation of justice, but the study limits itself to the one giving the original background of the concept 'public participation' and the core principles that embed participation issues. On this basis, it is important to mention that the focus will be on the interplay between citizen participation and policy development.

4.1 Rawls' theory of justice

Even though for many decades governments have been viewed as legitimate, they were still characterised by the various injustices due to instabilities in addressing political problems, by theorists such as Rawls (Young 2009:2). During the early 1970s, John Rawls presented the "Theory of Justice". Over 50 years was spent

developing and refining Rawls' concept of justice, and his goal was to present the type of governance which Rawls believed could offer a governance framework needed to manage the dilemmas of political stability/instability properly, and in doing so, offer a just and stable liberal democracy (Young 2009:2). In the transport project, Rawls' theory emphasises access as the main advantage dispersed over transport projects (Martens et al 2012:685). Within current practices, Rawls' theory of justice is necessary for dealing with inequality due to current transport infrastructure (Verlinghier 2020:365). Participation without justice still results in social inequalities. Within the transportation fraternity, the term "justice" is what underpins participation, based on Rawls' theory (Grossardt and Bailey 2018:27). According to Sen (2009:24), the first crucial step is a notion of objectivity which must establish a public framework of thinking, necessary for appropriate conclusions to be agreed upon. To promote equality, Rawls recommended ideologies, by way of motivational influences, given that these results do not just achieve a large economic output, but must also result in improved income for the less fortunate group (Martens et al 2012: 687). The term justice can be regarded as controversial because it might have different meanings depending on the affected parties. An agreement of what is regarded as just can guide effective public participation for achieving sustainable outcomes.

5 METHODOLOGY

The paper is premised on the pragmatic view to explore public participation during the planning and implementation of GFIP. The study questions are regarded as crucial for this paradigm. Pragmatism emphasises the research method that is required to answer the research questions rather than methods limited to specific traditions (Ritchie et al. 2014:22). The paper employs a case study phenomenological research design. This design emanates from the philosophy of lived experiences regarding a phenomenon (Creswell and Creswell 2018:13). Therefore, the paper assesses the stakeholders and the role they played during the planning and implementation of GFIP. It further assesses the government stance after the publicised public outcry. In this case, the prepositions were already established to inform the boundaries of what the researcher questions about the phenomenon due to available information (Prosek and Gibson 2021:173). The strength of this case study is derived from the view that it is being implemented within the economic hub of South Africa as the first electronic tolling project within the country. Reviewing the GFIP public outcry and how it affected the implementation process requires thorough investigation. The methods of data collections for the qualitative component of the paper are mainly existing secondary data (Mukhopadhyay and Gupta 2014:111). Secondary data is mainly used to review public participation processes that were employed during the planning and implementation of GFIP. In so doing this data collection technique enable the critical evaluation of documents to derive meaning and acquire insights into public participation in the provision of transport infrastructure within the South African national sphere. The data collected is examined through content analysis. We used methodical techniques to review and analyse data to identify themes. Using the themes and patterns, establishes the required information for the development of a model for effective public participation during the planning and implementation of transport infrastructure. Through journal articles from search engines such as Google Scholar and Elsevier secondary data is improved.

6 RESULTS AND DISCUSSIONS

The role of the citizens cannot be underestimated as the transportation solutions are meant to benefit the public. Robust public participation framework or legislation might be required within South Africa to administer step by step robust, transparent, comprehensive public participation during the planning and implementation of mega transport infrastructure projects. Provision of mega transport infrastructure can be regarded as a specialised field and as such, the applicable public participation framework cannot just focus on participation without addressing components of transportation planning that can assist the public to make informed decisions. To achieve sustainable outcomes, cities require more innovative approaches to ensure more sustainable solutions. In South Africa, the national sphere (the agency) of government is tasked with the construction and maintenance of national roads. According to Section 40 of the Constitution of the Republic of South Africa, 1996 (the Constitution), government is constituted as national, provincial, and local spheres of government which are distinctive, interdependent, and interrelated. The national government commenced with GFIP in 2007 in terms of the South African National Roads Act of 1998. Based on the publicised backlash between the public and agency, it can be assumed that during the planning of this

project, complying with statutory public participation requirements may not have translated into a public buy-in.

6.1 GFIP Inception

The South African National Roads Agency Limited (the agency) is governed by The South African National Roads Agency Limited, Act 7 of 1998 (hereafter SANRAL Act), and is part of national planning responsible for facilitating national roads throughout the Republic of South Africa (RSA). Various studies were undertaken as part of the preparatory phase 1 of GFIP. It is worth mentioning that in 2004, the 2010 soccer world cup was awarded to South Africa. It was in 2004 when elections were held in South Africa. A lot of planning was required from the new government in line with the anticipated soccer world cup. Although several provinces within South Africa embarked on infrastructure developments for the soccer world cup, GFIP was not part of the world Cup, yet the GFIP phase 1 upgrades benefited Gauteng during the world cup. In 2006, the proposal for the GFIP was developed as a joint initiative of Gauteng Department of Road and Transport and the National Department of Transport, and municipalities, for utilisation and sustainability of the Gauteng freeways. A user payment-based toll scheme, with electronic fare collection as a basis to ensure free traffic flow, was proposed as the most effective funding mechanism. The scheme included the existing road network capacity expansions and development of new freeways (Makhura 2014:40). The improvement of the Gauteng Freeways was a much-needed relief to the poor road infrastructure. It was a requirement that the benefit should outweigh the cost and that an acceptable rate of return on investment is achieved. It is commonly known that congestion impacts on economic growth potential, loss of business opportunity, and increased road user costs. Not addressing the congestion experienced on the freeway network was simply not an option (SANRAL, 2010). Improving the freeways was needed and after the implementation of Phase 1, SANRAL (2016:5) found that in 2015 the GFIP saved the road users an estimated 443 000 vehicle hours per day of which 155 000 are on freeways. It is evident that the freeway upgrades brought some much needed relieve and improved travelling conditions.

The agency, which is tasked with the construction and maintenance of national roads published the intention to commence with GFIP in 2007. In terms of Section 27 of the SANRAL Act, the intention to toll GFIP were published in the Government Gazette and other local newspapers from the 12 October 2007, inviting the public to comment within 30 days. This is regarded as the public participation phase for the planning of National Roads in South Africa. Simultaneously with the public participation phase, notices were sent to both the local and provincial spheres of government as a requirement in terms of the SANRAL Act of 1998. It appears no major objections were received as the project was thereafter approved and commenced. For the agency to comply with the requirements of the Act, the requirement is only to mention the location of the toll booth. Based on the notices, the public and other spheres of government can only comment on the physical location of the tolls.

6.2 GFIP Planning

The democratic government of South Africa was only elected in 1994, and the majority of South Africans at the time were marginalised. It was thus obvious that the GFIP funding through National Treasury was not feasible. The pronouncement to embark on the Gauteng freeway upgrade was not in question, as this was a burning requirement, but the interrogation on the method of funding the upgrade was one that resulted in an unpopular decision to toll freeways (OUTA, 2016:2). This initial phase of upgrading the 185 km involved upgrading the bottleneck areas and interchanges. The next phase of the project entails upgrading 376 km, as well as the construction of new freeways. According to Makhura (2014:40), the history of the GFIP can be traced back to 1995 as follows

In 1995 Gauteng established the Freeway Implementation Scheme established. It was decided that the freeways would be privatised and tolled due to lack of funding. Central government, however, refused to pass the provincial toll road bill.

In 1998 – Gauteng published its Toll Road Strategy premised on the establishment of a “network of toll roads”. It culminated in the publication of the Gauteng Toll Roads Bill, 2003 (notice 1880 of 2003 in the Provincial Gazette) providing for user charging on provincial toll roads, an agreement with the agency for implementation of the toll road network and proper consultations with municipalities regarding the declaration of toll roads. The bill was, however, not promulgated after the elections in 2004.

In 2006 the Gauteng Transport Network Integration Process started. A proposal for the GFIP was developed as a joint initiative of the Gauteng Department of Road and Transport and the National Department of Transport, the agency, and municipalities, for utilisation and sustainability of the Gauteng freeways. A user payment-based toll scheme, with electronic fare collection as a basis to ensure free traffic flow, was proposed as the most effective funding mechanism. The scheme included the existing road network capacity expansions and the development of new freeways. The GFIP was to be implemented holistically to include the Gautrain, the upgrading of the commuter rail network, BRT systems, HOV lanes, intercity public transport, inter-modalism and park-and-ride facilities.

In 2007 the GFIP was approved by the national cabinet after the Soccer World Cup was awarded to South Africa. Approval was given for the upgrade and tolling of the N1, N3 and N12. The agency advertised the intention to toll at an estimated 50c/km and 82 representations were received from the public.

In 2008 a Memorandum of Agreement was signed by the Gauteng Provincial Government and the agency handed over the R21 to be funded through e-tolling. The agency advertised the intention to toll the R21 and two representations were received. Contracts were awarded and construction commenced in June.

In 2009 the construction of e-toll gantries commenced.

In 2010 the e-tolling launch was anticipated but had to await promulgation of the Transport Related Matters Act Amendment Bill.

In 2011 – toll tariffs were published, followed by the establishment of the GFIP steering committee chaired by the deputy general of the National Department of Transport and the deputy general of the Gauteng provincial government to revisit the proposed tariff, implement a broad consultative process and explore the possibilities of increasing the public transport offering. The agency commenced with e-toll registration and Phase 2 of the GFIP was put on hold by the National Department of Transport.

In 2012 the Inter-Ministerial Committee of the GFIP was established to coordinate all work of the implementation of the project, respond to the legal disputes, consult stakeholders, and propose short-term funding solutions for the agency.

In 2013 the bill was signed into law by President Zuma on 25 September 2013 and e-tolls commenced on 3 December.

6.3 GFIP Implementation

The project implementation was based on the user-pay system. The final planning of the GFIP started in 2005, merely eleven years after the election of the democratic government and the demands from government funding were immense. Democracy is important in transportation planning as indicated in preceding sections. The key factor of democracy is public participation during the formulation of policies (Holum 2022:1). The then premier of Gauteng, David Makhura established an advisory panel to review GFIP following the publicist backlash. The advisory panel investigated the socio-economic impacts of GFIP. Several advantages of GFIP were recognised and the panel concluded that the project responded to the overall needs of the Gauteng residents. According to Hwang et al (2020:437), megaprojects perform an important role in tackling the basic need of the people. Reviewing GFIP and the impacts on the public was necessary. The panel noted that in terms of the National Land Transport Act, 2009 of South Africa, it is important that infrastructure improvements facilitate financial, technical, and environmental sustainability. The point of contention is not the need for infrastructure, but the public involvement during the planning of GFIP. It is reasonable to assume that a state which promotes public aggressively would be regarded as open and responsive to the public views (Holum 2022:2).

The GFIP e-tolling system or user-pay has been affected by the road users defying the system. As much as the agency argued that appropriate processes were followed to this end the agency was struggling to recover e-tolling fees to repay the GFIP loan. According to the then chairperson of the agency, 2017/2018 was a defining moment as for the first time the roads agency had to transfer R1 667 000 from non-toll business to the road toll portfolio. This was decided in agreement with the Minister of Transport because of sustained non-payment of toll fees by the GFIP users. The amount allocated from the non-toll project was in addition to the R406 000 000 special grant from the Treasury and this amount meant to offset the reduced income on the GFIP (SANRAL, 2018:9). The lack of e-tolling success has resulted in debt accumulation and money

from other national roads projects being allocated to the GFIP. During the year 2017 and 2018, media companies reported that some freeway users with outstanding e-toll debts were blacklisted. On 19 March 2019, it was reported that the toll collection company indicated that the motorists who failed to pay their e-toll and who also ignored the court summonses, would be left with defaults orders against their names, which would lead to them being blacklisted by credit bureaus (BusinessTech, 2019). The following media reports contradicted the statement from the toll collection company. It was reported that the blacklisting was a mistake as the SANRAL Act excludes the levying and collecting of e-tolls from the provisions of the National Credit Act, 2005. This means that the freeway users not paying e-tolls could not be blacklisted, and the credit bureaus confirmed that the SANRAL debt cannot be held on credit. On 27 March 2019, it was reported that President Cyril Ramaphosa issued a statement that no new summons could be applied for, and it is still unclear how the agency intends to deal with the e-toll debt. The agency confirmed that it suspended the summons applied from 2015 (BusinessTech, 2019).

Poor toll collection has resulted in delays for the implementation of GFIP phase 2. Phase questionnaires were circulated to five representatives from the national agency involved in the planning and implementation of roads. All respondents strongly agree that if GFIP Phase 2 and 3 cannot proceed, the Gauteng freeways will be congested. Phase 1 was anticipated to only relieve traffic congestion for approximately 3 to 5 years and thereafter Phases 2 and 3 will have to be implemented to improve linkages across the Gauteng City Region (Makhura 2014:35). The majority of the informants confirmed that the agency is not engaging with international funders or the Treasury for the implementation of the subsequent GFIP phases. Phases 2 and 3 are required and yet no other alternative funding is being sourced to finance the proposed improvements. This project is one where public acceptance has affected and may affect sustainability, as the agency has not been able to proceed with Phases 2 and 3. Without a successful funding model, it may be argued that although the implementation of Phase 1 was successful, the sustainability of GFIP can be questioned.

Several court actions resulted in the projects being halted temporarily. Moseneke (2012) pointed out that the parties were not arguing whether the upgrades were necessary. All parties agreed that the upgrades were necessary and needed within the Gauteng province. The contentious issue was the funding of the upgrades, and in this case, the court pointed out that only the government has the right to decide on the funding mechanism. In 2014, the then chief executive officer of the national roads department of the agency was experiencing financial problems. The ratings agency maintained a negative outlook due to the delay in commencing with the GFIP toll collection (SANRAL, 2014:7). According to Makhura (2014:137), Consultations can never be exhaustive, and nor will it result in 100% consensus. Whilst the underlying sentiments to the opposition to e-tolls, including the anger and frustration about perceived and real lack of consultation, the panel can see no justification for the campaign, which sets unsustainable precedents and threatens democracy and social cohesion. According to SANRAL (2017:1), “the e-toll project is not coming to an end. This means that all e-toll money owed to the state must be paid. No debt has been written off.”

6.4 GFIP public participation and stakeholder engagements

As indicated in preceding sections, the intention to toll the freeways were published in the Government Gazette and other local newspapers, inviting the public to comment within 30 days. At the same time notices were sent to both the local and provincial spheres of government as a requirement in terms of the Act. For the national department to comply with the requirements of the Act, the requirement has only to mention the location of the toll booths. Based on the notices, the public and other spheres of government can only comment on the physical location of the tolls. It was not until 2011 that the toll fees were gazetted. This was just after the 2010 soccer world cup, which might have confused the public as a lot of upgrades throughout the country were undertaken for the world cup. At no point prior to the 2011 notice, were the funding models disclosed and in terms of the Act, the national department is not compelled to disclose the funding model. It is worth mentioning that when the tariffs were gazetted in 2011, GFIP Phase 1 of the project was already complete. The agency made it clear that all statutory requirements were fulfilled, and they have been arguing from 2012 that the e-toll launch should proceed. Table 1 indicates agency’s stance on the GFIP.

The intention to toll specifically for e-tolling was halted after it was announced by the relevant department. The existing Act only incorporated standard toll booths, not electronic tolling. The department had to amend certain sections of the SANRAL Act to allow for the electronic toll collection. At their discretion, the ruling party which held majority seats in parliament, opted to pass the Bill in terms of Section 75 of the

Constitution of the Republic of South Africa. The Section 75 Bills are regarded as ordinary, and they do not accommodate public participation. In 2013, when this Bill was passed. Section 75 Bills are regarded as those bills that do not affect provinces. The Transport Laws and Related Matters Amendment bill was regarded as not affecting provinces and it was introduced as such in the National Assembly. In this case, the Bill is passed in the National Assembly and then sent to the National Council of Provinces where most of the delegates must vote for the Bill. The participation of the National Council of Provinces is very limited as they cannot prevent the Bill from being passed. The Minister is only required to submit the Bill to parliament, requesting approval and not comments. The role of the National Council of Provinces was to simply rubber-stamp the Bill and not to participate in amending the contents of the Bill. The Transport Laws and Related Matters Bill were meant to amend both the SANRAL Act and the Cross-Border Road Transport Act, 1998. Although the Cross-Border Road Transport Act is not significant for this study, it is important to note that certain sections of this Act had to be amended for the agency to be able to recover e-tolling from motorists residing in other countries. Certain provisions, including day-passes would be facilitated and it would be possible for the agency to recover the e-toll fees after foreign motorists have used the Gauteng freeways. If the intention was to amend the Act through engagements with other spheres of government, the ruling party could have opted for a Section 76 bill. Section 76 are Ordinary Bills affecting provinces and procedures must be followed to ensure that provincial government (in the case Gauteng Province) are involved and not informed. Mediation is an important component of Section 76 which could have assisted in achieving robust debates. By 2013, it was already known that the e-toll debate in Gauteng has caused widespread criticism. Besides the statutory stakeholder and public participation requirements being executed in terms of the applicable by-law, public engagements are perceived to have not been effective. Since 2013, the agency has not been willing to back down.

The agency's Annual Report	Statements by the then CEO
2012	The uncertainty surrounding e-toll created confusion and negative sentiment in the market and among the public, and as a result, the agency's global and national ratings were downgraded. The agency remains steadfast in their conviction that the GFIP will deliver tangible and sustained benefits to Gauteng Road users and that it should be implemented in all its facets.
2013	The CEO expressed disappointment at the call being made for civil disobedience with respect to the judgements regarding the GFIP. Once the court's integrity is placed under doubt, doors to anarchy are opened. Ali appealed to all to respect the judiciary and that the misguided actions have delayed the toll collection at considerable cost to the agency.
2014	Although delays were experienced with the promulgation of the Transport and Related Matters Bill, toll collection commenced on 3 December 2013. This removed the negative sentiment in the market. The agency remained steadfast in their conviction that the selective application of the user-pay as endorsed in the National Development Plan of South Africa, with the appropriate protection of the poor would enable the agency to deliver a sustainable road network in support of socio-economic development.
2015	Six court judgements have affirmed the agency's use of the user-pay principle and confirmed that the agency has always acted lawfully. The new toll dispensation within Gauteng brought certainty to the use of user-pay principles as an instrument to fund roads in the future. SANRAL remained steadfast in their conviction that the selective application of the user-pay principle, with appropriate protection for the poor, will enable the agency to deliver a sustainable national road network that supports socio-economic development.
2016	The GFIP affects only 201 km of the agency's 21 490 km network but it has had the biggest reputation impact on the agency. The GFIP continued to offer qualitative benefits from overall improved travel conditions. The GFIP benefits are ignored by those seeking attention through unrelenting and unfolded attacks on the project. None have proven to be true, and the agency cautioned road users to take care. Ali referred to Oliver Tambo when he said: "beware the wedge driver. Watch his poisonous tongue."

Table 1: Statements by the then, chief executive officer of the agency. Source: Own construction (2021) derived from SANRAL (2012, 2013, 2014, 2015, 2016)

6.5 Infrastructure sustainability within Gauteng

As mentioned, sustainability discourses have been gaining momentum to reduce the use of cars within urban areas. During the official launch of the GFIP, the then minister of transport, Jeff Radebe indicated that the design of the roads has considered the need to move from private vehicles to public transport, by concentrating on inter-modal transport options and high-occupancy vehicle (HOV) lanes to facilitate quick travelling by bus and taxi. The project was approved by cabinet in early 2007 (SANRAL, 2008:33). Although the public transport aspect was meant to form part of the integrated objectives of the GFIP, this has not been implemented. Integrated transportation planning has intensified the complexity as it includes various entities, participation, spatial and functional elements completely (Kotzebue 2022:2). Although the

integrated approach can be regarded as complex, the Gauteng 25-year Integrated Transport Master Plan (ITMP) (Gauteng Roads and Transport Department, 2013:7) confirmed as follows:

“with the planning of the GFIP, the agency took other transport modes into consideration (the Gautrain, Metrorail, and Bus Rapid Transport) and strived to create links with other transport modes to provide citizens with the choice of using public transportation or car-pooling and will alleviate congestion caused by single-passenger vehicles”

After the completion of the GFIP Phase 1 upgrades, SANRAL (2011:6) indicated that the network design includes space for a dedicated HOV lane. It therefore appears that the initial plan to provide the HOV lanes was omitted during the implementation. One of the initiatives that was tested within Gauteng in 2006 was the High Occupancy Vehicle lanes. In reviewing the social impact of the GFIP, Bew et al. (2007) also investigated the HOV lane option. According to Bew et al. (2007:19), an HOV survey compiled by Synovate during the trial period indicated that among 400 motorists surveyed, only 30% believed that the HOV lane option could be a solution to the traffic congestion along the Gauteng freeways. Even though the announcement of the GFIP alluded to the introduction of HOV lanes, it was never implemented. Like the HOV strategy above, the GFIP solution was meant to incorporate public transport strategies. The Makura (2014) panel considered the issue of lack of reliable public transport as important, and it was recommended that the intergovernmental forums should be ongoing. The panel made it clear that priority public transport should be identified and/or an HOV project so that they can serve as alternatives for freeway users who wish to switch from using cars. Balanced transport systems must/ be debated. The panel also received submissions relating to the lack of reliable public transport. The panel considered this issue as important, and it was recommended that the intergovernmental forums should be ongoing. The forums should include all three spheres of government, as well as SANRAL, and the forum should deal with e-toll issues that were submitted to the panel.

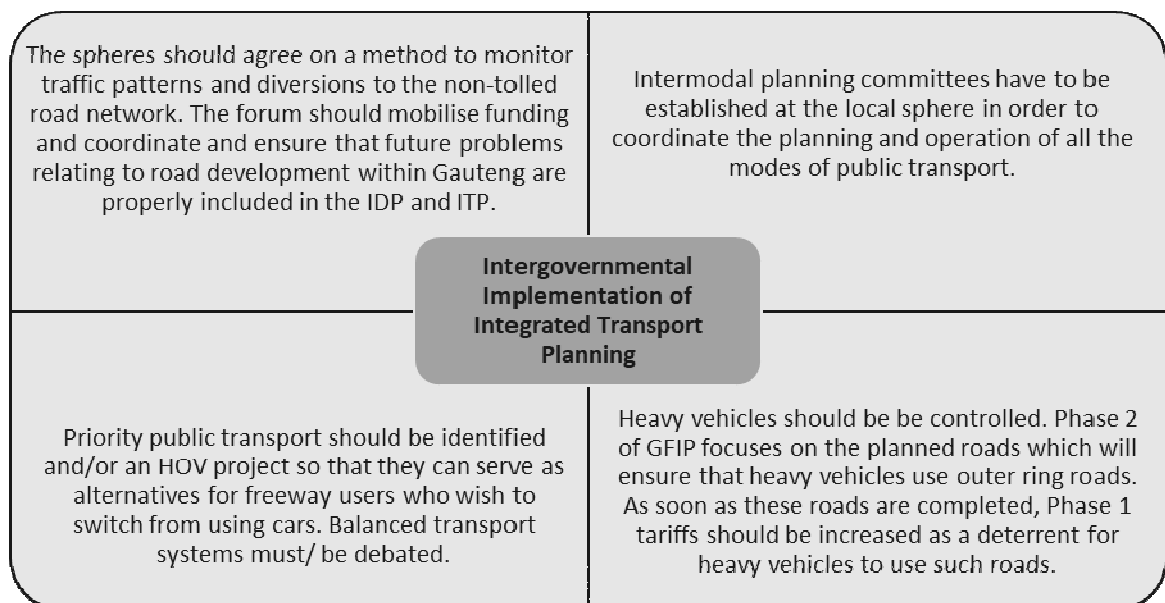


Figure 1: Recommendations on the implementation of integrated transport planning. Source: Own construction based on Makhura (2014)

The recommendations in figure 2 highlight the importance of integrated planning solutions and alignment across the three spheres of government. Complex planning is necessitated by megaprojects such as urban and infrastructure projects (Machiels et al. 2021: 538). The panel assessed the information provided, and the recommendations are based on the solutions to rectify the one-sided implementation of freeway improvements which was not implemented in conjunction with other alternatives. Besides the various funding methods, the panel recommended that whatever the agency’s solution, it should not disadvantage the lower income groups. The panel acknowledged that the lower income groups use freeways and as such the agency must apply a different principle. Based on this recommendation, the agency then amended the e-tolling and excluded public transport from paying for e-tolls. The assumption was that the poor rely on public transport and if the buses and taxis pay for e-tolls, the cost will translate into the bus and taxi operators increasing the fees to cover the e-toll fees.

7 PATHWAYS TO EFFECTIVE PUBLIC PARTICIPATION FOR SUSTAINABLE TRANSPORTATION OUTCOMES

Achieving sustainable development strategies in developing and the developed countries, requires the promotion of an environment that promotes successful democratic governance (Hue and. Yung-wen sun 2022:6).

While public participation for sustainable development gained momentum post the Rio Declaration, it is worth mentioning that public participation in planning started as far back in the 1960s. Sherry Arnstein proposed a basic public participation ladder which is now very well known as the Arnstein ladder of participation. Arnstein's approach is based on a ladder structure which indicates the magnitude of involvement between the public and citizens in planning (Wilker et al. 2016:232). The public outcry was discussed in preceding sections and evaluated using existing public participation frameworks. Despite the public outcry, the then project manager of the GFIP, argued that critics of the programme confuse the cost of building a sophisticated freeway network in a densely populated area such as Gauteng with rural highways elsewhere in Africa (SANRAL, 2016:1). The project leaders seem to have been oblivious to the stance that public participation was indeed the issue, not the freeway improvements. Perić (2019:214) reviewed several government projects in various states and concluded that in most cases powerful entities violate the interests of public. The democratic processes are of interest when mega projects meant for the people do not incorporate ordinary citizens during the conceptualisation and planning of such projects where in the case of GFIP participation can be viewed as minimum. Democracy without justice cannot guarantee effective public participation in conceptualisation, planning and implementation of transport projects as explained by Rawls. To this end, it has been established that megaprojects have to employ strict procedures and thorough transparency reporting because projects of such magnitude attract public attention (Wiewiora and Desouza 2022:237).

In compiling the ladder of public participation, Arnstein argued that the public participation ladder can range from Level 1 to 8, with level 8 being the most inclusive in decision making. The ladder is categorised by eight levels of public impact on decision making and the different categories demonstrate the public power in formulating plans (Wang and Chan 2020:1). The debate surrounding the GFIP has highlighted a lot of impediments that could be experienced during the planning and implementation of mega transport plans in South Africa. The highest level of participation according to Arnstein is when the public can extensively exercise power in decision making processes (Kwak 2019:259). Accordingly, authorities cannot ignore the fact that the public can exercise such power, especially when projects directly affect the citizens. Several frameworks have been emerging to enhance the Arnstein ladder. However, Arnstein's ladder intended to avoid nonparticipation whereby the leaders do not allow citizens to express their opinion and she wanted to avoid tokenism whereby the citizen's opinions do not change the decisions made by power holders (Rosen and Painter 2019:336)

The GFIP user-pay scheme makes the user/public an especially important component of the project and yet SANRAL Act does not compel the full disclosure of tolling costs, which could limit the public's perception of the project's costs and the overall implications. This can be regarded to be at Level 2 of the Arnstein ladder because the information provided during the public participation was limited and failed to disclose the toll prices. To this end, the agency has only been able to prove that it ticked all the boxes in terms of the tolling process. The question can be asked: was the public properly consulted before the implementation of e-tolls? Besides the statutory public participation requirements being executed in terms of the applicable by-law, public engagements are perceived to have not been effective. It is not clear how transportation agencies within South Africa are mandated to comprehensively engage with ordinary citizens at length throughout the planning and implementation stages of major government projects. The important component according to Arnstein's analysis is that the power holders and ordinary citizens must be on equal footing such that all the partners have sufficient knowledge to effectively negotiate (Gaber 2019:196). It is worth noting that beside private vehicle owners, the Gauteng residents who do not own motor vehicles might somehow be affected by the tolling of the freeways. According to the report prepared for the Road Freight Association and Afriforum, by Schussler (2011:21) "the commercial road freight will in all likelihood have no choice but to pass on the actual costs of the tolls to their clients, who themselves are likely to pass on these costs to their clients. At the end of the day all goods transported by road via the GFIP will have a level of cost increase

that the consumer will have to bear the brunt of.” The highest level of public participation according to the Arnstein would be partnership, delegated power and citizen control (Wang and Chan 2020:2).

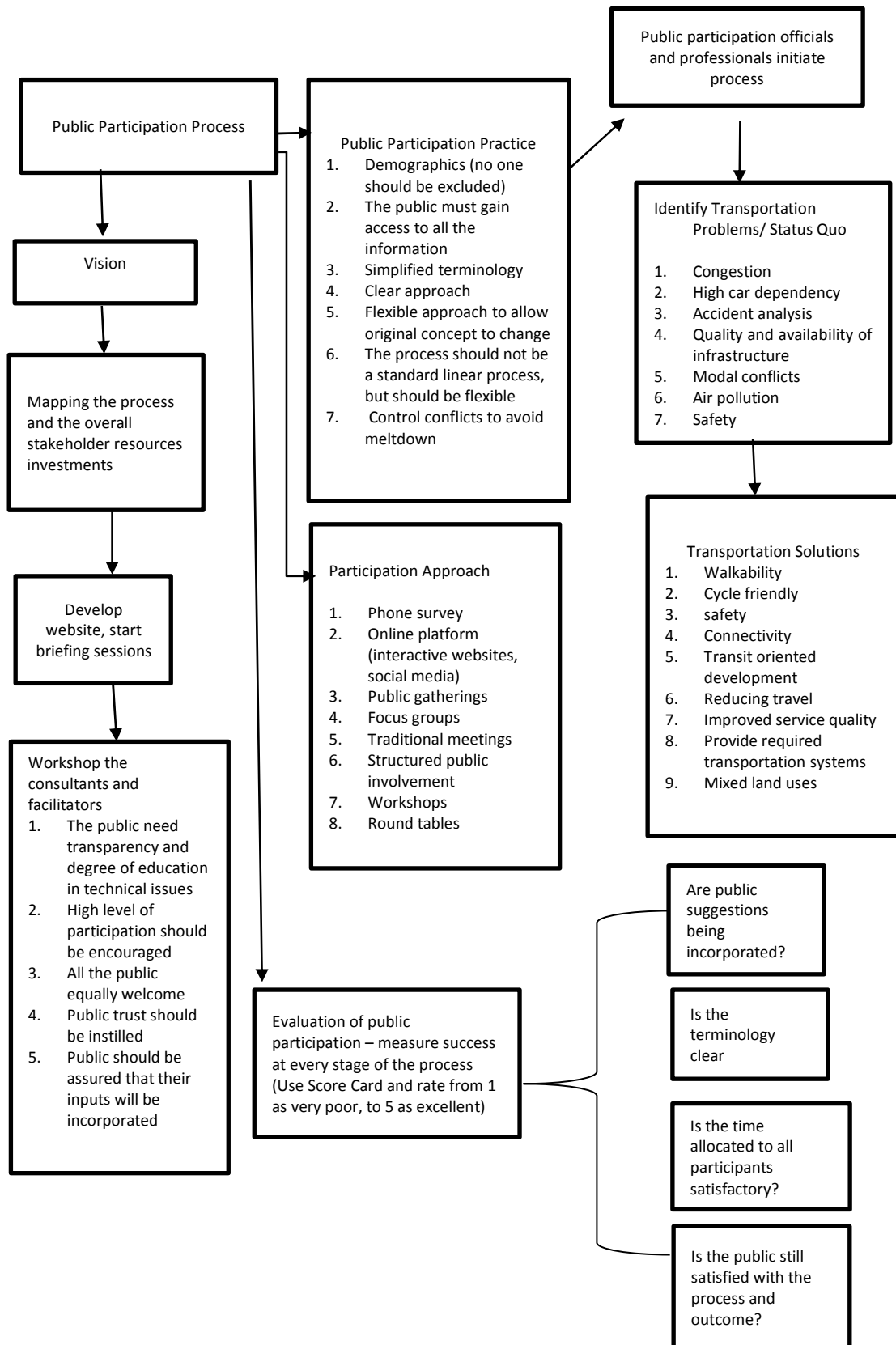


Figure 2: Guidelines for effective transport planning public participation. Source: Adapted from Macmillan et al. (2020:4-5); Bailey et al. (2015:47-50); Sagaris and Ortuzar (2015:21); Wang and Chan (2020:3); Grossardt and Bailey (2018:7-13)

The critical relevance of stakeholders to this study is whether the engagements acknowledge the contributions from diverse participants. For transportation planning, the High-Performance Public Involvement framework was formulated to bridge the Arnstein Gap, by introducing quality, inclusion, clarity, and efficiency as a system of measurement for public participation (Bailey et al. 2015:45). Public participation to achieve quality, inclusion, clarity, and efficiency can be a goal for ensuring successful transportation solutions. Stakeholders, public, and other professionals are obliged to investigate significant ambiguities to inform or develop policy recommendations (Andersen et al. 2021:1). Understanding the required resource investment is important and this should be done before the conceptualisation stage. This is because several authors (Akerman and Höjer, 2006; Banister et al., 2000; Lyons and Davidson, 2016) argue that scenario-building within transportation planning provides the participants with a framework to investigate potential ambiguities and integrate them into policymaking processes (Ariza-Álvarez et al. 2022:275). According to Makhura (2014:132), with implementation of GFIP a comprehensive approach should be formulated towards funding models and plans for integrated and transformative Gauteng public transport. This should incorporate all the metro's BRTs, the local municipality's bust services, the Passenger Rail Agency of South Africa, Gautrain and all other means of public transport. This is aligned with what has already been established, namely that many authorities spend funds on highway expansions because of traffic congestion and yet the highways will only be able to reduce congestion for a couple of years (Speck, 2018:65).

For achieving sustainable transportation solutions, alternative modes of transport are important and should be provided in conjunction with road improvements as highlighted in preceding sections. Integrating the different sustainability factors is necessary for correcting the negative outcomes caused by motorisation. To realise urban sustainability, transportation solutions must correct unjust mobility which encompasses irregularly dispersed, harmful environmental and societal impacts and this requires institutional changes (Verlinghieri 2020: 364). The most significant input for developing a model is to clearly define the vision to translate the goals and objectives of public participation which in turn forms the basis for pathways to effective public participation for sustainable transport infrastructure development as indicated in Figure 2. The ground for developing a clear pathway is based on the importance of being able to execute public participation scientifically to facilitate the evaluation of process success based on clear objectives. Engagements amongst role players is a dynamic procedure and can be characterised by several reviews of the system (Pira et al. 2016:231). Due to the dynamic nature of stakeholder engagement, establishing an appropriate approach is central to the success of the process. This highlights the importance of a clear approach to the "how" to avoid conflicts over major transportation projects which in turn speeds up the attainment of sustainability while also acknowledging the importance of citizen participation (Sagaris and Ortuzar 2015:21).

8 CONCLUSION

The debate surrounding the GFIP has highlighted the impediments that can be experienced during the planning and implementation of mega transport projects in South Africa. What is of concern is that the GFIP agency is of the opinion that the project planning and implementation was done correctly and that the road users must pay for the e-toll roads. It remains to be seen whether the agency will eventually manage to recover the costs of the GFIP through the use-pay system as was initially proposed. Although alternative transportation modes were proposed as part of the integrated objectives of the GFIP, this has not been implemented. One can argue that the road users are not opposed to the project, but they are opposed to poor integrated planning and lack of sufficient public consultations prior to the implementation of this project. The paper concludes that high-level public participation is a key component of democracy for planning and implementation of transport infrastructure project. It highlights the pathways to effective public participation for the development and management of inclusive/sustainable transport infrastructure. Pursuant to that, the paper ends by recommending high-level engagements between all stakeholders, including ordinary citizens to enhance accountability, user acceptance and desirable socio-economic outcomes: inclusive transport infrastructure development, management and use. To this end, it is not clear how South African transportation departments facilitate comprehensive public participation during the planning and implementation of mega projects. Future studies are necessary for assessing public participation from conceptualisation, not after implementation of plans. This study reviews a project already implemented and it

might be necessary to analyse a project before implementation so that processes involved are analysed during the real-life cycle. The public participation process must be interrogated before project commencement and future research is necessary. The success of institution to mobilise the public and the stakeholders must be evaluated, including the level of involvement throughout the project planning and implementation.

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