

LOCKED-UP GAINS AND MISSED OPPORTUNITIES: A RAPID REVIEW OF THE 2007 AND 2018 VERSIONS OF THE RURAL TRANSPORT STRATEGY FOR SOUTH AFRICA

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ABSTRACT

This paper serves to explore rural transport policy implications and directions in South Africa. Making use of a systems and gap analysis approach, the paper examines and compares the main pillars of the 2007 Rural Transport Strategy and the 2018 Rural Transport Strategy (RTS) review with a view to highlighting the nuanced changes in emphasis as a basis for understanding the desired impact of the current RTS in terms of facilitating access to socio-economic opportunities for rural communities and stimulating and oiling rural economic development. The relative currency of rural transport issues addressed in the 2018 iteration of the RTS are analyzed in the context of trend-setting national and international policy shifts impacting and impacted by the rural transport sector. The findings underline the rural transport policy gains that have filtered through into the 2018 RTS while at the same time highlight missed rural transport policy changing opportunities. In addition, some possibly transformative policy options in both iterations that have remained trapped through inaction are discussed. The paper concludes by making suggestions on how the missed opportunities could be reclaimed through local level innovative and collaborative transport engagement approaches.

Key Words

Rural transport, policy, gains, socio-economic opportunities, innovation, engagement, South Africa

1. INTRODUCTION

1.1. Background and Context

Rural South Africa, with upwards of 21 million inhabitants (Statistics South Africa, 2011), experiences multiple challenges such as inadequate infrastructure networks, long travelling and commuting distances, sparse, scattered, dispersed and fragmented settlement patterns and low population densities (Dawson, 1993; Department of Transport (DOT), 2007; DOT, 2010; Hine, 2014; DOT, 2017). The low population densities referred to above create spatial and economic investment inefficiencies with respect to the provision of transportation infrastructure and services (Chakwizira & Mashiri, 2015; Thomas, 2016; Mtizi, 2017). Thus, most rural areas experience differentiated and unique access and mobility challenges in seeking to connect with surrounding and major economic hubs and nodes, which in turn, results in constrained pathways for socio-economic development and growth (Chakwizira, Nhemachena & Mashiri, 2008; DOT, 2007; 2017, NATMAP, 2011; Thomas, 2016). In

addition, the historical backlogs in service delivery mean that rural people have inadequate access to socio-economic opportunities in the mainstream economy (SACN, 2014; Mashiri et al, 2015; Nchabeleng, 2017). This has had the effect of trapping upwards of 40% of South Africa's population, and by extension, perpetuating poverty. The less than ideal situation sketched above is further exacerbated by the resource and income poverty of rural communities, which often leads to their inability to sustain themselves (Black & Van der Westhuizen, 2004; Thomas, 2016). The improvement of rural transportation constitutes a solution concept, which while it is considered potent, has yet to be fully practically exploited in South Africa. Rural transportation includes the following components (Rural Transport Strategy, 2007; 2018):

- **Provision of rural transport infrastructure (RTI)** – Includes all transport-related infrastructure, ranging from proclaimed district or feeder roads to village-level roads and non-motorised infrastructure such as tracks, trails, paths and footbridges, most of which are often not proclaimed or registered.
- **Provision of rural transport services (RTS)** – Includes services provided by operators of all modes of motorised and non-motorised transport (e.g. head-loading, private automobiles, public transport services and animal-drawn carts, as well as services provided by intermediate means of transport such as tractors and motorbikes.
- **Integrated public transport networks (IPTNs)** – Relates to the provision of improved accessibility and mobility by integrating public transport services between modes as well as promoting the integration of transport infrastructure among modes, and
- **Provision of Non-Motorised Transport (NMT) and Intermediate Means of Transport (IMT)** – While NMT includes all forms of movement that are human powered which do not rely on engines or motors for movement, including walking, cycling, rickshaws, wheelchairs, hand and animal-drawn carts and recreational activities such as equestrian, rollerblades, skates and scooters, IMTs include motorized transport modes such tractors and tractor trailers, motorbikes and drones.

1.2. Study Motivation and Justification

As indicated elsewhere in this paper, the improvement of rural transportation constitutes a rural development solution concept, which while it is considered potent, has yet to be fully practically exploited in rural South Africa. In this regard, researchers have sought to identify and isolate the critical issues that tend to sustain the status quo (Chakwizira & Mashiri, 2009; Chakwizira, Bikam & Mashiri, 2014; Caldwell, 2015; Thomas, 2016; Mtizi, 2017) resulting in common threads that could be considered as genuine opportunities for sustainable interventions, namely:

- Spatially fragmented, scatted, dispersed and inefficient settlement development patterns and population distribution are a constraint to optimum development of integrated rural transportation systems and services (DOT, 2017)
- Non-existence of a national strategic rural transport system that connects major nodes that focus investment and action (NATMAP, 2011)
- Rural transport network capacity is limited despite the fact that significant volumes of rural-urban freight traffic exists in various parts of the country (Black & Van der Westhuizen, 2004; Nicolaisen & Naess, 2015)
- Inadequate accessibility of transport infrastructure network systems and services (Hine, 2014)
- Inadequate provision and development of off-road infrastructure such as footpaths, paths and tracks for non-motorised transport (NMTs) modes (Mtizi, 2017)
- Disjointed transport governance system in terms of the provision, planning and management of rural and urban transportation systems (Chakwizira & Mashiri, 2009; Linda, Hjalmarsson, Wikström & Larsson 2015)

- Inadequate institutional capacity to implement rural transport planning (Pierre, Peters & Guy, 2000; Besley, 2006; Chakwizira & Mashiri, 2009; Department of Transport, 2017),
- Lack of sustainable economic activities in rural areas result in rural-urban migration especially from predominantly rural provinces of Limpopo, KwaZulu-Natal and the Eastern Cape (Statistics South Africa, 2011)
- Implementation of rural transport strategies is hampered by a lack of prioritised funding and technical or managerial capacity to oversee the roll-out of projects at district level (Mckune, Mnomiya & Laabmayr, 2014), and
- Inconsistent planning, monitoring and execution in a context in which there is inadequate budgetary provision and funding constraints for the rural transportation domain (Raballand, Macchi, Merotto & Petracco, 2009; Chakwizira & Mashiri, 2015; Mercier, Carrier, Duarte & Tremblay-Racicot, 2016).

Given the foregoing headline rural development issues, a responsive, innovative and forward looking rural transport strategy was considered a practical response. Such a strategic document is designed to integrate and inform all rural transportation related decision making with a view to ensuring that transport investments support the socio-economic agenda of the country. In this regard, the South African Department of Transport (DOT) developed its inaugural rural transport strategy in 2007. This strategy has since been overtaken by events in terms of policy developments and pronouncements within the transport sector as well as from the allied sectors (Eliasson & Proost, 2015). DOT's review of the 2007 RTS was predicated on the following:

- Outcome of the RTS impact assessment conducted in 2013 suggested 2007 RTS needed to address gaps and align with current developments, e.g., incorporating the logic and provisions of important new policies, including amongst others, the National Development Plan 2030 (NPC, 2011), the New Growth Path (2011) and Draft White Paper on Transport Policy (DOT, 2016), as well as new legislative instruments such as the National Land Transport Sector (NLTA, 2009), Spatial Planning and Land Use Management Act (SPLUMA, 2013).
- Need for incorporating operational models to enhance rural access and mobility such as the integrated public transport network (IPTN) that addresses missing links in rural transport infrastructure and rural transport services together with a clearly articulated role for NMT (Nchabeleng, 2017).

The RTS was approved by the South African Cabinet approved in early 2018. It is in this context that this paper seeks to rapidly review the RTS.

1.3. Purpose of the Paper

The purpose of this paper is to provide a rapid review of both the 2007 and 2018 Rural Transport Strategies (RTS) for South Africa with a view to deepening conversations regarding methodological, conceptual, contextual and theoretical gaps that require further attention and generating recommendations to further strengthen the current RTS for improved implementation, and by extension, sustainability and improved performance of the rural transport sector in South Africa.

2. RESEARCH METHODOLOGY

A mixed-method approach including a systematic document analysis to paint a holistic picture of the rural transportation status quo as well as the systems and gap analysis framework to isolate and highlight gaps especially in the 2018 RTS as a stepping stone to generating a storyline which provides pointers to turning around the fortunes of rural areas through innovative RTS implementation. The analytical methodology was located in, and drew heavily from four inter-related and interconnected concepts, namely:

- Theory of change (United Nations Children’s Fund, 2014)
- Livelihoods approach (Davis, 2005)
- Transport governance system approach (Chakwizira & Mashiri, 2009), and
- Transport systems and innovation approach (Morrissey & Browne, 2004).

3. LITERATURE REVIEW AND CONCEPTUAL FRAMEWORK

3.1. Notion of Rural Transport Policy / Strategy and Governance

This paper has adopted the concept and notion of rural transport implementation “*policy and strategy tools*” that relates to and depicts the available means for governments to influence or coerce business and citizens in a desired direction (Mercier et al, 2016). Thus, rural transport policy/strategies and governance are understood to comprise goals, decisions, actions, and inactions that are important in governing a rural transport system (Smith, 1976; Jenkins, 1978; Pierre & Peters, 2000; Hill, 2005; Pierre, 2011). Rural transport policy/strategy is therefore based on a fluid concept that recognizes the centrality of transport governance in rural transport performance.

3.2. Sustainable Livelihoods Approach

Approaches to rural transportation development can take either a ‘*physical target-based approach*’ or a ‘*traffic-based transport cost savings approach*’ (Hine, 2014 p3). This calls into focus the need for differentiated and yet targeted approaches, as well as intervention and program monitoring systems to maximize rural transportation gains. These gains can best be unraveled within the ambit of the ‘*Sustainable Livelihoods Approach*’ which has the capacity to express more meaningfully the relationship between transport provision and poverty (Davis, 2005). This approach recognizes the importance of assets in sustaining rural livelihoods and creating enabling conditions to reduce the vulnerability of the poor to different types of shocks (Hine, 2014 p10).

3.3. Theory of Change in RTS Implementation

A simplified representation of the Theory of Change Rural Transport Policy / Strategy Change is depicted in Figure 1. The theory explicitly states the assumptions that underpin the causal linkages – illustrating the range of impacts, activities and outputs that feed into the broad set of desired outcomes (SACN, 2014). In this way, rural transportation planning policy / strategy transformation becomes a process and not an event, thus requiring transitional change management tactics and leadership.

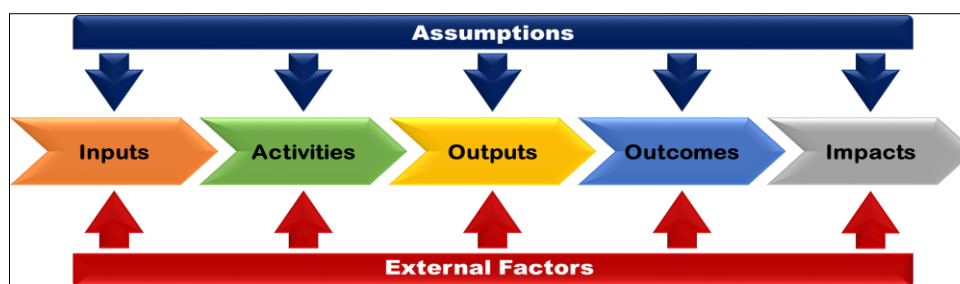


Figure 1: Theory of rural transport policy / strategy change
Sources: SACN (2014 p36-37)

3.4. Rural Transportation Systems Analysis

Systems engineering models can be based on cost-benefit analysis, life cycle analysis and multi-criteria decision analysis (Morrissey & Browne, 2004). Assessment tools for these systems include management information systems, decision support systems, expert evaluation systems, socioeconomic and environmental assessments (Kamperis et al, 2013). The point is to think of rural transport as a system in equilibrium with many interacting

components. Key outputs are mobility rates, the distance people have to walk to roads and access services, goods traffic levels, transport fares and tariffs and the availability of different modes (Hine, 2014).

3.5. Rural Transportation Research Advances and Policy Implications

The most widely quoted research work with respect to the impact of rural roads has been work carried out by the International Food Policy Research Institute (IFPRI) under the leadership of Professor Shenggen Fan making use of a “benefit-cost” ratio approachⁱⁱⁱ. A key result of several IFPRI studies is that rural roads are second to agricultural research in terms of benefit-cost ratio of expenditures (Hine, 2014 p11). Table 1 presents a summary of key findings across IFPRI studies relating to the impact of rural roads.

Table 1: Summary of key findings across IFPRI studies relating to road impact

Country	Road Type	Benefit / cost ratio of expenditure on increasing length	Road sector ranking	Sector with highest returns	No. of people out of poverty with \$10,000 (2011 prices) road investment
China	Low quality	6.37	-	-	10.5
	High quality	1.45	-	-	0.1
India	Rural roads	3.03	1 st	Roads	32.9
Thailand	Rural roads	0.86	3 rd	¹ Agricultural research & others	30.2
Tanzania	Rural roads	9.13	2 nd	Agricultural research & others	170
Uganda	Feeder roads	7.16	2 nd	Agricultural research & others	261
	(gravel)	-	-	-	31.5
	Tarmac	-	-	-	20
Vietnam	Rural roads	3.01	2 nd	Agricultural research & others	9.6

Sources: Fan, Hazell & Thorat (1999); Fan & Chan-Kang (2004); Fan, Zhang & Rao (2004); Fan, Nyange & Rao (2005); Fan, Jitsuchon & Methakunnavut (2004); Raballand et al. (2009); Hine (2014)

From Table 1, it is clear from the results of the IFPRI analysis relating to China and Uganda that the returns from rural roads are higher compared to more expensive better quality roads. It is also interesting to note the much higher impact of expenditure on new rural road access on poverty reduction in Africa (Uganda and Tanzania), compared to that for Asian countries. However, it should be recognized that the IFPRI research is highly technical and is derived from a complex macro modelling process. Despite the positive results, uncertainties remain regarding other possible explanations, including reverse causality (Raballand et al., 2009).

3.6. Transport Challenges in Rural South Africa

Rural areas are faced with a host of challenges ranging from backlogs in transportation infrastructure development and maintenance to deficient rural transport services (Naude, Mashiri & Nchabeleng, 2005). And yet better rural transport is crucial to reducing poverty and isolation and promoting economic growth (Mashiri et al, 2013). Thus an inefficient and unsafe transport system must be tackled as it often has key adverse knock-on effects on livelihoods, the delivery of health and education, social interaction and the development of agriculture and the service sector (Hine, 2014). Fortunately the scope for improvements exist and the 2018 RTS provides a framework for articulating and advancing this improvement agenda.

3.7. Towards a Conceptual RTS Framework

Following from previous sections, Figure 2 presents the conceptual framework adopted for this study. The framework revolves around the need to sustainably scale rural access and mobility barriers by intervening at three levels – the personal, system and socio-economic

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opportunity levels – guided by spatial development principles to unlock development impulses to achieve transformative rural development.

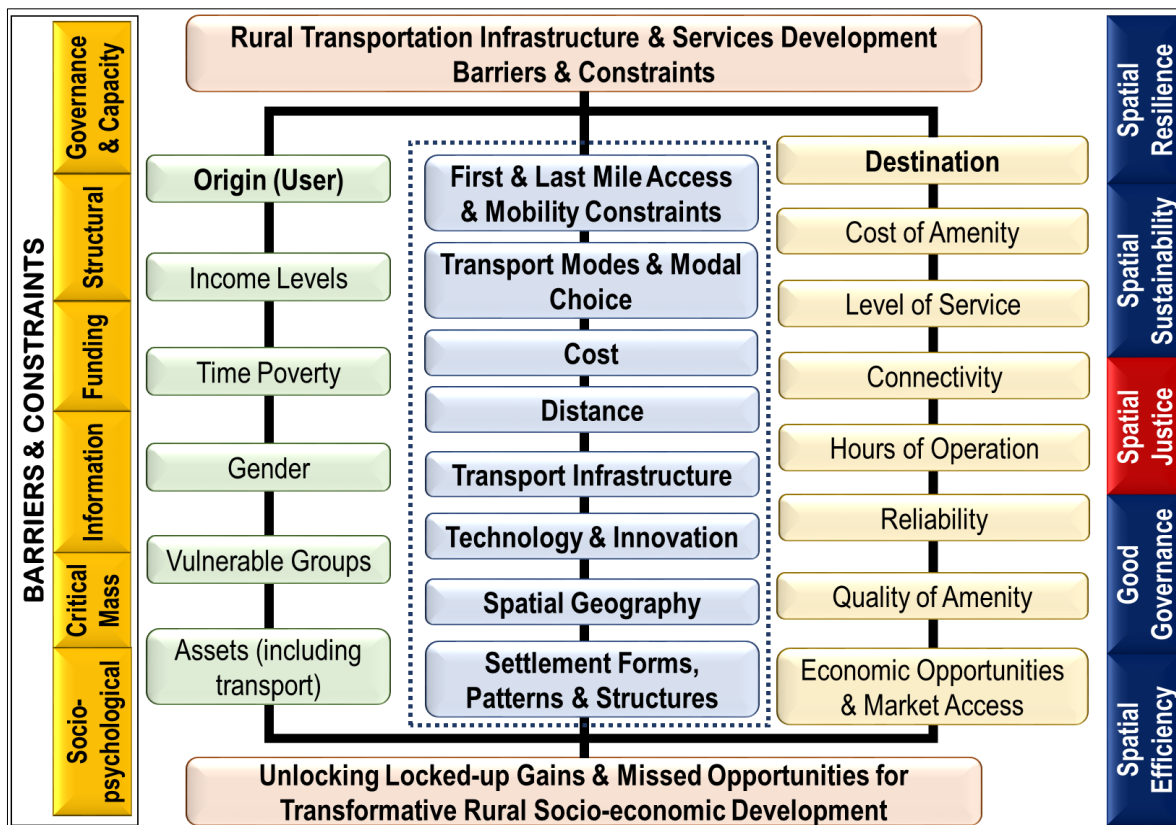


Figure 2: Conceptual framework adopted for the study
Sources: Authors own conceptualisation, 2018

Sustainability is considered central to the framework, and by extension, to the 2018 RTS interventions, particularly given the need to break the cycle of intergenerational poverty by invoking spatial planning values, principles, norms and standards (SPLUMA, 2013; Eliasson & Proost, 2015). In a practical sense, this also refers to the need and the ability to employ the strategy to develop rural South Africa as *attractive places to live, work and visit* for current and future generations.

4. DISCUSSION OF RESULTS AND FINDINGS

4.1. Policy Shifts, Locked-up Gains and Missed Opportunities

Table 2 presents a comparison and gap analysis of the 2007 and 2018 rural transport strategy documents with a focus on policy shifts, locked-up gains and missed opportunities within the broader ambit of the conceptual framework depicted in Figure 2 above. While Table 2 indicates that efforts have been made to update the 2018 RTS to accord with current contextual realities, critical components of the strategy have not been taken to their logical conclusion. This has the effect of and potential for compromising the realisation of the strategic intent of the RTS suggesting locked-up gains leading to unfulfilled potential. By extension, this also suggests missed opportunities for utilising the RTS review process to generate an innovative, integrative and transformative instrument for rural socio-economic development.

Table 2: RTS implementation models and gaps

Criteria / Indicator	Rural Transport Strategy for South Africa (2007)	Rural Transport Strategy for South Africa (2018)	New Shifts Incorporated	Gaps & Missing Dimensions
Policy Alignment	<ul style="list-style-type: none"> Strategic direction provided by relatively conservative, traditional & welfare-oriented planning instruments such as the National Spatial Development Perspective (2006) & Integrated Strategic Rural Development Program (ISRDP) 	<ul style="list-style-type: none"> Strategic direction provided by a range of progressive policies & legislative instruments including the NDP 2030 (2011), & the Comprehensive Rural Development Program (CRDP), which perceive rural areas as potential socio-economically productive. 	<ul style="list-style-type: none"> New policy & legislation directions as captured by documents such as the National Land Transport Strategic Framework (2015), NATMAP 2050 (2012) & Public Transport Strategy for South Africa (2007) – which tend emphasize socio-economic development and not welfare alone have been incorporated. 	<ul style="list-style-type: none"> The document is silent on the rural transport links to Sustainable Development Goals (SDGs) & yet it is common cause that in order to achieve many of the goals, transportation is indeed a crucial ingredient. Rural transport low carbon transitions framework realities have also been inadequately tackled.
Policy Elements	<ul style="list-style-type: none"> Addressing rural poverty enclaves & stricken nodes & rural community & population needs requires the application of a uniform & standardised approach to rural transportation infrastructure & services delivery. 	<ul style="list-style-type: none"> The uniqueness of the rural spatial geography in South Africa demands the application of a differentiated rural transportation infrastructure & services delivery approach for various typologies of rural settlements. Invariably, appropriate solutions include a variety of suitable & customised mix of relevant interventions. 	<ul style="list-style-type: none"> The 2016 RTS offers rural transportation opportunities in: <ul style="list-style-type: none"> Implementing high potential development & investment in rural areas taking into account individual rural spaces, unique transportation conditions & development requirements Addressing & responding to intermediate type rural transportation development requirements Addressing rural transportation access & mobility as a basic development service & requirement in rural communities 	<ul style="list-style-type: none"> Full life-cycle analysis & intervention logic for valorising differentiated rural transportation targeted interventions is inadequately developed There is also an assumption that rural municipalities are adequately capacitated to conduct oversight & implementation activities in support of the new RTS.
Implementation Models	<ul style="list-style-type: none"> The Integrated Rural Mobility & Access (IRMA) model was piloted in six (6) district municipalities. The approach also laid emphasis on using the “brokering of logistics & transportation services” to catapult rural development which was highly dependent on private sector participation & public sector collaboration. In reality, once the funded demonstration projects had run their course, there was no adoption of approach by implementing agencies, not least because of funding inadequacies, legislative challenges, capacity & governance & commitment issues. 	<ul style="list-style-type: none"> The model is based on a network development approach which recognises the need to provide for missing links in transportation infrastructure & services. While more emphasis is placed on the need to implement a varied investment approach, detailed implementation details on this are not provided. 	<ul style="list-style-type: none"> Emphasis is now on the deployment of a range rural transportation interventions underpinned by a varied, but rich investment approach 	<ul style="list-style-type: none"> It is important to note here the considered view that “new roads, networks links are not enough” (Dawson, 2003; Naude, Mashiri & Nchabeleng, 2005) is still very relevant. In other words, other interventions that impact on development across all the sectors are also simultaneously required. At the same time, the implementation framework expected to provide guidance for rural transportation development has inadequate information & guidance for municipalities to use in supporting the vision & strategic intent of the RTS.
Public Transport Services promotion approach	<ul style="list-style-type: none"> The development of an effectively interlinked network of multi-purpose nodes & linkages in district municipalities. 	<ul style="list-style-type: none"> Promote quality public transport services by way of IPTN within district municipalities 	<ul style="list-style-type: none"> Need to promote IPTNs in rural areas 	<ul style="list-style-type: none"> The lack of a scaled approach regarding how the implementation of the IPTN – in rural areas should be conducted.
Sustainable Rural transportation Systems	<ul style="list-style-type: none"> Develop demand-responsive, balanced & sustainable rural transport systems. 	<ul style="list-style-type: none"> Promote nodal linkages & demand responsive transport services 	<ul style="list-style-type: none"> Recognition of the need for a differentiated rural transportation approach. 	<ul style="list-style-type: none"> Lack of a clear municipal framework for operationalising the differentiated rural

Criteria / Indicator	Rural Transport Strategy for South Africa (2007)	Rural Transport Strategy for South Africa (2018)	New Shifts Incorporated	Gaps & Missing Dimensions
				transportation systems & services approach.
Green rural Transport Infrastructures & services planning	<ul style="list-style-type: none"> Promote coordinated rural nodal & linkage development. 	<ul style="list-style-type: none"> Guide corridor development through sustainable rural investment plan 	<ul style="list-style-type: none"> The focus on non-motorised transport is encouraging in terms of low carbon planning. 	<ul style="list-style-type: none"> No explicit reference is made to greenhouse gas emissions – particularly because regional corridors, often laden with heavy traffic pass through rural areas.
Issues Relating to Gender & Other Vulnerable Groups	<ul style="list-style-type: none"> Generally the elderly, women & persons with disabilities are being left behind through the urban-rural migration phenomenon. In addition, in terms of demographic makeup, there are largely more women than men in rural South Africa. These population segments were not clearly & specifically tackled in the discussion & range of interventions. 	<ul style="list-style-type: none"> Generally the elderly, women & persons with disabilities are being left behind through the urban-rural migration phenomenon. In addition, in terms of demographic makeup, there are largely more women than men in rural South Africa. These population segments were not clearly & specifically tackled in the discussion & range of interventions. 	<ul style="list-style-type: none"> While these issues are found in both documents, they do not go far enough 	<ul style="list-style-type: none"> A much more thorough discussion of gender issues with particular reference to women & other vulnerable groups together with appropriate intervention regimes is certainly required.
Climate Change Issues	<ul style="list-style-type: none"> Climate change is a reality & affects rural & urban communities alike. There was no discussion of this phenomenon at all. 	<ul style="list-style-type: none"> Climate change is a reality & affects rural & urban communities alike. There was no discussion of this phenomenon at all, including rural transport's relationship with disaster management 	<ul style="list-style-type: none"> Climate change not incorporated 	<ul style="list-style-type: none"> Need to strengthen the relationship between disaster management & rural transportation endeavours
Mapping the Space Economy	<ul style="list-style-type: none"> While connecting the rural population to production centres in rural towns, forestry & agricultural enclaves is crucial to socio-economic advancement, the space economy was not mapped – the emphasis being on fulfilling the needs of a welfare economy first. 	<ul style="list-style-type: none"> While connecting the rural population to production centres in rural towns, forestry & agricultural enclaves is crucial to socio-economic advancement, the space economy was not mapped – the emphasis being on fulfilling the needs of a welfare economy first. 	<ul style="list-style-type: none"> Mapping the space economy not attempted 	<ul style="list-style-type: none"> The need to map the space economy cannot be over-emphasized as both the welfare & the productive economies are important for socio-economic development of rural areas. This should be linked to the broader discussion on land redistribution which has since gathered momentum It should also be linked to agricultural value chains & the decisive role that rural transportation plays in this space

While policy shifts are discernible from Table 2, some policy elements have been carried through from the 2007 to the 2018 RTS edition with varied emphasis. This continuity is indeed a strength, as implementation can build on past experience. In the same vein, IRMA and the transportation and logistics brokering concepts constitute locked-up gains because, although they constituted sound implementation platforms that could transform the socio-economic circumstances of rural communities, their implementation modalities could only be described scatter-gun, not well-funded and not well-resourced and the results were thus largely inadequate. To this, the 2018 RTS version has included the concept of IPTN – which demands an inordinate amount of resources both financial and planning, which local authorities nor indeed national government do not have in abundance. Urban areas have been finding it difficult to secure adequate funding to either start or complete the IRPTNs they had already started because of severe funding cutbacks from the South African Treasury. Not surprisingly, while some feasibility studies have been undertaken, IPTN

projects are yet to be implemented in rural areas. The following critical questions can be asked which can assist in anchoring this rural transportation intervention:

- Is the rural IPTN intervention option as currently configured (urban-oriented except for differences in scale, size and interventions) the best value for money or should we still be looking for other derivations?
- Given that public transport budgets in urban and rural areas has over the years been declining, what assurance do we have that these budgets will be increased to fund rural IPTNs?
- Is it not perhaps more pragmatic to focus on improving existing forms of public transport as typified by Mthatha in which taxis are organised to deliver a functionally appropriate transport service rather than replace this with a new and perceived better public transport system in the form of an IPTN?
- Is the IPTN viable in areas without economic opportunities or even the required demand thresholds?
- Is there no merit in looking at options for the incremental introduction of IPTN if that is the only option available? and
- What criteria will be used in identifying qualifying rural areas or municipalities for the implementation of the IPTN and what are the public transport demand thresholds justifying the implementation of such projects in rural areas?

Generating an implementation framework that responds to many of these issues is indeed one way of steering the 2018 RTS to achieve its intended goals, outputs and outcomes within the ambit of the theory of change.

4.2. Missed Opportunities and Recommendations

Table 3 presents a raft of interventions options representing missed opportunities that could have found a home in the 2018 edition of the RTS. It is important to note here that these missed opportunities also constitute recommendations for widening the dragnet for its impact as well as facilitating its operationalization. It is also crucial to underline the fact that the 2018 RTS should be accompanied by an implementation guideline to assist local authorities with implementation. Such a guideline should seek to include, as indicated elsewhere, a theory of change to prepare municipalities and their communities for change, a scaling up framework as well as taking advantage and making full use of existing integration mechanisms such as the Inter-Governmental Relations Forums (IGR) to ensure that other organs of state internalize and even fund the RTS intervention options.

Table 3: Rural transportation infrastructure and services intervention options missed opportunities

INTERVENTION	DESCRIPTION	MISSED OPPORTUNITIES
Addressing emergent challenge on enabling people to maintain their independence for longer through a wide choice of safe & easily accessible transport modes & services		
Minibuses	<ul style="list-style-type: none"> Vehicles with ramps/tail lift to provide transport for the elderly, frail & persons with disabilities who cannot easily climb steps. 	<ul style="list-style-type: none"> Explore such opportunities for rural South Africa.
LDVs		<ul style="list-style-type: none"> Proactively take the demonstration projects that were abandoned some years back forward & explore legislative & Vehicle design changes especially for deep rural areas
Rural travel-link Innovations	<ul style="list-style-type: none"> Expansion of the established service which assists patients needing advice about transport to health appointments, & to assess those requesting an ambulance. 	<ul style="list-style-type: none"> This would take forward the “logistics & transportation brokering” intervention option that appears in both the RTS iterations. It would unlock the locked-up opportunity that never took off.
Dial-a-Ride (Uber-type)	<ul style="list-style-type: none"> Expansion of the number of vehicles providing bookable accessible door to door transport to local services & facilities. 	
Accessible footpaths & routes	<ul style="list-style-type: none"> Measures to improve & enhance the accessibility of footpaths & pedestrian routes. 	<ul style="list-style-type: none"> Dropped kerbs, Raised crossings, Tactile paving, Widened footways especially in rural areas in addition to well-formed paths, low level & foot bridges. The momentum that was created has waned & needs to be revived with the new strategy. These could associated with a network of tourism hiking & biking trails linking socio-economic opportunities
Appropriate road, street & hiking trail furniture	<ul style="list-style-type: none"> Removing inappropriate street clutter along pavements to allow free flow including for wheelchair-bound users. Likewise, some furniture such as seating can aid easy pedestrian journeys & could be enhanced where appropriate. In deep rural areas, such benches could be located at scenic & vantage points where visitors & locals can relax as they enjoy the vistas. 	<ul style="list-style-type: none"> Setting up guidance on rural roads & streets for rural municipalities in South Africa
Road maintenance	<ul style="list-style-type: none"> Improve surfacing on routes that provide important links in the rural road network, that are currently in poor condition & where improvement would bring significant public benefit, using materials which would fare well in extreme weather conditions such as periods of coldness & high rainfall which can lead to flooding. 	<ul style="list-style-type: none"> Development of rural road infrastructure master plan
Road safety seminars for older adults & children	<ul style="list-style-type: none"> Offering advice through seminars & other means to older adults & children on ways to use the network in the safest way. While school children have been targeted, this has been sporadic – it needs to be an integral part of the curriculum 	<ul style="list-style-type: none"> Rural transport educational safety campaigns for older adults & vulnerable groups in rural areas. Increase efforts to cover other groups as well
Facilitate education & economic participation amongst the young & working-age population in rural areas through a range of services & easy, safe & sustainable access to services in nearby areas		
Walking & cycling routes & facilities	<ul style="list-style-type: none"> Identify potential pedestrian & cycle routes & facilities especially to & from other transport nodes such bus interchanges/stops & train stations & nearby towns & nodes. 	<ul style="list-style-type: none"> National walking & cycling or Bike Master Plan
Safer routes to schools	<ul style="list-style-type: none"> Identify & develop pedestrian routes for children to travel to & from schools & recreational activities with better personal & road safety in mind. 	<ul style="list-style-type: none"> Safer routes to schools program, walking buses especially in rural towns, intensifying
Cyclist safety training	<ul style="list-style-type: none"> As identified in the Road Safety Strategy & the Cycling Strategy, promote cycle training, especially amongst school-age children 	<ul style="list-style-type: none"> Build capacity through the Shova Kalula Partnership Bicycle Program
Reduce the overall need to travel & provide viable alternatives to the car in rural areas		
Walking routes	<ul style="list-style-type: none"> Identify & promote networks of pedestrian priority routes within rural areas 	<ul style="list-style-type: none"> Developing guideline documents for local authorities
Pedestrian safety measures	<ul style="list-style-type: none"> Implement measures to increase road & personal safety, ensuring that the routes are direct & match desire lines 	<ul style="list-style-type: none"> Developing guideline documents for local authorities
Enhance sustainable access to local urban nodes, small-medium sized rural towns & areas	<ul style="list-style-type: none"> Provide footways & cycle ways between neighbouring settlements to link rural & urban areas 	<ul style="list-style-type: none"> Develop walking & cycling interventions for local authorities

INTERVENTION	DESCRIPTION	MISSED OPPORTUNITIES
Cycle parking & infrastructure	• Provide secure cycle parking spaces at schools, work places, shops & recreational points in rural areas. Provide clear signing for cyclists.	• Developing guideline documents for local authorities
Passenger transport joint-working partnerships	• Working in partnership with local operators & encouraging partnerships between the operators to improve quality, frequency & reliability of passenger transport in rural areas	• Quality network partnership for rural passenger transport in local authorities
Passenger transport infrastructure maintenance & development	• Continuous improvement of the quality & accessibility of existing infrastructure (bus stops, hubs, interchanges & stations) to make the travelling experience more pleasant for existing passengers in order to encourage potential growth.	• Rural transportation infrastructure master plan
Access to train stations	• Develop a range of safe circular walking & cycling routes directly accessible from train stations to rural areas within reasonable walking & cycling distance.	• Rural Rail Station Travel Plans
Technology improvements (Internet)	• Assist in supporting Government aims to increase broadband strength, particularly in rural areas, making remote working & internet shopping etc. more feasible.	• Rural Fibre Broadband Strategy
Speed reduction	• Through the Speed Management Strategy address issues (if any) of speeding in rural wards & select the appropriate measures to mitigate them.	• Interventions as set out in the Municipal Speed Compliance Strategy
Maintain rural areas as attractive places to live, work & visit		
Street cleanliness & appearance	• Work in partnership with communities & provincial/district/municipal councils to enhance area appearance.	• Cleanest Rural Areas Award
Promote rural municipalities to businesses, tourists & other countryside users	• Through a range of marketing measures, promote rural areas to perspective businesses (through identifying benefits from locating within, & visiting rural municipalities)	• Promotional rural tourism & investment campaigns
Use publicity & travel planning to inform people living & working in the rural wards of the opportunities available to them with regards to transport choice & the benefits associated with their use		
Travel plans	• Promote walking amongst stakeholders, business, schools & commuters through Travel Plans & Station Travel Plans	• Interventions as set out in Municipal's Sustainable Modes of Travel Strategy
Events	• Promote projects & events with walking & cycling elements, such as personalised travel plans, safer routes to school, walking school buses & walk to work days	• National Walking, Bike & Public Transport to Work Week.
Targeted interventions	• Where appropriate, target interventions to encourage walking, cycling & the use of public transport within particular rural areas	• Personalised journey planning
Promote use of public places	• Promote routes through leaflets & information boards at railway stations in municipalities & on lines serving the county & at other places of interest within rural areas.	

5. CONCLUSION

The 2018 RTS is a strategic document designed to integrate and inform all transport and land use related decision-making in rural South Africa with a view to ensuring that rural transport investments support the socio-economic agenda of the country. It is also intended to guide district-wide and local integrated transportation planning with a view, amongst others, to responding to and turning around the low incomes and poverty, weak tax bases and deficient institutional structures that characterize rural areas, which often lead to poor quality infrastructure and services provision, lack of new investment and massive maintenance backlogs. The RTS seeks to achieve this within a broadly defined integrated development framework that takes cognizance of the complex intertwining relationship between the rural transport sector on the one hand, and communities, the economy, the built and natural environments, on the other. The need, therefore, to marshal a broad consensus across government, the private sector and rural communities the 2018 RTS vision and intervention options needs to be the cornerstone of a robust implementation agenda to ensure that the RTS intervention options not only find traction across all rural development partners, but are also indeed implemented. In this regard, the paper has enumerated some of the missed opportunities and locked-up gains that could indeed be exploited by the 2018 RTS version to ensure widespread impact and that no one is left behind.

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ⁱ This approach works well where there is a funding mechanism for rural roads e.g. India, but is unsuitable in countries where rural transport funding is ad-hoc and scarce.

ⁱⁱ This approach is applicable in a densely populated rural areas where all year access is in place and traffic levels are moderate to high, but would be difficult to apply in sparsely populated rural areas where basic vehicle access is the main problem.

ⁱⁱⁱ Significant studies have been carried out in China (Fan & Chan-Kang, 2004) Vietnam (Fan, Huong & Long), India (Fan, Hazell & Thorat, 1999), Uganda (Fan, Zhang & Rao, 2004), Tanzania (Fan, Nyange & Rao, 2005), Thailand (Fan, Jitsuchon & Methakunnavut, 2004).