

UTILIZING TRANSPORT TO REVITALIZE RURAL TOWNS: THE CASE OF MTHATHA

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ABSTRACT

Mthatha, located in King Sabata Dalindyebo Municipality (KSD) is a rapidly growing rural town. Its sphere of influence is geographically much wider than the administrative boundaries of KSD. Mthatha is thus a regional rural town servicing a hinterland characterised by significant structural problems that tend to impede rural communities from fully accessing services, resources, markets and information. In order for the regional rural development agenda to take root, the paper argues that KSD needs to carve out a pragmatic and proactive leading role for Mthatha in support of shared growth for KSD and the region. It further contends that KSD needs to nurture and accentuate the role of Mthatha as a regional centre offering not only higher order services, but also significant employment opportunities to a potential growth region underpinned by appropriate investment packages. Transportation necessarily plays a decisive role in this vanguard role for town.

However, from a transportation perspective, the paper observes that poor planning for this growth has led to failure symptoms such as severe road traffic congestion, conflicting vehicle-pedestrian movements, increased number of uncoordinated small-scale freight vehicles and severe parking shortages. Productivity in Mthatha is thus negatively impacted by this ever-present congestion, exacerbated by road infrastructure conditions (it has been determined that 90% of Mthatha's surfaced road network has deteriorated beyond pothole repair requirements especially in the central business district [CBD]). Thus circulation (and by extension doing business) within the CBD is decidedly cumbersome, while movement through town is interminable – generating a relatively significant carbon footprint for a town of its size. Using primary data collected in KSD between 2011 and 2012, this paper enumerates and assesses the transportation challenges impeding productivity in Mthatha with a view to determining the gaps in the current approach in terms of type and intensity of intervention options as a departure point for crafting a much more robust implementation framework. This framework will be underpinned by a transport model for the Mthatha (CBD). With a few modifications, the proposed model could be customized for other small towns in South Africa.

Key Words: *Sustainable rural and urban development, productivity, congestion, low-cost mobility, access, poverty eradication, job creation, Mthatha CBD.*

1. BACKGROUND

1.1 Regional Rural Development

While rural development and poverty alleviation rank high among Government outcomes targets and medium term spending priorities, implementation has tended to be localised, and by extension, the impact has also been largely limited. However, to widen the impact of rural development efforts, there is a need to invoke a regional approach, particularly given the low levels of human capacity development and natural resource productivity (Mashiri et al, 2013). Unlike localised interventions, regional approaches take into account the broader context of market, service and ecological systems, thus strengthening traction, anchorage and synergy of development endeavours (ibid). Regional rural development is thus aptly considered a people-centric development response to widespread rural poverty.

Because people are the locus of attention, its departure point revolves around understanding and aligning interventions with current rural activity patterns, service provision packages and survival strategies, i.e. building on and strengthening what communities already know to ensure sustainability (Mashiri et al, 2013). Naturally, agriculture (inclusive of forestry) and tourism are often identified as pillars undergirding a regional rural development agenda not only because the intellectual capital of rural dwellers is heavily invested in them, but also because of the sectors' known labour absorptive capacity (ibid). While agriculture production and productivity have visibly declined in recent years in the King Sabata Dalindyebo (KSD) municipality to the extent where most of the food consumed in the region is imported from outside its boundaries (e.g. 85% of pork, 69% of dairy products, 73% of chicken, 75% of beef are imports and only 5% of vegetables are procured locally) (Ncube, Ngwenya & Ncube, 2009), it must be realised that agriculture (especially maize production and animal husbandry) was indeed the mainstay of a self-sufficient region natural blessed with relatively good soils and a favourable climate. Demonstration projects by ASGISA-EC have confirmed the potential that exists (Mashiri, Nhemachena & Chakwizira, 2009).

Thus a developmental local authority such as KSD in association with other spheres of government and development partners would be expected to put in place measures to encourage agricultural production and productivity, access to markets and sector institutional reform.

1.2 Revitalization of Rural Towns

Revitalization of rural towns refers to processes that seek to reverse the decline of rural towns on the back of a more resilient, sustainable and diversified local economy. Such an approach enhances the quality of life of the affected inhabitants by way of building the community's capacity to adapt, and benefit from global economic changes. Revitalization thus focuses on the stimulation of opportunities that will generate additional income and jobs, while preserving and enhancing the dynamics and features that makes life in rural town unique (Black and Kenyon, 2000). As indicated in respect of the concept of regional rural development above, the centerpiece of revitalization needs to be people. Necessarily successful revitalization is predicated upon the ability and capacity of affected communities to design and strive for a common vision for the future. For Lowe et al (1995), this consists of the networks, organization, attitudes, financial capacity, leadership and management skills that allow communities to manage change and sustain community-led development

1.3 Aim of the Paper

Using primary data collected in KSD between 2011 and 2012, the aim of the paper is to enumerate and assesses some of the transportation challenges impeding productivity in Mthatha with a view to determining the gaps in the current approach in terms of type and intensity of intervention options as a departure point for crafting a much more robust implementation framework. This framework will be underpinned by a transport model for the Mthatha central business district (CBD). With a few modifications, the proposed model could be customized for other small towns in South Africa.

2. STUDY METHODOLOGY

While this paper uses a mixed method approach to assess Mthatha's development challenges with specific reference to transportation issues, it draws heavily from primary data collected in KSD between 2011 and 2012 in support of the development of an integrated transport plan for the King Sabata Dalindyebo Local Municipality (KSD). In this regard, a three-pronged approach was employed to collect data, namely, literature review; field consultations, internal review, analysis and



synthesis and feedback workshops. The fieldwork involved household surveys (with a sample size of 2000 households – selected to broadly represent diversity in KSD and to capture rural and urban dimensions by carving out KSD into rural typologies), Mthatha CBD counts (21 intersections), roadside counts focusing on freight (18 points), in-vehicle survey on major public transport routes and spatial profiling the municipality (refer to Figure 1: Types of data collected). In-depth discussions with a selection of stakeholders were undertaken between April and November 2011. Rapid rural appraisal methods were also employed to collect other KSD socio-economic

data. Finally, findings were analysed

3. UTILIZING TRANSPORT TO REVITALIZE MTHATHA

3.1 Radiating Possibilities: Prospects for a Future City Region

Mthatha is a 'regular' rural town located in KSD in the OR Tambo District Municipality (ORTDM) – a district nationally designated as a poverty node requiring drastic development interventions to change its fortunes. Its sphere of influence is geographically much wider than the administrative boundaries of the district. Mthatha is thus a regional rural town servicing a poverty-stricken hinterland (characterised by a deficient socio-economic and institutional system that impedes the rural poor from accessing services, resources, markets and information).

It is our contention that for the regional rural development agenda to take root, Mthatha must cast the 'regular town' label and carve out a pragmatic and proactive leading role in support of shared growth for KSD and the region.

Secondly, Mthatha needs to reinvent itself by assuming bold steps to initiate projects not only with a much longer term horizon, but also catalytic in terms of their impact on the socio-economic development trajectory of Mthatha and KSD in general, taking into consideration prospects for the region by, for example, crafting and infusing new urbanism approaches which locate cities at the centre of supporting regeneration of whole regions. In the transportation environment, there are at least five such catalytic solution concepts, each of which are described in detail below:

- Investment in Transportation Infrastructure
- Mthatha CBD Transportation Intervention
- Establishment of a Freight Village / Transshipment Hub
- Public Transport Improvements,
- Aerotropolis: Mthatha Airport Precinct Development.

3.2 Rationale for a Transshipment Hub in Mthatha

3.2.1 Nature of a Transshipment Hub

In a classical sense, a transshipment hub is an inland intermodal terminal directly connected by road or rail to a seaport and operating as a centre for the transshipment of sea cargo to inland destinations. For Leitner & Harrison (2001), such a hub is where shipment of goods or containers to an intermediate destination is undertaken, and then from there to yet another destination. This is often done to optimize freightage by utilizing the most appropriate means of transport (e.g. from road to rail transport), also known as trans-loading. In addition, such inland ports could also include facilities for storage and consolidation of goods, maintenance for road or rail cargo carriers and customs clearance services – reducing, for instance, requirements for storage space at the seaport. A freight village in Mthatha would lean more towards storage and consolidation at the beginning.

3.2.2 Mthatha Freight Village Benefits

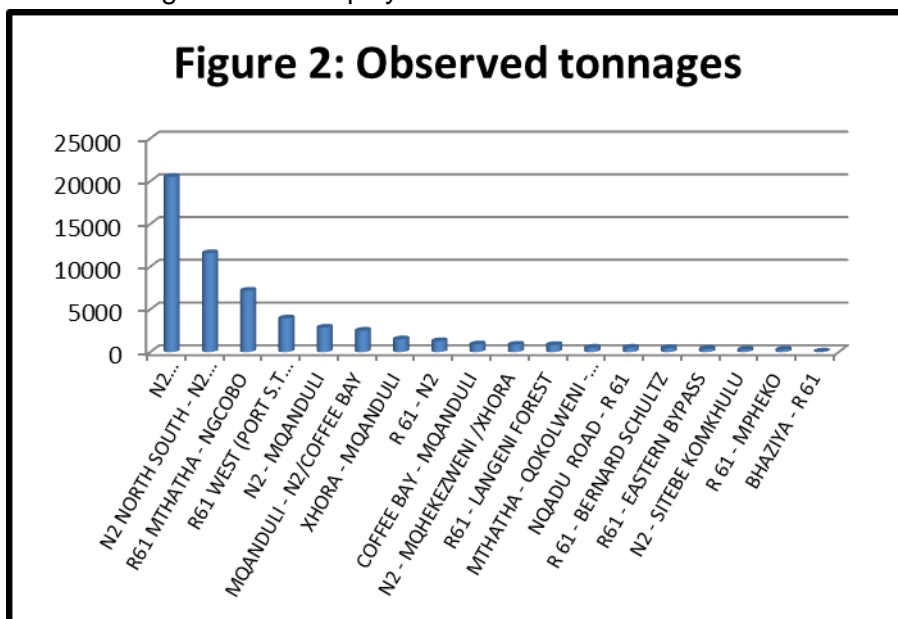
In the main, the establishment of freight village could entail the following benefits:

- Increased opportunities for shared growth and job opportunities.
- Interfacing and integrating with the provincial economy by linking the port of East London with an expanded hinterland
- Cost-effective use of and investing in the Kei Rail to harvest economies of scale
- Gain market share for the Kei Rail and render it viable
- Road operators spend less time on congested roads and reduce dead millage
- Lower environmental impacts, and
- Stimulating investment in other development projects e.g. Umzimvubu Basin (a dam is currently under construction).

3.2.3 Empirical evidence to the establishment of a freight village

Observed freight vehicles: An interesting observation relating to observed freight vehicles per survey point that supports the freight proposal is that the greater majority of the truck traffic is not destined for Mthatha but passing through to the coastal nodes of Buffalo City and Nelson Mandela Bay (Mashiri et al, 2013). Besides the spectre of crashes, heavy vehicles are responsible for 46% of the total external costs imposed on society: 75% of air pollution, 13% of global warming trends, 71% of noise, 14% of congestion and 13% of energy security (Daniels, 2011). Thus this traffic could ideally be transferred onto rail at the Mthatha railhead. It is also of interest to observe that breakbulk, which is suited to rail, constitutes a significant portion of the cargo. This would have the effect of reducing congestion on the N2, reduce the infrastructure maintenance bill considerably as cargo is transferred to rail and ultimately reduce the transportation sector’s carbon footprint in the region.

Observed tonnages: The figures reflected in the Figure 2 below are estimated tonnages per survey point based on the truck axle configuration. Again, intuitively, the N2 north and south and the R61 east and west are much more heavily laden in terms of tonnages ferried than other routes (the effect is much more apparent when these tonnages are annualised, e.g. R61 Mthatha – Ngcobo: 10 908 observed tonnages are annualised to 2 457 900). A freight demand study conducted as part of an assessment of freight movements on the KDC estimated freight tonnage of 7.5 million per annum on KDC. By way of a diversion model based on international and local work, the study estimated a potential road-to-rail diversion of between 250,000 and 400,000 tons per annum in the short to medium term (ECDOT, 2008). While the N2 may be wholly or in part be associated with trans-loading to rail with the destination being the coastal nodes, the east-west corridor suggests the strong distributional properties of Mthatha. Mthatha, centrally located as it is, could handle and be the staging post for a distribution network in the region of cargo that has been consolidated or that which has been broken down into smaller packages. This cargo could indeed originate from the hinterland as well. For this to be effective though, sufficient funding needs to be allocated to routine maintenance, upgrading and rehabilitation of transportation infrastructure. Such a road infrastructure development vision could employ public works approaches to reduce poverty and ensure growth-with-equity.



Observed commodity groups: The high number of empty trucks (the majority of which had either flat decks or dropside trailers) observed in the field (26%) is an opportunity for the establishment of a freight village as dead millage is reduced by dropping and picking up cargo in Mthatha. And as already indicated breakbulk (which constitutes 24%) and rock / stone / ores (21%) are commodities that are suitable for rail haulage using the Mthatha railhead – a mode with a higher capacity to move traffic than road, with a single rail track able to handle four to five times the traffic volume that a two-lane, bi-directional road can carry.

Observed vehicle categories: Seventy-eight percent of the observed freight vehicles were rigid trucks, which tends to give credence to exploring the possibility of developing Mthatha as a transshipment hub, given that rigid trucks are mainly employed for distribution to nodal points. On the other hand, articulated trucks, which were dominant on the N2, are often used for high volume, long distance transportation often servicing areas with a manufacturing base.

3.2.4 Factors supporting the establishment of a hub

A number of seemingly disparate factors inadvertently conspire to support the establishment of a freight village in Mthatha including:

- Mthatha is strategically located in the centre of a vast region endowed with as yet untapped development potential. It is located 184km from Queenstown to the west, approximately 131km from Kokstad along the busy N2 national route to the north east, 147km from Lady Frere to the north, 179km from East London to the south and 72km from Port St Johns. In addition, it is the railhead of the 282km East London-Mthatha Rail (the Kei Rail), and at the cross-roads of major national and provincial routes (N2 and R61 respectively). Thus its location can indeed be exploited relatively easily as a resource and opportunity to sponsor the concept of a freight village.
- The fact that the only major industrial wood processing facility (pulping, chipping, board manufacturing) in the Eastern Cape – the PG Bison board manufacturing plant at Ugie, is located in Mthatha's hinterland providing significant opportunities for harvesting and transport activities along with the wood processing benefits. In the same vein, the Singisi industrial wood processing cluster at Kokstad could relatively cost-effectively move some of its products to the railhead at Mthatha for onward transmission by rail to the East London Harbour for export.
- The construction of the award-winning Ugie-Langeni road which has attracted forestry sector-specific investment in the region, including investment in ancillary infrastructure such as power-lines, water and sanitation, e.g. Steinhoff's R1.3 billion investment in a chipboard factory.
- The R1.3 billion Wild Coast Meander – a road which stretches from the Kei Mouth to Port St Johns, intended to unlock the tourism potential of the Wild Coast and to stimulate agricultural development.
- The realignment of the N2 which will shorten distances to and from the industrial complexes of Ethekeini.
- The fact that the freight village would not only be located in an existing designated development corridor (the Kei Development Corridor [KDC] – the area north of East London extending to Umzimvubu), but would also be supporting an existing KDC anchor project – the Kei Rail.
- The fact that owing to biophysical characteristics (including low hydrological impacts), substantial areas of KSD's hinterland are suitable for commercial afforestation, creating an opportunity for increasing the plantation area (DAAF, 2003).

- The current upgrading of the Mthatha airport to accommodate bigger crafts thereby increasing the attractiveness of the region for investments, and
- The KSD Presidential Intervention Project which is charged with revitalising Mthatha through strengthening planning and investment in infrastructural projects.

Considering that transshipment hubs and inland markets are often touted as the untapped, overlooked opportunity markets of the future in Africa, Mthatha (KSD) needs to recognise this opportunity and invest now and certainly cash in later.

3.3 Decongesting Mthatha CBD: Planning for People

3.3.1 Sketching the contextual realities

The role of Mthatha as a regional service centre offering not only higher order services, but also significant employment opportunities to a potential growth region, must of necessity be poised and destined to grow. Currently, Mthatha at best displays no ambition to lead, and at worst, its relationship with the hinterland is predatory, for example, its dominant role has also meant that amenities are centralised – which means even for convenience goods, people prefer to travel to Mthatha. In order to play this developmental role effectively, firstly, the city needs to be productive, which could in turn, stimulate the hinterland to be equally productive to cater for the additional demand. However, productivity in Mthatha is negatively impacted by the ever-present congestion, resulting largely from through and local truck traffic as well as traffic from the hinterland, exacerbated by road infrastructure conditions and the non-existence of a parking policy (peak capacity required for CBD parking is 2285 spaces equivalent to 12km of road space) (Mashiri et al, 2013).

It has been determined that 90% of Mthatha's surfaced road network has deteriorated beyond pothole repair requirements especially in the central business district (CBD) (ibid). Circulation within the CBD is decidedly cumbersome (in part, as a result of inefficient use of public space and increased informal business activity mostly on pavements), while movement through town is interminable (in part because of conflicting vehicle-pedestrian movements and a severe parking shortage) – generating a relatively significant carbon footprint for a town of its size. Congestion is also worsened by the masses of hinterland dwellers that stream into the city every day (with the CBD having to accommodate peak capacity of 731 taxis ushering some 50 000 passengers per day) and more so at specific days of the month coinciding with paydays (Mashiri et al, 2013). Added to these numbers are the many pedestrians who also converge in the CBD.

Apart from improving the administrative capacity of authorities in Mthatha, addressing these challenges requires an improved understanding of both the rural and urban components that functionally make up Mthatha. It is our contention that in order to assist the municipality to plan more effectively, it was crucial to develop a transport model for the Mthatha CBD. The transport model will be used as a strategic tool for improving transport planning (e.g. understanding of the interaction between travel demand and supply of transport infrastructure), and particularly for efficiently directing the movement of traffic so that the generalised cost of transport are effectively reduced (note that the model was developed in a data scarce context). Through this improved understanding, intervention levers can be cost-effectively identified for improved planning of the built environment from a transport planning perspective such as infrastructure capacity management, improved public transport service design, and travel demand management. It is envisaged that this would reduce the cost of doing business and possibly ramp up productivity.

3.3.2 Model development approach

Detailed empirical data on movement networks in Mthatha were collected to allow for the understanding of daily travel patterns. This was supplemented by data collected from a large scale household survey in the area, administered in both urban and rural areas of KSD. From these datasets, a quantitative model was constructed which allowed for the dynamic modelling of the built environment and implications on transport infrastructure and operations, from which necessary proactive measures can be made, including:

- Estimation of current and future infrastructure capacity requirements
- Impact of growth or decline of surrounding rural areas
- Rationing of urban space
- Alternative urban space pricing models
- Land use change impact modelling
- Inputs into traffic management plans, and
- Impact of by-pass road network on local traffic and local economy.

The building of the Mthatha CBD model was informed by these specific key requirements:

- Develop a base model for an area that does not have a transport model
- The model must provide a functional linkage between land use and transport
- The development of the model must consider all modes of transport, and
- The model must be strategic in nature but allow for some operational decisions to be made.

Based on the above requirements, and the available budget, it was decided to build a transport model that is entirely reliant on multimodal occupancy road traffic counts. The model is spreadsheet based (Excel workbooks) and uses as inputs: road traffic counts, inferred land use, parameter estimates from other household travels surveys (e.g. household trip rates and modal split proportions from National Household Travel Survey for OR Tambo District), and the existing road network. The model is aggregate in nature and therefore uses transport zones as spatial units representing trip origins and destinations. The key questions that the model is employed to answer include:

- What are the key transport corridors within the functional areas of the Mthatha CBD?
- What volumes of travel are within the key transport corridors in the base year, and what are they likely to be in the future?
- How much capacity is required for public transport facilities in the CBD in the base and future years?
- How much capacity is required for parking in the CBD in the base and future years?
- How does land use growth (residential and non-residential) in any part of the CBD functional area affect network traffic flows?

The methodology adopted in this project can be reproduced for other areas of similar character in South Africa. This is particularly important because the “business as usual” in these small bustling towns will render many of them difficult to manage in future.

3.3.3 Findings

An Excel workbook condensed traffic count data into three peak hour intervals (AM, PM and off peak) in order to allow for the estimation of hourly vehicle counts on the street sections in the immediate surround of the intersections. The hourly vehicle flows for specific street sections is arranged in an Excel pivot table where multiple modes can be selected as well as the required peak hour. The flows are provided per lane per direction within the time period selected by the analyst. When a street section has more than one flow value from intersections surrounding it, the maximum flow is selected and attributed to the link. The maximum number of vehicles per hour (equivalent to the nominal parking capacity required in the CBD) was found to be:

- 145 Busses
- 1 469 Taxis
- 26 557 Cars

Zonal structure and Trip generation: The Mthatha CBD Transport Model estimates the flows on street sections using a trip generation model (origin-destination matrix) and assigns the flows from the matrix to the street sections by using a trip assignment algorithm. The trip generation rates, trip matrices, and trip assignment calculations and results are provided in a workbook. These estimated flows are further compared to the street flows obtained from the traffic counts to estimate the deviation between model and actual flows. Figure 3 indicates the overall zonal structure, including external zones.

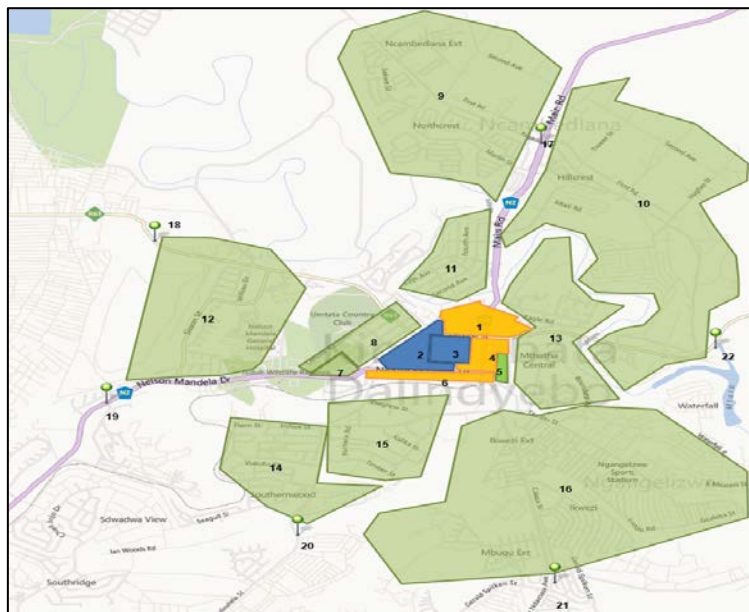
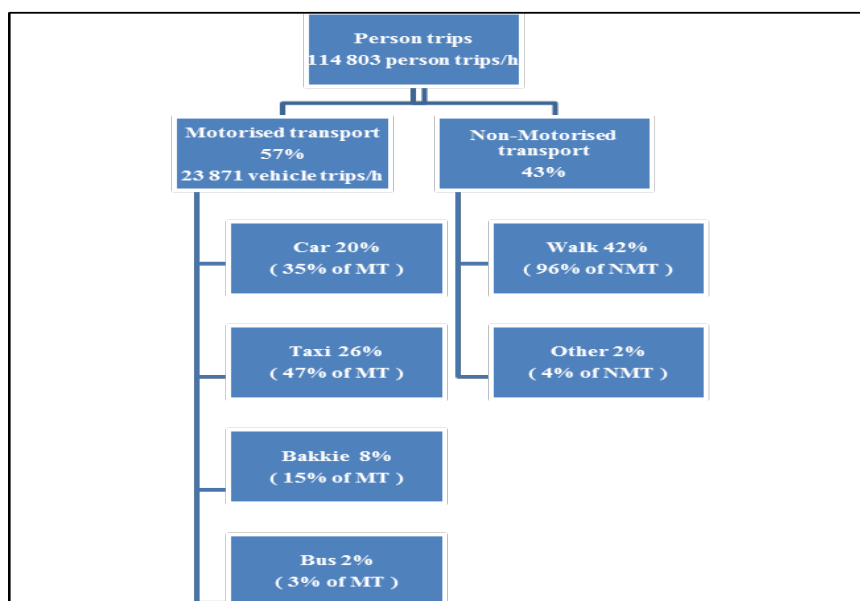


Figure 3: Overall zone categories

Trips assignment: The trip assignment model uses the vehicle flows/hour between zones (from the trip generation origin-destination matrix) and assigns these flows onto probable street sections (links) that may be used in order to travel from the one zone to the other. All the street sections in the CBD as well as some main outer street sections is numbered and shortest travel routes between zones is listed as combinations of these numbered street links. A first, second and third choice route is listed between all zones in order to approximate route choice behaviour. This is done in the Trip Assignment Matrix sheet. The percentage flow between these choice routes is (refer to Figure 4):

- 60% for first choice route
- 30% for second choice route, and
- 10% for third choice route.



Application in other limited resource small towns: The methodology used to develop the Mthatha CBD transport model is adaptable to other small town in South Africa. It has been shown using this approach that even with limited resources, a relatively good planning tool can be produced. The specific requirements for applying this model to other areas would be:

- Traffic counts at location-specific areas (in order to obtain new Street Flows and Cordon Flows data)
- Land uses of CBD and surroundings
- Trip characteristics for that area (those inputs used in Trip Generation sheet)
- Zone areas and distances between zones
- New route choices need to be selected (in terms of street sections) in new CBD

However, the following structural changes will have to be made to the model for transferability:

- Tables and matrixes will be updated depending on the new number of zones
- Flow direction matrix will be updated according to the spatial layout of the CBD and its streets
- In order to update the model for improved accuracy and increased versatility the following actions would be required:
- Updated traffic counts, including new counting stations as required

- Land use surveys
- Sample household travel surveys, and
- Calibration of route choice sub-model using GPS enabled loggers.

3.4 Investment in Infrastructure in Mthatha

3.4.1 Rational for Intervention

Through a combination of factors including, capacity constraints (both human and financial), political gamesmanship and, for a long time, the lack of a visionary leadership, Mthatha's physical infrastructure (roads, sewer, water and electricity reticulation) has been left to dilapidate, decay and eventually crumble to a point where, in some cases, it cannot be rehabilitated any longer. This has manifested in the visible deterioration of livelihoods, as new investment withered and some existing businesses moved to other towns – resulting in many households living under the breadline. Not surprisingly, Mthatha was declared a Presidential Intervention Program in 2009 to deal with this infrastructure delivery backlog in a focused way (refer to Table 1 which enumerates the infrastructure intervention focus areas and the rationale for prioritizing these socio-economic sectors [Safiri, 2012]).

Table 1: Rationale for Intervention

Airport	Roads	Housing
Lack of leadership in the development of the airport Inadequate Airport infrastructure, Short & narrow runway, Small apron, Old & dilapidated terminal building. Limited number of flights into & out of Mthatha Airport One airline which services one route i.e. OR Tambo International Airport	90% of Mthatha surfaced road network has deteriorated beyond pothole repair requirements. Pavement conditions vary from fair to very poor in the CBD Pavement maintenance is very seldom with potholes being very common Roads do not cater for the large number of pedestrians Gridlock-type congestion in the CBD	Huge backlogs, resulting in massive growth in informal settlements Development in KSD land claim issues that may result in further delays (Zimbane) Bulk infrastructure dilapidated for the current situation – not catering for growth & further developments
Water	Sanitation	Electricity
Raw Water Pipe Line in Disrepair Water wasted due to leaks No water supply when pipe line is repaired. Danger to life should the 600mm line burst Water Purification Works Under capacitated to accept volumes required for any new development. Needs to be upgraded from 60ML to 80ML.	Untreated sewer effluent which drains into the river and in some cases connected to the storm water drainage system Old sewer infrastructure Non-functional pump stations Sewer spillages High demand vs. plant capacity	Three sub stations running at 20-30% overload High voltage distribution lines dilapidated & regularly collapse in storms Regular electrical outages causing frustration with businesses & residents alike. Electrification backlog.

3.4.2 Mthatha Infrastructure Investment Principles

Mthatha could employ the following infrastructure investment principles to ensure maximum impact (adapted from CSIR, 2011):

- **Build on existing initiatives:** optimize the collective impact of infrastructure investments made by various institutions in KSD e.g. KSD PIP. This requires that information pertaining to these major initiatives be consolidated and well documented, be frequently updated, and be well-communicated and be freely available to stakeholders for maximum impact.
- **Prioritize public transport over private automobiles** by investing heavily in infrastructure used by public transport and NMT modes to improve levels of service.
- **Balance economic growth and social upliftment given conditions of constrained funding:** e.g. to improve access to major freight generators and attractors, maintain roads damaged by overloading and improve law enforcement
- **Build a heritage: Promoting investment in image-building assets for KSD:** Provide infrastructure that contributes to building a positive psychological image of KSD to enhance the identity and self-esteem of KSD communities and improve investor confidence (e.g. Mthatha Airport and Mthatha bridge)
 - KSD needs to view any upgrading or construction project as an opportunity to creatively develop dignified spaces that are functional, attractive and vibrant – creating a sense of place and civic pride
- **Transport Asset Preservation:** Allocate sufficient funding towards maintenance and preservation of existing assets as part of a broader infrastructure life-cycle approach, particularly because once severely neglected (as has been the case in the Mthatha CBD), the refurbishment costs increase exponentially
 - Balance investment in new infrastructure versus maintenance and refurbishment of existing infrastructure remembering that maintenance can also be a major contributor to sustainable job creation given its repetitive nature.

The planning, provision, maintenance and management of basic, social and economic infrastructure in Mthatha is intended to serve as a catalyst for economic growth, employment creation and poverty alleviation. This requires the establishment of an infrastructure maintenance industry. In addition, Mthatha needs to inspire the provision of image-building infrastructure such as Mthatha Airport (currently being constructed) and the recently completed Mthatha bridge to begin to painstakingly build a positive image of KSD with a view to instilling a sense of pride and place for KSD inhabitants, as well as strengthening investor confidence, which often attracts increased private sector investment (Mashiri et al, 2014). It is important to note here that although infrastructure investment in Mthatha is crucial, other services need to be provided synergistically with infrastructure to achieve a real and sustained difference in people's lives.

3.5 Mthatha Airport Precinct Development

3.5.1 Rationale for Intervention

As indicated elsewhere, Mthatha is a regional node servicing the tourism product-rich Wild Coast (albeit not fully exploited) in the most populous eastern half of the Province of the Eastern Cape. It is a stage post for launching tourism excursions into the Wild Coast. However, over the years, the absence of adequate facilities at Mthatha Airport both on the airside and at the landside has severely restricted the services it can offer at immense cost to the region in terms of socio-economic opportunities lost. Often visitors have to use either the East London or Durban airports to

access, for example, business and leisure appointments loading punitive costs – largely because, there is only one airline that does business with the airport at a premium. Sectors that have suffered considerably, for example, include the tourism sector, social sectors such as the academic hospital and the Walter Sisulu University, and the business sector at large. This has had the effect of reducing productivity significantly. A developed airport in the area would be a catalyst for development of the entire region and unleash its economic potential.

Because aviation forms part of the distribution channel of a variety of economic activities (e.g. tourism, agriculture), the Mthatha airport strategy should consider the entire distribution channel, and not merely the aviation component itself (ECSECC, 2014). It is the destination (in this case Mthatha and the surrounding region) and economy of that destination, not the airport, that creates demand for air passengers and freight (ibid). Therefore it is imperative to understand the environment within which aviation and airlift exists

Various initiatives have now delivered, on the airside, a much longer runway (2.5km) and taxing facilities which will accommodate larger aircraft than was possible before. This will enable other airlines to fly the route and hopefully the resulting competitive environment will force the currently exorbitant ticket prices down – ushering in more frequent flights to many destinations, including Nelson Mandela Bay via Bhisho, Cape Town and Durban. It will be important to ensure that existing routes and service providers are strengthened and supported and that additional services on existing routes need to be in addition to existing operations and not in place of such services, i.e. promoting healthy competition as a mechanism for moderating prices. Improving connectivity with the country's business hubs in this way is likely to attract investment and contribute to local business development. Once the airport building is completed, it will provide a pleasant environment for visitors to arrive and depart from, thereby delivering a psychological coup for prospective investors to begin to view Mthatha and the region as a bankable investment destination. Significant investment needs to be made into the commercialisation and growth of the primary and secondary economic sectors in order to generate air passenger demand, i.e. as the economy grows, more people are likely to need to visit the area or do business elsewhere linked to their particular supply chain (ECSECC, 2014). Efforts need to be targeted at growth sectors such as forestry and tourism. Agriculture is likely to be stimulated with infrastructure such as the Umzimvubu Dam which is currently under construction.

KSD thus, firstly, needs to visualize Mthatha Airport, including the Mthatha Dam area, as a potential growth precinct with a view to developing a precinct plan to direct priority investments (that could include human settlements, shopping and conferencing facilities). Secondly, KSD needs to conceptualize the Mthatha Airport and the Dam precinct as an “*aerotropolis*” serving the region, and market it as such to attract significant investment, especially given the tourism, agricultural and agro-business potential of KSD and the region as a whole.

3.5.2 Exploitable opportunities

Based on the review of the current status of Mthatha Airport, it is evident that (ECSECC, 2014):

- The aviation infrastructure completed or committed exceeds current and near term anticipated requirements in terms of aircraft types and peak hour passenger flows. The airport is thus in an advantageous position to aggressively adopt well-considered stimulatory initiatives designed to mobilise its catalytic potential.
- The airport enjoys a favourable position in relation to demand for regular passenger services (scheduled and unscheduled) to Mthatha. Opportunities exist to compete with East London in particular, and to aggressively market a wider range of feeder and regional

connector services, given the relatively long ground based connection times to competitive airports.

- There are opportunities to learn from peer group airports in KZN and elsewhere such as Pietermaritzburg, Margate and Richards Bay on the opportunities of right-pricing and the judicious use of subsidies and indirect incentives and also of the risks of not recognising real threats.
- The operational and management structures required to maintain and preserve the airport's capability in terms of aircraft types, air traffic control, fire and rescue services and the whole range of ramp handling, security and support facilities, are relatively complex and expensive in relation to current passenger volumes. Whilst this may mitigate against generating operational surpluses in the short to medium term, maintaining such capability at a reasonable level may position the airport to take advantage of growth and diversification opportunities that present themselves.
- There may be opportunities to integrate the development of the large 'greenfields' precinct surrounding the airport into a coordinated spatial concept of an airport city, thus mobilising the catalytic effect in socio-economic terms of the aviation infrastructure and systems already in place to facilitate private sector investment.

3.5.3 Crafting a vision for the Mthatha Airport Precinct

The vision for the airport will be reached if three elements are in place (ECSECC, 2014):

- **Visitor economy:** The airport needs to facilitate improved visitor levels to the region (from both existing and new arrivals) and these should preferably be on a return flight basis (refer to Table 2)
- **Economic growth:** Economic sustainability is a key tenet of the airport's existence and should extend economic benefits to the broader region beyond Mthatha; and
- **Airport precinct:** Infrastructure development around the airport should act as a catalyst for economic development in the region.

Table 2: Potential routes and how to stimulate these are shown

Route	How stimulate	Expected outcome
Maintenance & strengthening of existing scheduled domestic routes: Johannesburg-Mthatha	Use of incentives such as full or partial waiver of landing and passenger service charges	Increase in capacity of existing frequencies i.e. seats by flying larger planes and increase in load factors of existing frequencies
Expansion of existing scheduled domestic routes: Johannesburg-Mthatha	Use of incentives as above: By introducing airline competition to the market place	Increase in number of frequencies on the existing route i.e. increased flights
Development of new domestic & intra-provincial routes: <ul style="list-style-type: none"> • Cape Town-Mthatha • Durban-Mthatha • East London-Mthatha 	Use of incentives: Introducing airline competition to the market place Demand-side initiatives such as tourism product development, amending public sector policies on business travel etc.	New routes & operators resulting in new frequencies and capacity

Ad hoc charter services	Events, especially large events (tie to Province's event strategy) <ul style="list-style-type: none"> • Sporting events • Tourism package development • Possible incentives for leisure charters 	New routes, operators & frequencies
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Source: ECSECC (2014)

3.5.4 **Economic Impact of the Airport**

In a low road scenario, the airport is expected to contribute R1.4 billion to the GDP of the province over the first 5 years and R857 million to the catchment area GDP in the same period (ECSECC, 2014). Direct and indirect jobs created as a result of the airport would be in construction and transport, storage and communication sectors. It is projected that the airport will result in the sustainment of 3 308 jobs in the Eastern Cape in the first 5 years in the low road scenario. The number of jobs that will be sustained in the first 5 years in the catchment area in the low road scenario is 2 873. The importance of this intervention cannot be over-emphasized.

3.6 Investment in Public Transport

3.6.1 **Public transport in KSD: Anatomy of a dysfunctional service**

The baseline study clearly indicated that rural transport services in KSD including Mthatha are largely provided by the private sector. However, the market for these services does not operate effectively largely because of inadequate transport infrastructure, affordability considerations, market manipulations and distortions through cartel-like practices, poor information flows between transport operators and users, and the lack of effective demand (Mashiri et al, 2013). In addition, services are often provided along the relatively lucrative main corridors by way of poorly maintained, largely old, and often unsafe vehicles, some of which are retired from the urban areas (ibid). Given the poverty conditions in the municipality, the socio-economic role that public transport could play has not been fully realized. Clearly, the inadvertent policy of totally surrendering the provision of rural transport services to the private sector appears to work only partially. KSD needs to re-examine this policy with a view to generating intervention options that widen the public transport service dragnet.

Many of the public transport deficiencies in Mthatha and KSD in general are a microcosm of public transportation challenges in local governments across the country, which speak to much deeper structural problems including:

- ***Absence of a compelling vision:*** KSD has no vision and action plan for public transport
- ***Strategic disconnect between development and public transport:*** Majority of households in KSD cannot afford and have no access to cars and are thus fully reliant on public transport
- ***Public transport is delivered in terms of fragmented projects as opposed to a consolidated programme of action***
- ***Inappropriate or inadequate public transport management systems:*** e.g. operating licences backlogs result in increased number of illegal public transport operators

Customer-based objectives: The KSD public transport system needs to reinvent itself and commit to taking on board, customer-based objectives (and perhaps even codifying them into a charter – a compact with users), such as:

- Reducing waiting and travel times and increasing convenience
- Ensuring that services address a cross-section of user needs, including those of commuters, pensioners, entrepreneurs, the elderly, learners, persons with disabilities (PWD), tourists and long distance passengers.
- Improving accessibility and mobility, limiting walking distances to less than about one kilometre in Mthatha, Mqanduli and the Coffee Bay-Hole-in-the-Wall complex and three kilometres in rural areas.
- Working with other entities to ensure an affordable and convenient service with commuters spending less than about ten percent of their disposable income on transport, and
- Providing a safe, secure, reliable and sustainable service that cares for vulnerable users such as PWD, the elderly, pregnant women and children.

3.6.2 Towards the development of a sustainable public transport system

In order to improve public transport, a set of five intertwined interventions are proposed (Mashiri et al, 2013):

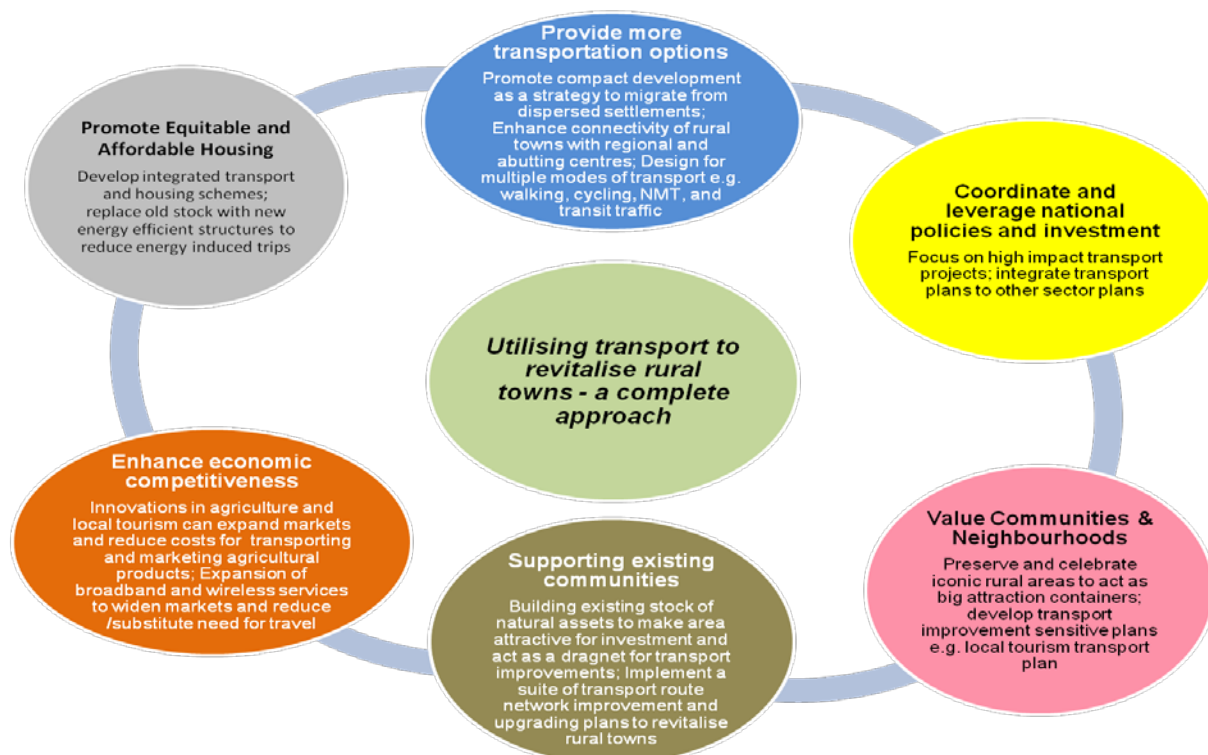
- **Organizational Interventions**
 - *Effective transport forums*
 - *Capacity building*
- **Information and data management:** Need for a *public transport information management system*, which could form part of a larger transport information management system for KSD
- **Network planning interventions**
 - **Defining and designing a public transport network for the municipality:** Need to carry out an exercise of defining & designing a public transport network for KSD, where the different modes of transport will be defined in terms of their strategic role in the network
- **Infrastructure programme management**
 - KSD needs to **prioritise the upgrading of public transport routes** given that the majority of its population relies on public transport
 - Streamline public transport funding through a **Public Transport Infrastructure Master Plan**
 - **Information and data management:** Need for a *public transport information management system*, which could form part of a larger transport information management system for KSD
- **Management Systems Interventions**
 - A public transport information management system would allow for continuous monitoring of public transport performance indicators in the province

3.7 Framework for Revitalisation of Small / Rural Towns

While this paper has focused on the role of transport as crucial in revitalising Mthatha, clearly, there are other elements at play that enable a full realisation of a revitalisation agenda (see for example, DRDLR, 2013). This holistic view is the basis for a proposed framework for revitalisation of small / rural towns underpinned by six principles, namely (refer to Figure 3):

- Provide more transportation options
- Coordinate and leverage national policies and investments
- Enhance economic competitiveness
- Promote equitable and affordable housing
- Support existing communities, and
- Value communities and neighbourhoods

Figure 5: Principles for a rural town revitalisation framework



Well planned transportation systems improve the quality of life and economic attractiveness of small towns by providing access to regional job markets, facilitating access to locally made goods to markets, and bringing tourists and other consumers to community businesses. The location of new housing can also provide a competitive advantage, as homes that are near schools, jobs, shopping, and services reduce residents' costs markedly. Innovations in agriculture can expand local and regional markets for agricultural products, resulting in more diverse, resilient economies. Continued expansion of broadband can also help strengthen and diversify rural economies, opening up new markets, connecting residents to job centers in larger communities, and reducing the need to travel to conduct business.

4. CONCLUDING REMARKS AND RECOMMENDATIONS

4.1 Recommendations

The paper makes the following recommendations:

- Rural town revitalisation cannot be willed but requires a well thought out framework that guides its implementation. The initiative by the DRDLR towards supporting rural revitalisation is recognised as a move in the right direction and should be refocused and sustained. There is indeed wisdom in generating a generic rural revitalisation toolkit which can be applied elsewhere in South Africa as proposed in this paper.
- Revitalisation implies an outlay of funding. The need therefore exists for government to set aside and ring-fence a small/rural town revitalisation fund to give impetus to the policy initiative, and
- Rural town revitalisation is a multi and trans-disciplinary field. Partnership and collaboration in change making projects will require leadership (at times single, joint or multi) from affected sector departments and the stakeholder community at large.

4.2 Concluding Remarks

In order for the regional rural development agenda to take root, the paper argues that KSD needs to carve out a pragmatic and proactive leading role for Mthatha in support of shared growth for KSD and the region. The paper further contends that KSD needs to nurture and accentuate the role of Mthatha as a regional centre offering not only higher order services, but also significant employment opportunities to a potential growth region underpinned by appropriate investment packages. Transportation (with specific reference to the suite of six catalytic anchor projects) necessarily plays a decisive role in this vanguard role for the town.

Whilst South Africa's planning *superstructure* is reasonably sophisticated in its structures, regulations, processes and programmed implementation, like other countries, the results aimed for are slow to be realised and often do not materialise at all. The growing service delivery crises and protests epitomises this predicament in which South Africa presently finds itself. What is learnt from other countries and from South Africa itself is that what is essential is ideological clarity, the establishment of sound structures and processes by the government, the willingness of stakeholders to work together for a common purpose, being open to and encouraging new ideas and innovative thinking and a commitment to long term planning. If it is accepted that revitalisation of rural towns is a choice-expanding process, then the process should certainly focus on new options, diversification, thinking about issues differently and anticipating and planning for change, and lastly, it should be about people and community transformation.

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