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Local level travel and travail narratives: A review of the King Sabatha Dalindyebo (KSD) Integrated Rapid Transport Plan Household Surveys

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Abstract

The paper explores the results of a local level household survey in King Sabata Dalindyebo (KSD) using quantitative and qualitative data findings from an Integrated Rapid Transport Planning Household Survey (IRTP) household survey of 2012. Employing an integrated assessment approach the dimensions and magnitude of the local transportation issues in King Sabata Dalindyebo (KSD) are unpacked. The paper further enumerates the challenges and opportunities for local level transportation transformation in the study area. Making use of place making integrated mobility and accessibility models, the study advances ways of reducing the local level transportation travail challenges in King Sabata Dalindyebo (KSD). The result was the generation of an indicative transportation transformation framework guiding principles, norms and standards to changing the local travel and travail experience of residents and visitors to Mthatha town and the surrounding environments.

Peer-review under responsibility of WORLD CONFERENCE ON TRANSPORT RESEARCH SOCIETY.

Keywords: Local level transport, travail, household survey, framework, King Sabata Dalindyebo (KSD), Mthatha

1. Introduction and background to the study

Rural communities in South Africa often face pervasive socio-economic problems on a daily basis, not least of which is transportation. This transportation burden is real and substantial, for example, many communities are not connected to the main rural transport infrastructure network and do not have reliable access to goods and services. This lack of mobility and accessibility of goods and persons has had the effect of limiting their participation in local economic activities and has further entrenched their isolation and marginalization from the economic mainstream.

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Given the endemic poverty, transportation is therefore purchased at a high social and economic cost. Clearly, one of the most significant determinants of rural poverty is the lack of access to socio-economic opportunities. Concomitant to these access and poverty issues is the concern for spatial restructuring geared towards the effective and sustainable use and distribution of rural resources to redress historical imbalances.

Nomenclature

CBD	central business district
HHD	households
HIV/AIDS	human immunodeficiency virus infection and acquired immune deficiency syndrome
IDP	integrated development plan
IMT	intermediate modes of transport
IRTP	integrated rapid transport plan
KSD	king sabatha dalindyebo
PWD	persons with disabilities
VCT	voluntary counselling testing

1.1. Study objectives

The following objectives framed the study, namely:

- Describing the status quo pertaining to the pattern of household travel & transport in King Sabatha Dalindyebo (KSD) by gender & disability;
- Explore the household travelling and travailing constraints in King Sabatha Dalindyebo (KSD) including their gender implications, and;
- Analyse opportunities for overcoming the travelling and travail constraints in King Sabatha Dalindyebo (KSD) and make suggestions for improvement.

2. Research methodology

A three-pronged approach was also employed to generate the IRTP, namely, literature review; field consultations, internal review, analysis and synthesis and feedback workshops; and development of the plan. 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 (freight) (18 points), in-vehicle survey on major public transport routes and spatial profiling the municipality. 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 analyzed and KSD IRTP solution concepts generated. The major types of surveys employed are depicted in Fig. 1.

Fig. 1: KSD Municipality Types of Integrated Household Surveys Carried Out

Source: Authors own construction, 2018

As depicted by Figure 1, the application of the integrated household surveys enabled the acquisition of rich and extensive travel and travail issues pertinent to the study area. Table I presents a summary of the methods and methodology employed in the study. From table I, we can deduce that a variety of approaches and methods were used in conducting the household surveys in King Sabata Dalindyebo (KSD) municipality.

Table 1. Summary of the study methods and methodology.

Approach	In-depth Interviews	Confidentiality	Fieldwork: Mobilisation of Resources	Fieldwork: Training and Capacity Building	Fieldwork: Rural Typologies
Methods	One-one face interviews making use of "recall method" by research participants Snowballing Technique employed to select additional interviewees Interviews undertaken at stakeholders work places 2000 Households determined as a generous sample size 50-57 Questionnaires administered per ward	Research Ethics Protocol Confidentiality agreement at service provider level Signed confidentiality contracts with researchers (research assistants)	Training of Research Supervisors and Research Assistants Random sampling Local researchers chosen by Ward Councillors Signed research contracts	Train the Trainers Approach High level rural transport customised training programme Mock interviews Pre-survey (or pilot survey)	Meso frames and map grids Settlement patterns and footprint analysis
Target Group	KSD Officials; Provincial Departments of Transport, Roads and Public Works; Discussion with Clients; Stakeholders ; Discussion with Project Team Members and Client ; Technical Committee; State-owned enterprises; Private sector (including the minibus-taxi industry); Not-for-profit sector Community-based organisations; Non-governmental organisations and	Service provider Client Research Supervisors and Research Assistants Research participants (communities)	Ward Councilors (who had just started their new terms – a novel idea) Community researchers	35 Research Assistants (RAS) and two (2) Supervisors	Peri-urban Urban Rural without services (deep rural areas – with little transport infrastructure and services) Rural with services (close to a main road –

	Individuals in KSD				gravel or tarred)
Validity and Reliability (Authenticity)	Unambiguous neutral phrasing Repeat question checks Reverse question checks One on one interviews with a selection of stakeholders and opinion leaders enabling triangulation and confirmation of assumptions	Anonymization of responses	Logistical support from Department of Transport Municipal research support Sampling frame size	Standardized questionnaires	Adopted project rural typologies

Source: Authors Own conceptualization, 2018

The application of triangulation methodologies as indicated in Table 1 was important in ensuring validity and reliability of research findings.

3. Literature review

3.1. Rural Poverty and Access

Rural poverty is closely associated with poor access to socio-economic opportunities. Accessibility represents the real value of transport infrastructure and services as it encapsulates all the advantages of spatial interaction / exchange of goods, information, know-how and experience. Access is a critical element in rural development because its existence or absence defines the opportunity that rural communities have to improve their socio-economic stations. Key elements of accessibility include the following, namely Extent and quality of infrastructure; extent and condition of communications; facility (e.g. health, education, etc.) location relative to settlement patterns; availability of transport services; and affordability of transport services. For KSD, this situation has been exacerbated by three main constraints, namely, information, accessibility and critical mass constraints as illustrated in Fig. 2.

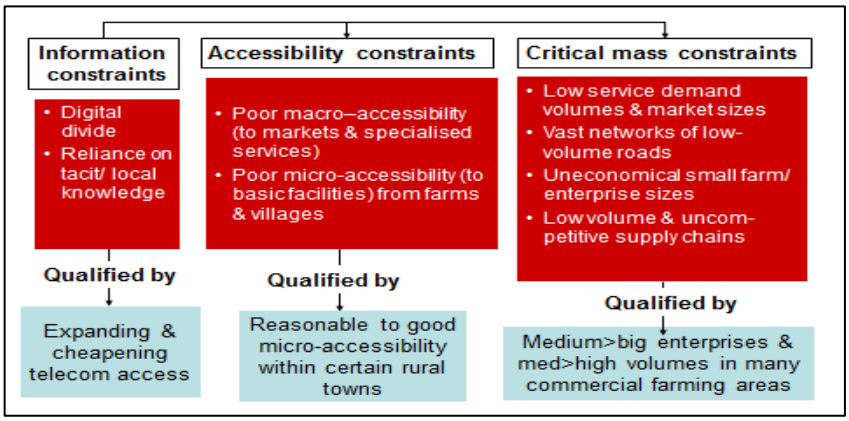


Fig. 2: KSD's Main rural development constraints.

From Fig. 2 we can deduce that rural development constraints are multi-fold, complex and integrated thereby demanding a multi and transdisciplinary response.

3.2. Barriers to accessing the built environment

In addition, and as illustrated in Fig. 3, the baseline study indicated that barriers to accessing the built environment especially for persons with disabilities (PWD) and the elderly are largely a combination of social, psychological and structural barriers, which tend to circumscribe the activities in which an individual or an institution can participate in.

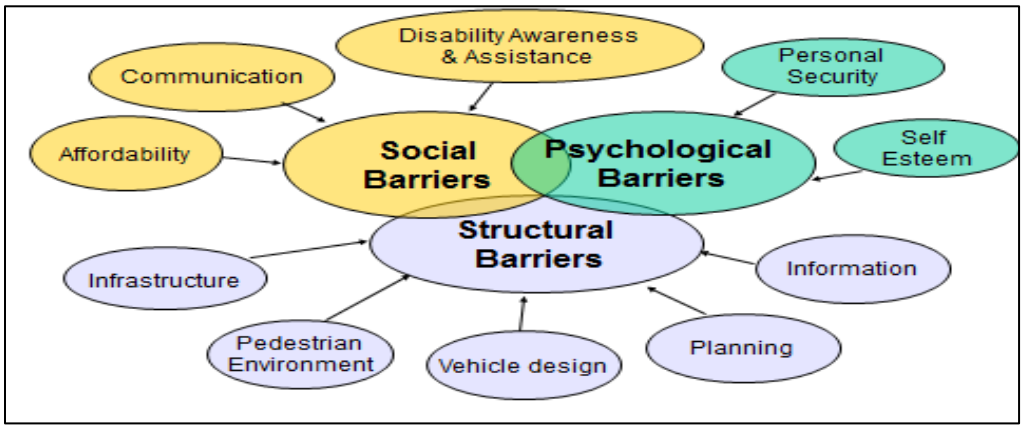


Fig. 3: Barriers to access and mobility.

Source: Authors own conceptualization, 2018

From Fig. 3 we can deduce that barriers to access and mobility are multi-faceted and their intensity scale and context based. However, at the same time, accessibility can be altered by changes in location of activities vis-a-vis the transport system, the availability of an appropriate mode, infrastructure or operating framework. For KSD communities, transport is perceived not as a problem in itself, but always as part of a far more general social, political and economic problem, which implies the need for integrated sustainable solutions that treat the total value chain. Innovative integrated planning has, however, largely been sacrificed on the altar of sectoral planning despite the many shortcomings associated with adherence to sectoral fiefdoms.

3.3. Importance of transportation infrastructure

One of KSD's main developmental challenges continues to be the backlogs in physical infrastructure. These backlogs have tended to limit the ability of traders to travel to and communicate with productive villagers in KSD's 'deep' rural areas, limiting market access from these areas and eliminating competition for their produce. Provision of rural roads almost inevitably leads to increases in agricultural production and productivity by bringing in new land into cultivation or by intensifying existing land use to take advantage of expanded market opportunities (Mashiri et al, 2005). In addition to facilitating agricultural commercialization and diversification, rural infrastructure, particularly roads, consolidates the links between agricultural and nonagricultural activities within rural areas and between rural and urban areas (IFAD, 1995).

Improved infrastructure also leads to expansion of markets, economies of scale and improvement in factor market operations. Furthermore, easier access to markets allows an expansion of perishable and transport-cost intensive products. It can also lead to a conversion of latent demand into effective commercial demand. Rural infrastructure provision thus accentuates the process of commercialization in agriculture and the rural sector (Jaffee & Morton, 1995), thus scaling-up trade as trading costs per unit are reduced owing to the economies of scale.

3.4. King Sabatha Dalindyebo (KSD) integrated rapid transport planning cornerstones

Baseline conditions indicate that rural communities in KSD often face pervasive socio-economic problems on a daily basis, not least of which is transportation. This transportation burden is real and substantial, for example, many communities are not as yet connected to the main KSD transport infrastructure network and do not as a result have reliable access to goods and services. This lack of mobility and accessibility has had the effect of limiting their participation in the economic mainstream thus further entrenching their isolation and marginalization. Given the endemic poverty, they therefore purchase transportation at a high social and economic cost. Clearly, one of the most significant determinants of rural poverty in KSD is the lack of access to socio-economic opportunities.

In addition, as illustrated in Fig. 4, the KSD baseline conditions describe a transport system that exhibits significant bias towards roads (as evidenced by the transport contribution to the integrated development plans (IDP)), motorized transport, and male-defined transport needs. The burden of accessing socio-economic activities such as fetching water and firewood, travelling to a clinic or to the fields especially in "deep" rural areas is socially allocated to women. And yet, women and children play second fiddle as transport stakeholders. Furthermore, ownership and responsibility for some intra-village connections is unclear, and predictably, in terms of allocation of resources, main roads and urban infrastructure tend to monopolize the transport budget.

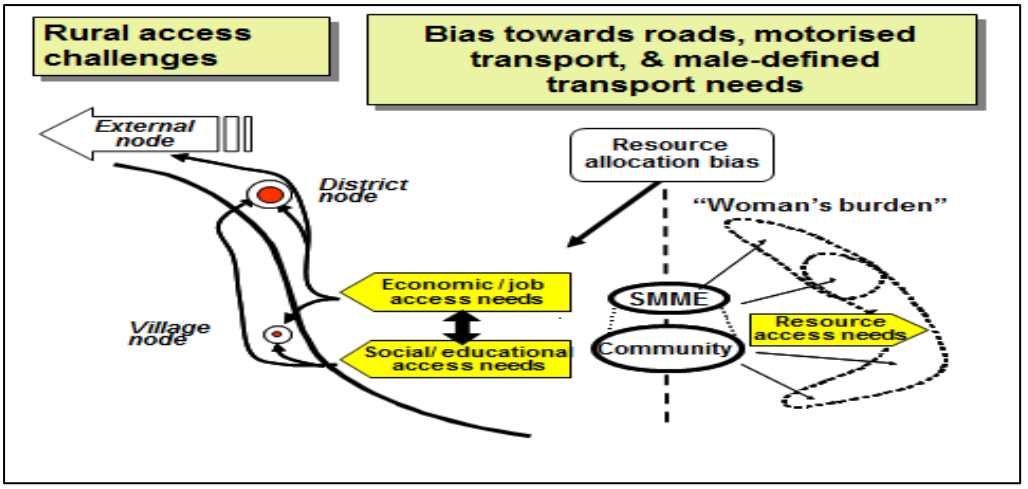


Fig. 4: Baseline conditions and constraints summary.

Source: Adopted from Mashiri et al., 2005 and Authors own conceptualization, 2018

From Fig. 4, one can deduce that transition from rural road based towards integrated "total integrated transportation solutions" is critical if rural integrated spatial and transportation development is to be realised.

3.5. Regional and local connectivity

KSD is one of seven local municipalities within OR Tambo District Municipality (ORTDM) in the Eastern Cape Province – a district nationally designated as a poverty node requiring drastic development interventions to change its fortunes. The municipality, which extends over an area of approximately 3019km², is dominated by the regional urban centre of Mthatha and the secondary urban node of Mqanduli surrounded by a rural hinterland. In addition to

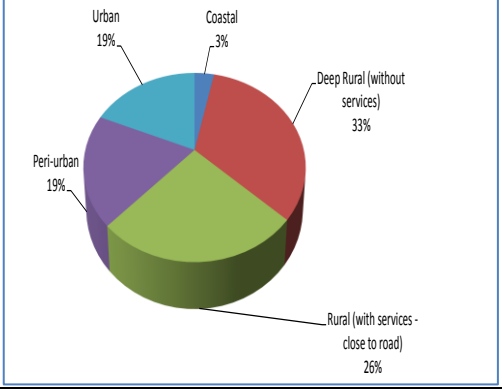
unplanned rural settlements which present service provision challenges, rural-urban migration has been pilling pressure on Mthatha and Mqanduli's already inadequate urban infrastructure and services, leading to the proliferation of off-grid peri-urban informal settlements with multiple infrastructure and services backlogs. In terms of regional connectivity, Mthatha is located at the centre of the crossroads of the national route N2 linking East London (230km) and Kokstad 180km to the north-east, and the provincial road R61 connecting the tourism node of Port St Johns' 100km on the eastern seaboard to Queenstown – a bustling rural service centre 200km to the west. Mthatha is connected to South Africa's industrial heartland through daily flights from Mthatha Airport to OR Tambo International Airport in Ekurhuleni in Gauteng. It is also connected to other provincial capitals by long-distance buses. The N2 currently connects Mthatha via Kokstad to both Durban in the east and Cape Town in the south-west via East London and Nelson Mandela Bay. Plans are afoot to shorten this distance by realigning it to by-pass Kokstad – from Port Eduard along the coast to Lusikisiki, through Port St Johns and then to Mthatha.

3.6. Challenges and opportunities for local level transportation transformation in the study area

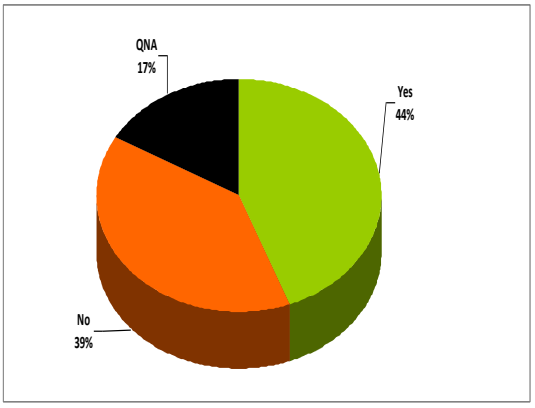
The sections that follow elaborate on the challenges and opportunities for local level transportation transformation in the study area.

3.7. Typology of study area

KSD municipality is a predominantly rural municipality (Refer to Fig. 5).



a. Typology of Settlements in KSD Municipality



b. Levels of Poverty in KSD Municipality

Fig. 5: Typology of KSD Municipality.

From Figure 5 we can deduce that the majority of the sample HHDs interviewed were from Deep Rural Areas (without services) – 33%. In the last year before the survey, 44% of respondents did not have sufficient money to feed children in the HHD, underlining the level of poverty in KSD.

3.8. Demographic profile: age-sex profile of respondents

69% of respondents who responded as HHD heads were men & 31% were women. Women-headed HHDs are often on the far end of the poverty spectrum. Targeting of interventions has to take this reality into account. 25% of HHD heads were over 60 years. Built environment interventions need to take account of this e.g. special needs

transport for the elderly & PWD & using universal design principles for retrofitting existing built environments & new development.

3.9. Occupation and income profiles of respondents

65% of HHD heads reported HHD income of up to R3'000 per month. 34% of spouses reported no income at all while 40% had upwards of R1'000 per month. Over 70% of other HHD occupants do not earn any income. This implies a heavy dependency ratios on meagre HHD incomes. This also means that HHDs are perpetually trapped in poverty, & the margin to fall into periods of abject poverty or hunger perilously narrow. 20% of respondents had formal jobs (mostly urbanites). 20% of respondents were pensioners (if child support & disability grants are included – the grant economy becomes the dominant source of income). 9% of HHDs had no source of income whatsoever. It is also important to note here that people tend to exaggerate their income.

3.10. Household assets

10% of HHDs had ploughs, most of which were in working order (92%), used by ALL members of the HHD (82%). 32% had fridges, most of which were working & used by ALL members of the HHD (86%) . 26% has sofas, most of which were in a good condition (98%) & used by ALL (88%) . 51% had radios, most of which were working (98%) & used by ALL. 70% had cellular phones (70%), most of which worked (98%) & used mainly by the HHD head (62%) . 59% had TVs most of which worked (96%) & used by ALL (86%). 0.5% of HHD had sewing machines, most of which were a good condition (78%) & mainly used by the HHD head (63%). 1.3% of HHDs had computers, most of which were in good condition (94) & mostly used by HHD head (52%). High ownership, access & usage of communication devices i.e. radio, television & cellular phone (over 70%). Conduit for capacity building efforts. Low ownership of productive assets such as the plough, sewing machine, solar power or generator (under 30%). Suggests that HHDs are not very productive – in their fields or at the homestead. Suggests that HHDs depend on a limited number of income sources for their livelihoods. Need for KSD to galvanize communities around widening their income sources through improved production.

Regarding dwellings, a range of conditions were observed – about 30% were in relatively good condition, while the rest required some work. Meanwhile, in terms of land resources, upwards of 33% of respondents had 1 ha of agricultural land, while about 54% had between 1-5 ha of agricultural land. Suggests HHDs have a basis for engaging in poverty-beating productive activities (contrast this with Mthatha residents). Productivity on the land was observed to be relatively poor. Need for community mobilization by KSD cannot be over-emphasized. Regarding livestock, 56% of HHDs owned livestock (mainly owned by male HHD heads) (refer to table 2).

Table 2. Livestock Assets in KSD.

Livestock	%	Average Number of Livestock Owned	Domestic Use %	Commercial Use %	Both %
1. Poultry	31	37	87	2	11
2. Sheep	35	76	66	5	29
3. Pigs	7	10	77	7	15
4. Cattle	28	39	70	8	22
5. Goats	26	22	69	8	23
6. Horses	7	7	83	9	9
7. Donkeys	4	4	88	8	4

8. Dogs	1	1	100	0	0
10. Geese	1	1	92	0	8

In terms of telephony assets, 70% of respondents had cellular phones in their HHD, 98% of which were in good working order & used mostly by the HHD head (62%). 61% of HHDs could access cellular phones under 15 minutes. 31% of HHDs spend greater than R60 / month on mobile phones (translates into significant private sector business). Only 4% of respondents had a land line. 78% of mobile phone users charge their devices on grid electricity & about 4% on solar energy. Growth in cellular telephony has been phenomenal & there's a need for KSD to leverage on this (e.g. cellular phone banking, distance learning, applications in the medical field [e.g. HBC operations]).

3.11. Energy sources

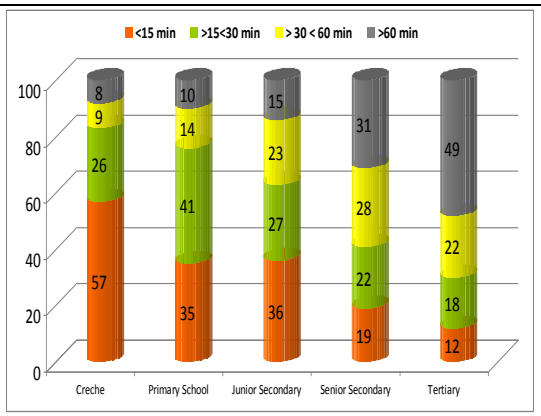
At 63% grid electricity is the major source of energy for cooking & 73% for lighting. At 45% & 42% respectively wood & paraffin are still important sources of energy for cooking. Depletion of wood resources in communal areas needs to be taken into account in developing interventions (planting community forests). Dependency on fossil fuels also needs to be reduced by moving towards a low carbon footprint (planting replenish-able crops such as jatropha from which soap & industrial oils can be extracted). It would also be important to think about climate change & strengthening the green economy in respect of energy provision (biogas, hydropower from the proposed Mzimvubu dam).

3.12. Water sources

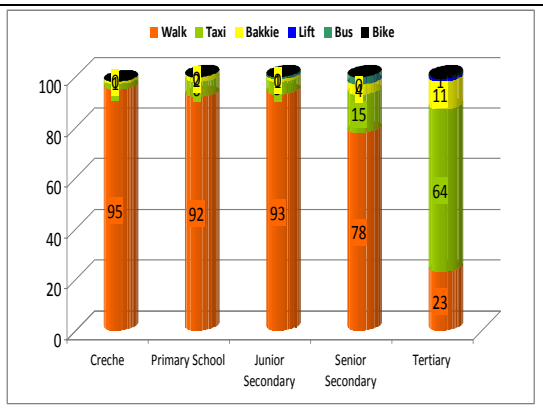
Flowing rivers & rain tank were the major sources of water at 23% & 24% respectively (natural sources of water – 47%). Piped yard tap & public tap water are equally important sources at 17% & 19% respectively (treated water sources incl. piped internal – 44%). Handcart hawkers & tankers had an 8% share suggesting an opportunity for transport service providers. Not much water is employed for productive purposes. Over 30% of HHD water requirements are fetched some distance from the HHD (head-loading by women & girl children common).

3.13. Access to education

In rural KSD, access to educational facilities as is the case with access to health, social grants (pensions and child grants), policing, and water and wood-fuel points are, at best, a cumbersome exercise. For most learners, for example, access to educational facilities is difficult because of (a) inadequate or lack of transport services, and (b) where they exist, they are generally unaffordable. As a result the dominant mode to school is by way of walking. Educators who do not stay at the school also have difficulties travelling to and from school every day. In addition, because some facilities, especially secondary and tertiary facilities are located relatively far from their catchment area, many a learner suffer from fatigue at school (because of the long distances they have to walk), which impacts negatively on their schoolwork. This has the effect of increasing the spectra of absenteeism and often absconding altogether. Only 20% of the respondents have access to tertiary education (need for distance education facilities and/or better transport services crucial. Out of the total households with school going population interviewed in KSD municipality, 64% have access to Crèche, 56% have access to primary schools, 75% have access to Junior Secondary Schools and 51% have access to Senior Secondary Schools. Figure 6 presents KSD Municipality Access to Education Indicators.



a. Travelling times to educational facilities



b. Type of transport mode used for educational trips

Fig. 6: KSD Municipality access to education indicators.

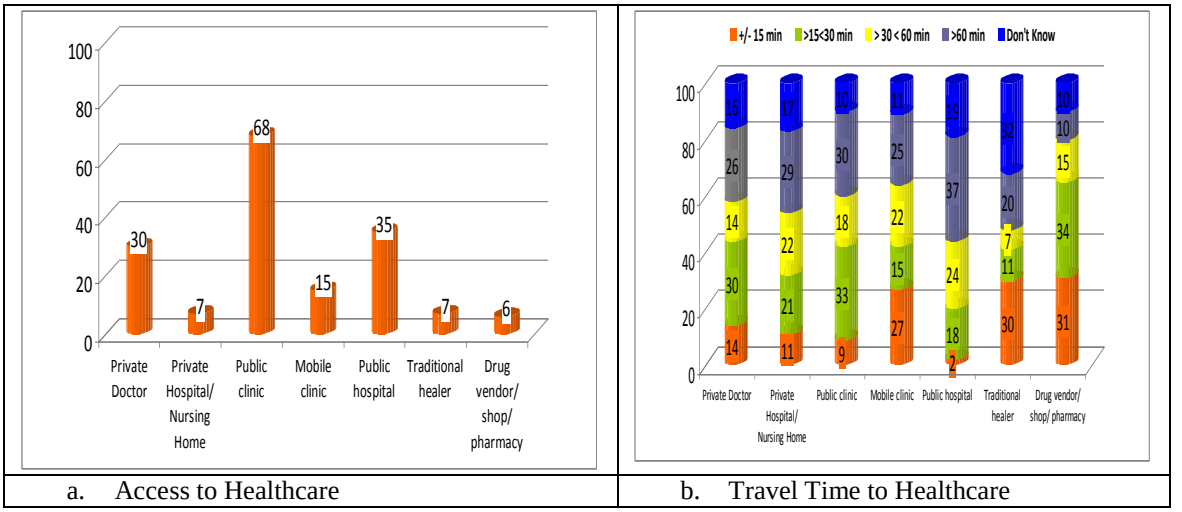
From Figure 6 we can deduce that 10% of learners spend greater than an hour to access primary schools which increases fatigue & reduces concentration. Some learners often start school a year later. Feedings schemes & bicycles need to be part of the solution. Walking is the dominant mode of transport to school. Bicycling, well-formed paths & pedestrian bridges should constitute a bouquet of interventions.

3.14. Access to healthcare

Most visitations to health facilities and sangomas are largely for treatment, fetching medicines and visiting patients. Walking is the dominant mode of travel to clinics and buses predominate over the longer distances mainly to hospitals (refer to Fig. 7). Distances to facilities range from 5km to clinics and 46km to hospitals. For those that require regular visitations to these facilities such as people with chronic illnesses including those living with HIV/AIDS, it simply becomes unaffordable. Households in this predicament tend to abandon modern medicine for home-span nursing with the help of nearby sangomas. The KSD home-based care system is partially intended to minimize their travel burden.

Transfer of the sick from homesteads to the main access road is largely by walking, in part, because of the siting of homesteads. Sometimes the wheelbarrow and/or human porterage are employed where a person is seriously ill (e.g. HIV/AIDS ridden householder). The problem is exacerbated by the fact that waiting for a passing bakkie or minibus taxi on the access road can be interminable. In emergencies and when available, ambulances, bakkies or minibus taxis are used to ferry the sick at great cost to the affected households – which often leave them indebted for life.

Intermediate means of transport (IMT) such as motorbikes and ancillary technologies such trailers that can be employed as ambulances hold a lot of promise in terms of improving access problems for health extension workers involved in the home-based care system. Motorbikes have already proved their mettle in moving blood samples in demonstration project areas in the Eastern Cape.



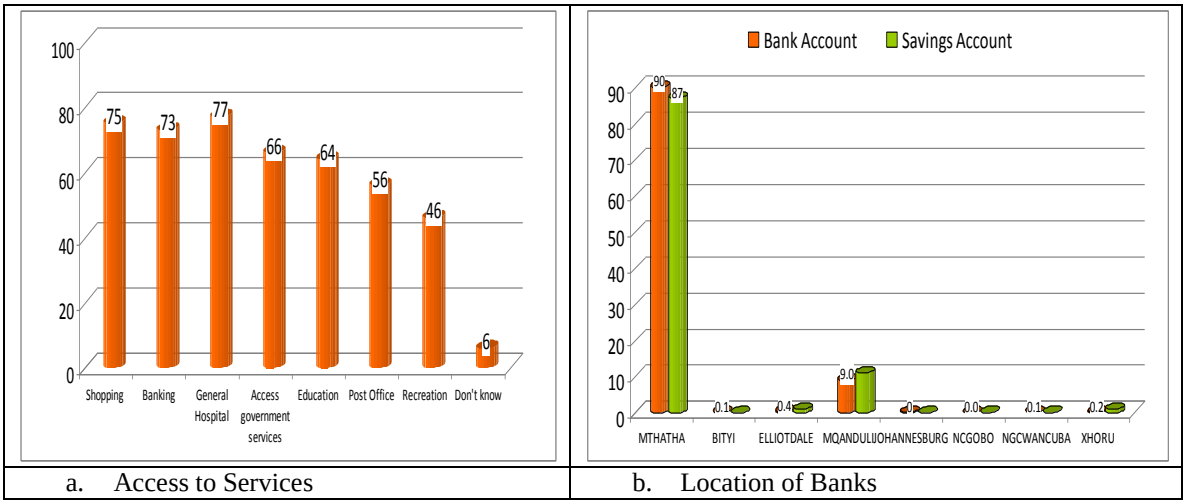
a. Access to Healthcare b. Travel Time to Healthcare

Fig. 7: Health care access indicators in KSD.

From Figure 7 we can deduce that the most accessible healthcare centre is the public clinic. In addition, 30% of HHDs that spend over 1 hr. to access a public clinic is a cause for concern.

3.15. Availability and accessibility of services

Most ubiquitous service is the spaza shop (81%) & 71% of HHDs can reach it under 30 minutes, mostly on foot (93%). While the mobile clinic & clinic had 48% & 42% availability respectively & could be accessed under 30 min by 37% & 68% of HHDs respectively, it is a concern that 28% of HHDs took more than an hour to access a mobile clinic. What is also worrying is that 31% of HHDs took over an hour to access a public transport stop / rank / terminal. 28% of HHDs took over an hour to access a Post Office – the post office needs to widen its footprint as it provides & could provide many more services. 32% & 23% of HHDs take over an hour to reach the tribal authority & police respectively. 48% of HHDs take more than an hour to reach a library. It would be important for KSD to seek to improve the availability & accessibility of essential services. Most people in KSD walk to access services (refer to Fig. 8) – the need to plan for walking is paramount. Most HHDs agree with the assertion that emergency services, public clinics, public hospitals, public schools & feeding programs, pension payout, public transport, roads, police, low-cost housing & libraries are essential services – resources must be allocated accordingly. Dip tanks, extension services, SMME support services, Thusong centres, home-based care & brokerage services were also categorised as important – adequate resources need to be allocated accordingly.



a. Access to Services b. Location of Banks

Fig. 8: Access to services Indicators in KSD.

From Fig. 8 we can deduce that Mthatha is the destination of choice for all types of services – need a balanced hierarchy of rural services centres also serving higher order goods. As with other higher order services Mthatha houses most of the financial institutions which means most rural dwellers have to make that mandatory costly journey to the capital.

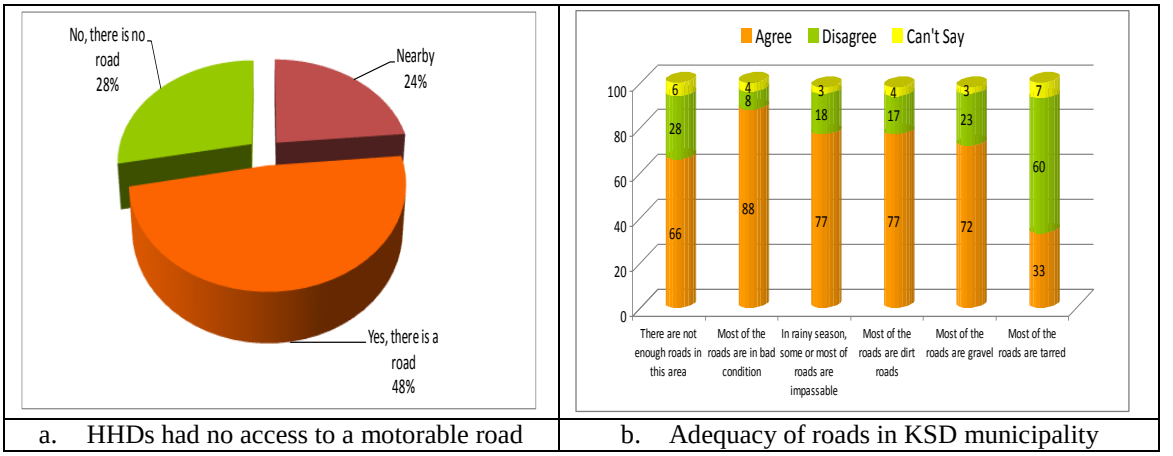
3.16. Community development: priority development issues in KSD

On a scale of 1-4, lack of transport was ranked as priority no. 3 behind HIV/AIDS & poverty. Lack of potable water, cattle rustling, housing, rape & child abuse were also ranked high. With regard to HIV/AIDS, most of the main messages appear to have been well registered (e.g. the importance of VCT, condom usage, mother-to-child transmission, etc.).

3.17. Transport infrastructure and services profile: vehicle ownership, access and usage

0.8% of HHDs own bicycles most of which are in good running order (75%), used mostly for domestic purposes by male members of the HHD. 4% of HHDs own cars most of which are in good working condition (89%) & used mostly by HHD heads for domestic purposes. 0.8% of the sample owned bakkies most of which are in good condition (93%) & used mainly by the HHD head (59%) & male members of the HHD (11%) & hired out for commercial purposes (34%). 0.7% of HHD own animal-drawn carts, most of which are in good condition (89%), used by all members of the HHD (66%) & male members (24%) & hired out sometimes (27%). 0.5% of HHD own horses (for transporting people & goods), used by all members of the HHD (47%) & male members (33%) & hired out (27%). 0.3% of the HHD own donkeys, used by all members of the HHD (64%) & male members (15%) & hired out sometimes for commercial gain (21%). 16% of HHD own a wheelbarrow, most of which are in good working order (84%), used by ALL members of the HHD (91%) & sometimes hired out (24%). 4% of the sample had no access to any motorised or non-motorised transport vehicle technology. Most HHDs do not own or have access to productive assets such as tractors, trucks & taxis – which certainly impacts negatively on productivity. The general conclusion here is that very few households own productive assets. In other words, there is no critical mass of HHDs owning or having access to productive assets that would provide a basis for HHDs to "sweat" their assets with a view to painstakingly building wealth & wadding off poverty. Even the most versatile of rural HHD assets, the wheelbarrow, is not ubiquitous. KSD needs to put programs in place to develop innovative ways of funding such assets associated with ensuring the productivity of such funded assets beginning with pilot projects that would

be rapidly scale-up. Fig. 9 presents shows that 28% of HHDs had no access to a motorable road – which often reinforces the poverty that pervades most of the rural areas.



a. HHDs had no access to a motorable road

b. Adequacy of roads in KSD municipality

Fig. 9: Transport infrastructure and services.

From Fig. 9 we can deduce that there is general agreement that transport infrastructure in KSD is in a state of disrepair.

3.18. Transport infrastructure and services profile: accessibility levels

On a scale of 1-5, most respondents placed more money, better career prospects & better job security as the most influential conditions for them to look for a job further afield. Ease of access to socio-economic activities was considered crucial to advance HHDs' stations in life. Between 12%-45% of HHDs are dissatisfied with current accessibility levels to various socio-economic opportunities. 37% of respondents would like to travel much more than they are currently doing – indicating latent demand for transport. 34%) of the sample indicated that the ability to travel further would assist them to showcase their products to bigger markets & further education opportunities. Table 3 presents Dissatisfaction with Current Accessibility Levels in KSD.

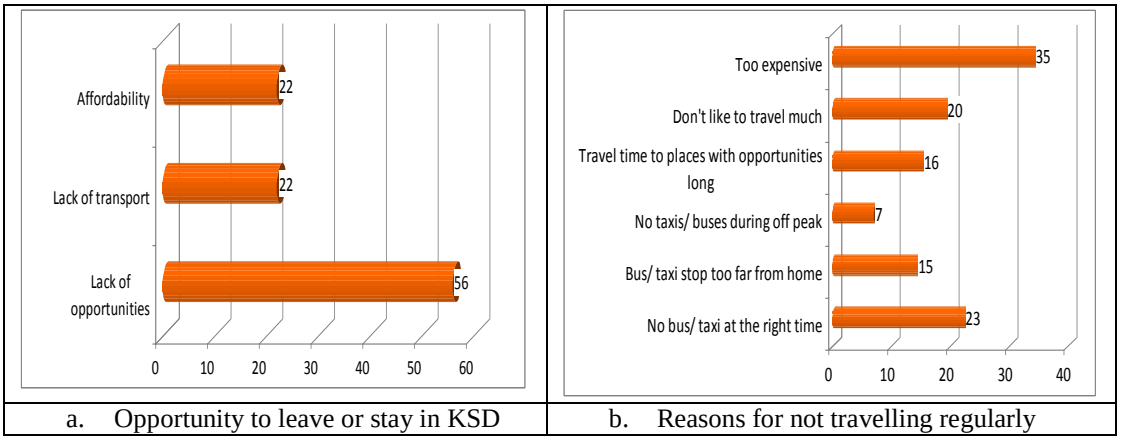
Table 3. Dissatisfaction with current accessibility levels.

Activity Area	**Rank**	**Activity Area**	**Rank**
Work	1	Home Affairs	7
Police	2	Tribal Office	7
Public Clinic	3	Doctor	8
Water Source	3	School	9
Public Hospital	4	Sangoma	10
Government Admin Office	5	Shops	11
Post Office	6	Visitation to relatives & friends	12
Firewood Source	7	Church	13
Market	7		

From Table 3, we can deduce that addressing dissatisfaction with current accessibility requires an integrated approach in which access to socio-economic opportunities is at the centre of the solution.

3.19. Transport infrastructure and services profile : opportunity to leave or stay in KSD

While the greater majority would like to stay, a quarter of the population would want to leave rural areas or KSD permanently – KSD needs to urgently reverse this trend through targeted interventions (refer to Fig. 10).



a. Opportunity to leave or stay in KSD b. Reasons for not travelling regularly

Fig. 10: Opportunity to leave KSD indicators.

From Fig. 10 we can deduce that of the sample who indicated that they would leave permanently if given the opportunity, the majority indicated that the reason for this was the lack of opportunities in KSD. Affordability considerations are listed as the greatest challenge to travel & transport.

3.20. Transport infrastructure and services profile : demand for transport - household activity diary (top ten trips)

51% of HHD trips involved going shopping with 81% walking. 45% of HHD trips involved going to church with 65% walking & 35% using lifts. 44% of the trips were for going to the clinic with 51% walking & 38% using taxis. 43% of the trips involved visiting relatives & friends with 55% walking & 25% using taxis. 40% of the trips involved fetching water with 87% walking & frequency extremely high. 38% of the trips involved going to primary school with 78% walking. 33% of the trips involved travelling to work with 24% walking; 41% by taxi & 24% travelling by car. 31% of trips involved going to the bank with 11% walking; 58% taxi; 15% car & 11% bakkie. 26% of trips involved travelling to a pension payout point with 75% walking. 25% involved fetching firewood with 71% walking & 14% using a bakkie. It is surprising that only 2% of the trips involved visiting a multi-purpose centre (as many services can be accessed here). Visitation to traditional healers at 5% is often under-reported for strategic reasons.

3.21. Transport infrastructure and services: transport level of service

Wait times for transport services are often extended at month ends & Fridays. 46% of respondents using taxis felt that waiting time is unnecessarily too long. 47% respondents using taxis felt that travel time was too long. On a scale of 1-5, the poor condition of roads, none or irregular availability & affordability considerations were ranked higher than other challenges. Against a range of service level indicators, a fifth of respondents felt that transport services currently leave much to be desired.

3.22. Transport infrastructure and services: transport activity diary

Commonest trip (51%) involved going shopping with 81% walking . 45% of HHD trips involved going to church with 65% walking & using lifts. 44% of trips involved going to a clinic with 55% walking & 38% taxi. Trips

involving visitations to friends & family constituted 43%, with 55% walking & 38% using a taxi. 40% of HHD trips involved accessing a water source, with 87% walking. 38% of trips involved travelling to a primary school, with 78% walking, 12% taxi & 2% bakkie. 31% of trips involved to travelling to the bank, with 11% walking, 58% taxi, 15% car & 11% bakkies. 26% of HHD trips involved travelling to a pension payout point, with 71% walking, 17% taxi, & 5% bakkies. 20% of the trips involved travelling to a secondary school, with 56% walking, 28% taxi & 6% bakkie. 18% of the trips were for going to the hospital, with 8% walking, 71% taxi, 8% bakkie. 5% of trips were for visiting traditional healers, with 63% walking & 25% taxi. Fig. 11 depicts the ranking of public transport problems in KSD.

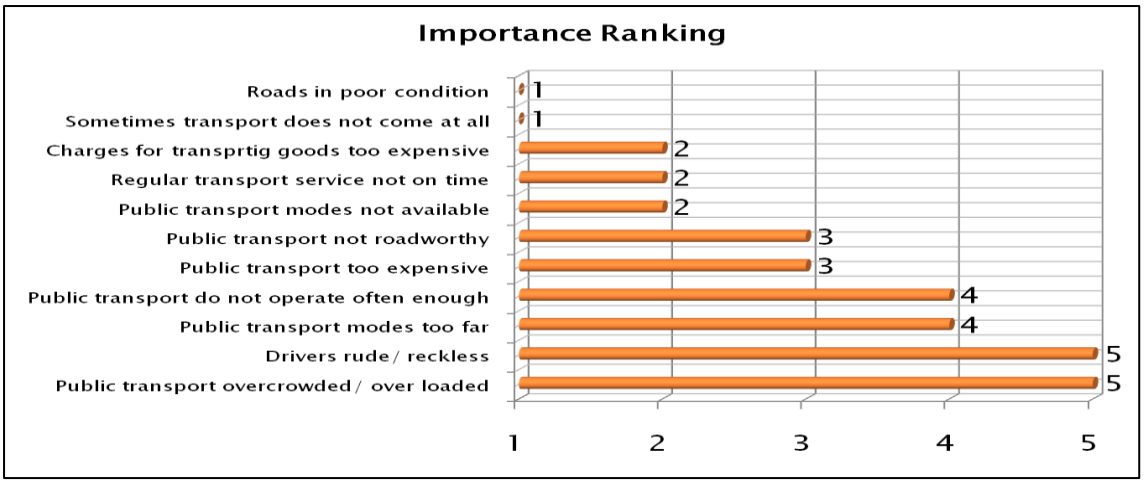


Fig. 11: Ranking of public transport problems.

From Figure 11, one can deduce that the challenge of reckless driving combined with overcrowded public transport modes is a cocktail for accidents. It also has resonates with poor levels of public transport service that require redress in the study area.

3.23. Rural transport services

The baseline study clearly indicated that rural transport services in KSD 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. 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. This leaves out a significant portion of the rural inhabitants without reliable means to access socio-economic opportunities.

3.24. Public transport in KSD: anatomy of a dysfunctional service

Public transport in KSD is not only operating in a crisis situation but it is also grossly underfunded. 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.

3.25. Reducing the local level transportation travail challenges in Mthatha.

The IRTP's departure point is that there is a high socio-economic price to pay if the travel and transport needs of the poor majority are not adequately provided for. Capacity building of and technical support for the IRTP is an integral pillar of the plan given that it is this sphere of government that is at the coalface of development endeavours. The IRTP is undergirded by two main strategic thrusts:

- Promotion of coordinated rural nodal and linkage development
- Development of a responsive, balanced and sustainable rural transport system

It is envisaged that coordinated development of an effectively interlinked network of rural service nodes and transportation linkages will be pursued within the context of strengthened Integrated Development Plans. In addition, the plan provides a platform for investment in balanced rural transport systems supported by sustainable funding, for example, in infrastructure incorporating access and district roads, suspension bridges, pontoons, paths, tracks, trails and public transport interchanges, as well as strengthening and regulating transport services including light delivery vehicles and non-motorized and intermediate means of transport. This has the effect of strengthening the capacity of communities, to own and productively employ their assets.

3.26. Towards an indicative transportation transformation framework guiding principles, norms and standards to changing the local travel and travail experience

The plan also provides a fulcrum for undertaking innovative rural transport programs and projects to provide communities with, for instance, year-round accessibility; cater for the needs of vulnerable users; reduce access times to markets, tourist attractions, education and health facilities; reduce cost of freight and passenger services and assist agriculture by reducing the costs of inputs, boosting access to extension services and increasing farm-gate prices. The realization of these programmes is underpinned by the need to develop entrepreneurship in areas such as transport brokerage, as well as the adoption and dissemination of appropriate technologies, for example, animal drawn carts and bicycles and labour-based methods of construction and maintenance. The emphasis on innovation requires a flexible and safe regulatory environment.

It is envisaged that the plan will prove to be a useful signpost, guide and planning tool for all stakeholders running the gamut from government officials, politicians, organized business, and rural communities through to non-governmental and community-based organizations to ensure that the delivery of rural transport infrastructure and services is, indeed, sustainable, sufficiently responsive, and developmentally effective. It is also hoped that the plan will create a greater general appreciation of the potential catalytic development role of rural transport. Finally, the plan is a living document and, as such, it will be periodically reviewed to accommodate changing circumstances in KSD. The outcome of the KSD rural development agenda is a vibrant, equitable, cohesive and sustainable community. The transport sector, with its two-pronged catalytic development and service delivery function, constitutes a pivotal spine for achieving this transformation agenda (outcome) in terms of:

- Guaranteeing the infrastructural capacities to produce and deliver goods and services; and
- Securing minimum conditions and enabling environment to produce and deliver basic services associated with the movement and transportation of people and their goods in and around and beyond KSD.

In supporting the strategic objectives of KSD's rural development agenda, transportation (as encapsulated in the IRTP) thus becomes the lynchpin for socio-economic development in KSD (refer to Fig. 12).

Fig. 12: Vision for transport for sustainable development in KSD.

From Fig. 12, it can be deduced that an integrated and sustainable KSD requires multiple levels of support, investment and change management tactics that challenge the need to provide expanded access for socio-economic facilities and pathways in the area.

4. Conclusion

It is thus commendable that the King Sabata Dalindyebo Local Municipality developed an Integrated Rural Transport Plan (IRTP) to provide direction and impetus to efforts to address the travelling and travail challenges with a view to pushing back the frontiers of poverty and charting a sustainable socio-economic development path for the municipality. The development of the IRTP has been a deliberately inclusive, data-driven process incorporating extensive data collection employing various types of surveys, bilateral and multi-lateral discussions and workshops to take account of a wide cross-section of interests, active and latent needs.

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References

IFAD (1995). Pakistan Country Portfolio Evaluation, CPE95 CESPA95E, IFAD 1995.

Jaffee, Steven & Morton, John (1995). Food industry & trade; Farm produce; Nutrition; Case studies; Marketing; Africa, Sub-Saharan. In: Marketing Africa's high-value foods: Comparative experiences of an emergent private sector (p. 469-496) (ISBN 0840397607)

KING SABATA DALINDYEBO 2011/2012 IDP Review. Mthatha, South Africa

Mashiri, M. Maunder, D. Venter, C. Lakra, A. Bogopane-Zulu, H. Zukulu, R and Buiten, D. (2005). Improving the provision of public transport information for persons with disabilities in the developing world. Proceedings: Urban Transport Conference 2005, Algarve, Portugal, 12-14 April 2005.

Mashiri, M. Mpondo B. Mokonyama, M. Chakwizira, J. Mdunge, D. and Goldman, A. (2012b). KSD IRTP for sustainable Development: Planning & Delivering More Integrated, Intelligent & Sustainable Rural Access Systems. DOT/ KSD/DBSA Report, Mthatha

Mashiri, M. Zukulu, R. & Buiten, D. (2005). Improving children's mobility & access to socio-economic opportunities: A synthesis of literature. Proceedings: Southern African Transport Conference [SATC], Pretoria, 11-13 July 2005