TRANSPORT AND RURAL DEVELOPMENT: AN OVERVIEW OF THE NORTH WEST PROVINCE - THE CASE OF NGAKA-MODIRI MOLEMA DISTRICT

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ABSTRACT

Transportation research has mostly focused on urban elements of development, and quite often, urban transportation planning methods and models are imported to rural transportation practice with negligible changes resulting almost always in ineffective solutions. The tide has begun to change though as planners are beginning to craft interventions that are relevant to rural areas as the example of a project discussed in this paper shows. The North West Province is predominantly rural, characterized by dispersed towns, villages and other land-uses with varying activities. Given the dispersed nature of settlement patterns, the Provincial Department of Public Works, Roads and Transport embarked on various non-motorised interventions for schools around Ngaka-Modiri Molema District Municipality (NMMD) in an attempt to address in part the legacy of apartheid planning. These interventions are being implemented within the ambit of inclusive and relevant rural transport policy and implementation programs.

This paper reviews the prevailing transport development policy context in the North West Province with specific reference to the NMMD. It then describes the non-motorised bicycles project, which has been implemented in order to ensure that scholars in NMMD exercise their democratic right of accessing basic education, as most scholars walk in excess of 5 kilometers to school. The paper briefly reflects on scholar mobility in order to clarify the policy discourse and rationale that underpinned the planning and implementation of the NMMD non-motorised scholar transport project. This paper relies heavily on a review of mostly NMMD transport policies, literature and interventions.

Key Words

Rural transport, non-motorised transport, scholar transport, North West Province, Ngaka-Modiri Molema District Municipality, Shova Kalula

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BACKGROUND

In South Africa, segregated development and planning practices evolved late in the 1950s. During that time, segregation of developments was introduced, which found expression in such legislations as, the Group Areas Act of 1950, the Urban Transport Act of 1977 and the Natives Land Act of 1913. The Natives Land Act No. 27 of 1913 and the Group Areas Act that promoted the segregation of South Africa's population into racial groups resulted in long commuting hours (Motatsa, 2013). The White Paper on National Transport Policy (Department of Transport, 1996) provides that no learner should walk in excess of 1 kilometre, which is still a problem taking into consideration the outcomes of the segregated development and planning of South Africa's apartheid past. It is of interest to note here that:

> *In Sub-Saharan Africa, children largely walk to school regardless of distance, simply because there is neither the physical or financial means to get to school by any other medium. Distance to schools is often prohibitive for both teachers and pupils, and is in part responsible for a high rate of absenteeism amongst both groups* (Njenga & Davis, 2010).

Whilst mobility and accessibility for rural communities to major activity attractions is a problem in developing countries, the province, has generated a portfolio of key interventions through the North West Provincial Department of Public Works, Roads and Transport (NWPDPWRT). These interventions, inter alia, include motorised and non-motorised initiatives such as the subsidised motorised and non-motorised scholar and commuter transport including, for example the bicycle distribution project in NMMD for scholars which was implemented in 2003. The main rationale for these projects is the need by the communities to access socio-economic opportunities such as health, education, recreation, as well as commercial centres. These interventions have begun to redress the rural and peri-urban community challenges of inadequate access and proper mobility to and from these activity points as highlighted by Njenga and Davis (2010).

With the above in mind, NWPDPWRT in collaboration with its parent Ministry (the national Department of Transport), initiated a non-motorised bicycle within the ambit of the Shova Kalula National Bicycle Partnership Program with a view to ensuring that rural and farm scholars are able to exercise their democratic right to access education, by utilising bicycles as a means of mobility, to reach their education centres (Department of Transport, 2009).

The Shova Kalula Bicycle Project, initiated in 2001, aimed to distribute one million bicycles by 2010 to scholars who walk more than 6km to school or "more than 3km to education resource centres" per direction in rural and urban areas (Department of Transport, 2009). This assistance is based on the "criteria" for distributing "equipment" donated or purchased (Department of Transport, 2008), which included:

- Maximum walking distance,
- Availability of public transport between destinations, and
- Affordability of the available public transport between destinations.

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The criteria suggest that access in distance, affordability and mode options are key to ensuring participation in education. These issues assume greater importance given the fact that South Africa allocates a proportionately large budget to education (Liew Kie Song, 2004) and "education" is considered as the cornerstone of economic and social development in any community, whether in a rural or urban domain (Haddad, Carnoy, Rinaldi, & Regel, 1990). That is why it was considered imperative for the department to initiate such a project in NMMD.

AIMS OF THE PAPER

The paper aimed to:

Review the prevailing transport development policy context the NMMD focusing on the non-motorised bicycles project, which has been implemented in order to ensure that scholars exercise their democratic right to education.

a) Reflect on scholar mobility in NMMD in order to clarify the policy discourses necessary in rural area scholar transport, especially in the Non-Motorised context.

METHOD

The paper relies considerably on a review of mostly NMMD transport policies, literature and interventions. The paper utilises secondary data in a case study format to describe the status of the scholar mobility sector in the province. Secondary data included published, as well as unpublished literature relevant to the topic, web-based materials and government materials.

CONCEPTUAL REVIEW: SCHOLAR MOBILITY

Improving physical access to education from scholar mobility initiatives requires a reflection on the "child", who is the commuter such initiatives serve. Don Matera, the renowned poet, views children as 'arrows shot out into the world, into the future `and we cannot follow' (Matera, 2011). It seems reasonable to argue that scholars 'shoot' through education centres as they graduate and mobility initiatives implemented serve multiple generations, with hopes and aspirations. It is apparent, however that the scholar in basic education institutions in developing rural areas pursues ambitions far beyond what they can hope to achieve in the context of the limited schooling available, and yet undertaking the journey itself seems to be a daily affirmation of their will to succeed' (Porter, et al., 2010). Thus, rural scholars require a robust presentation of their mobility as children through geographic space, bound by and to their environment.

In rural areas, scholars intimately face challenging journeys to school: long distances, immeasurable perceived hazards (i.e. fears of young scholars) and dangers (i.e. river crossings; physical abuse/violation) along the way; and opportunities of play, courtship, eating and cleaning (Porter, et al., 2010). To some outdoor enthusiasts these may seem attractive as 'off-road' pleasures. But developing rural area is a `walking world' tied to political processes that compose distinguishable opportunities from internal (voluntary community improvement actions) and external (viable NGO participation) potential[1] (Porter G. , 2002). Policy interventions need to indicate strong reflections on the "journey" itself: remedying the challenges and supporting the opportunities, where possible.

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[1]For an account of policy issues and guide to their remedial considerations see (Vasconcellos, 1997).

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In the case of South Africa the challenge lies in reflecting the fundamental and constitutional mobility needs of scholars (Mashiri, Zukulu, & Buiten, 2007); whereas in a West African reflection, rural youth mobility manifests in terms of a quest for realising sustainable livelihoods especially where mobility, access and transport intersect (Porter, Blaufuss, & Owusu Acheampong, 2008)[2]. Thus, the intimate challenge in a journey to school finds a suffocated surface to manoeuvre scholar's ambitions where mobility, access and transport in rural areas are primary considerations for a remedial policy programme.

SCHOLAR MOBILITY IN NGAKA-MODIRI MOLEMA DISTRICT

Transportation for scholars is a crucial challenge in the province and the country as a whole. For a large part of the scholar population, schools are situated far from their residential areas (Department of Transport, 2009). The journey to school, for a significant number of South African scholars is characterised by long travel times, unsafe modes of travel and exposure to weather and traffic related dangers (Rogan, 2006). This predicament that can be traced to the dispersed rural settlement patterns and the lack of adequate public transport in rural areas was the trigger that prompted NWPDPWRT in collaboration with the national Department of Transport to establish the scholar transport services to enable scholars to access the education institutions (North-West Department of Education, Unknown).

Furthermore, section 29 of the Bill of Rights states that learners have the right to basic education and that government has to come up with measures, which will address this dilemma (Republic Of South Africa, 1996). According to the Provincial Department of Education, surveys have shown that scholars in rural areas travel to educational facilities on foot largely, over unacceptable distances, some of them well in excess of 15 kilometres per day to and from school (Motatsa, 2013). Even though the number of schools throughout the country has increased, some rural areas have had their stock decreasing largely because of low-densities. This tends to be a predicament, because in low-density areas it becomes impossible for the Department of Education to build larger schools, as the number of learners in the catchment areas is too low (Liew Kie Song, 2004).

In cases where there are insufficient scholars, or there are budgetary constraints, the bicycle project served as an appropriate intervention to ensure that, factors such as late coming, dropping out from school, failing and absenteeism are reduced, and learners can access their educational centres within the school's prescriptions and regulations.

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[2]The notion that 'livelihood' is a central trip purpose, in any mode, is reiterated as central to redressing poverty in sub-Saharan Africa (Bryceson, Mbara, & Maunder, 2010).

Understanding The Rural Scholar Trip

Scholar mobility from the perspective and experience of the scholar's trip facilitates an understanding of what composes a trip (journey as used earlier) to school. Two methods are the basis of Figure 1, presenting the conceptual rural scholar's aggregate trip map based on literature, (a) the notion of *child-centred research* in Mashiri, Dube, & Buiten (2007) and (b) the notion of *mobile interviews* in Porter et al. (2010).

When used at a participatory level child-centered research, intimates a powerful conceptual scaffolding that demands a closer look into the nature, fabric and structure of the scholar's mobility realities—rather than solely "adultish" intellectual processes of qualitative or quantitative data analyses. On the other hand, using mobile interviews involves following the scholars along their journey, and recording their experiences and reflections en-route. Thus, complementing this child-orientation by facilitating the experiential process of the daily trip to school which begins before rural scholars leave their homes.

The Rural Scholar Trip Map: A Prelimenary Formulation

Figure 1 illustrates the scholar's journey to school, in terms of activies prior, during and after the school trip. Such trips are combined with morning responsibilities that are part of the processes of each household and family mechanism – sometimes even the family business (Mashiri, Zukulu, & Buiten, 2007; Department of Labour, 2003). The trip to school across rural landscapes poses topographical, proximity related and envirnomental challenges. Scholars are exposed to percieved and actual dangers along these journeys: fear from parents, teachers and scholars is notable experiencially (Porter, et al., 2010). On arrival, a prominent challenge involves maintaining personal neatness, concentration and participating in the learning process whilst adequate facilities are barely available. Return trips are constrained temporally due to the urgency of domestic and commercial responsibilities – mm of which tend to vary by age and more significantly gender: domestic responsibiities are, to a large extent, performed by girl children.
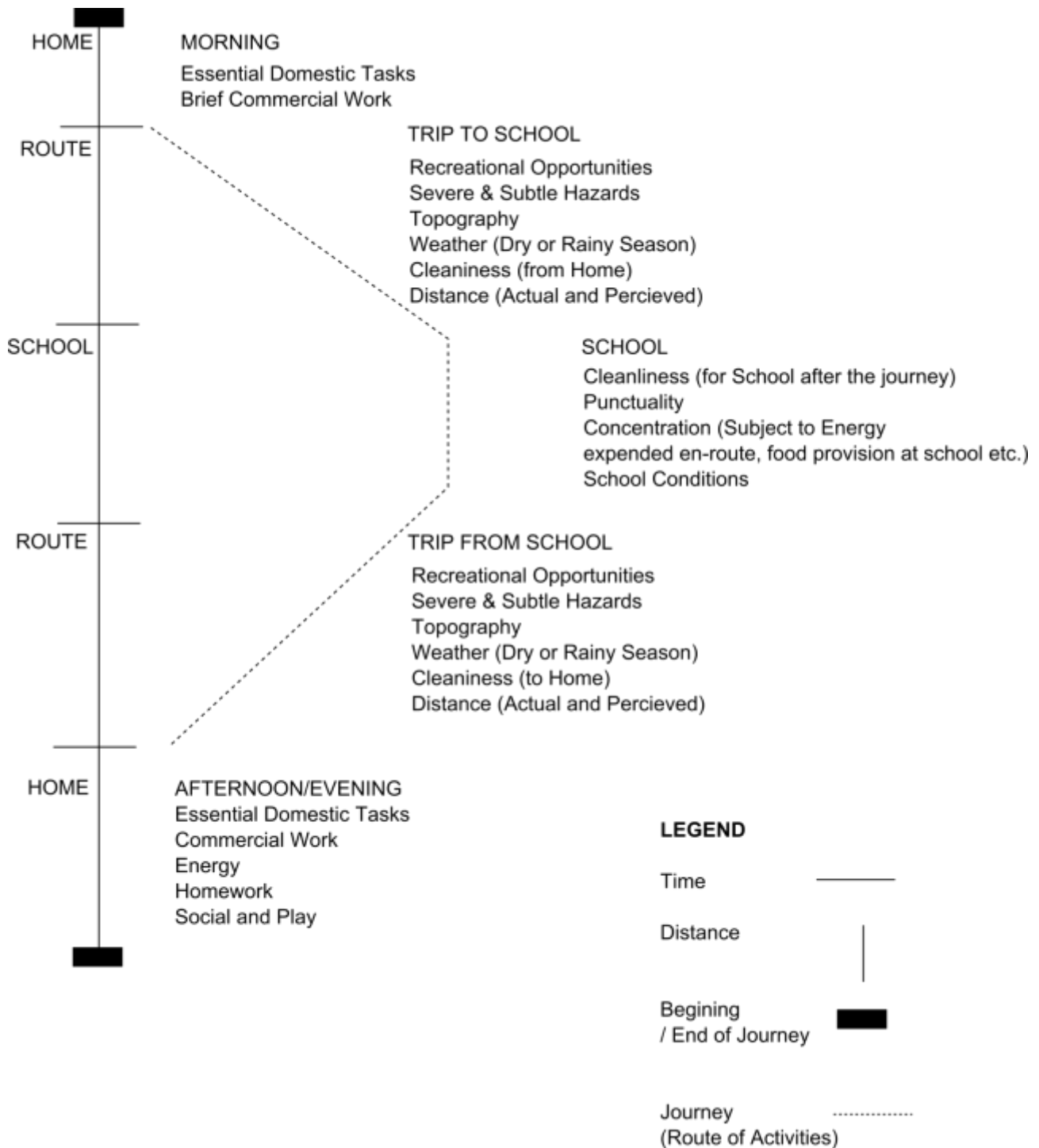
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HOME — MORNING
Essential Domestic Tasks
Brief Commercial Work

ROUTE — TRIP TO SCHOOL
Recreational Opportunities
Severe & Subtle Hazards
Topography
Weather (Dry or Rainy Season)
Cleaniness (from Home)
Distance (Actual and Percieved)

SCHOOL — SCHOOL
Cleanliness (for School after the journey)
Punctuality
Concentration (Subject to Energy
expended en-route, food provision at school etc.)
School Conditions

ROUTE — TRIP FROM SCHOOL
Recreational Opportunities
Severe & Subtle Hazards
Topography
Weather (Dry or Rainy Season)
Cleaniness (to Home)
Distance (Actual and Percieved)

HOME — AFTERNOON/EVENING
Essential Domestic Tasks
Commercial Work
Energy
Homework
Social and Play

LEGEND
Time
Distance
Begining / End of Journey
Journey (Route of Activities)

Figure 1: Rural Scholar Conceptual Trip Map (Author)

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It follows therefore that the rural scholar's trip typically is longer, begins earlier and is preceeded and succeeded often by compulsory domestic, social and, or commercial responsibilities. When the scholar transport policy needs to tie with non-motorised transport policy in the rural area: conditions that literature describes as valuabe assets to tie the knot are a fundamental starting point. These include (a) the nature of the vehicle; (b) distance; (c) operation and opportunity; (d) topography and route and; (e) institutional infrastructure.

The Nature of the Vehicle

The bicycle extends the walking motion with mechanical force. In Africa, it competes with the social value attributed to private vehicles, thus making it supseptable to cultural barriers Mashiri, 1996; Mashiri, 1997 (Pochet & Cusset, 1999) which seem to respond to the local social environment, perceptively and attiduninaly[3] (Lorene, Brunton, Oliver, Oliver, & Oakley, 2008; Timperio, Crawford, Telford, & Salmon, 2004). Rural scholars face a vast topographic challenge involving strict familiarity with the local area and strong spatial competencies[4], unlike urban youth 'bubble wrapped' (Malone, 2007) without independent mobility (Alparone & Pacilli, 2012).Collectively a cycling culture is inhibited, encouraged and reproduced within and *through specfic cultural worlds* as Horton (2007) puts it:

> *Although it is constantly produced and reproduced, fear of neither cycling nor the cyclist is inevitable. Both the conditions for cycling practice and representations of the cyclist can change and be changed, and thereby produce different effects. Many people who cycle today racing cyclists, touring cyclists, cycle campaigners, bike messengers belong to cycling cultures which produce and reproduce positive experiences and representations of cycling. These people may be aware of constructions of cycling as something to be feared, and of the cyclist as deviant and strange, but such negative representations are easily exceeded by the celebratory and confirmatory evaluations of cycling and the cyclist continually flowing through their specific cultural worlds.*

Thus, for scholars in rural areas: self defined orientations with the mechanical and environmental system of the bicycle needs to be articulated further. This may enable policy makers and service providers to reflect the demand for travel within a somewhat limited context.

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[3]Some studies argue that children reproduce their parents travel habits and perceptions of other modes.
[4]Spatial skills are discussed in Joshi, Maclean, & Carter(1999).

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Distance

Cycling to school seems subject to the distance that is travelled and the availability and affordability of motorised scholar transport services. It is recommended that cycle networks should at least serve distances between 2km and 5km to reduce the magnitude of effort required (Parkin, Ryley, & Jones, 2007). Scholars are more likely to travel actively when distances are at most 2.5km[5] in urban areas (Nguyen, Trang, Tang, Hong, & Dibley, 2012). However, village scholars, in an Irish study, actively travelled under 3km (1.04-1.22 miles) and inactively travelled more than 6km (7.57 – 5.2 miles) (Nelson, Foley, O'Gorman, Monya, & Woods, 2008). Nelson, Foley, O'Gorman, Monya & Woods (2008) further note that it is notable that "as population density decreases, the travel distance to school increases, resulting in fewer adolescents actively commuting" and resorting to motorized scholar transport services seems viable for distances beyond the 3km mark. Distance in international and local studies plays a pivotal role in attracting trips and encouraging/discouraging intermediate scholar transport in rural areas within a 5km distance from school, where other services are not available.

Operation and Opportunity

Where Rural Transport Services (RTS) are available, they are demand driven and are dictated by the terrain and distance traveled, impacting on travel cost and maintenance, inhibiting their affordability (Njenga & Davis, 2010). Bicycles can serve as feeders to RTS, which may increase the demand along a route and in an area through increasing the catchment area -- since economies of scale can be achieved. Each feeder stop requires secure facilities and accountable and monitored storage.

Such services may require fewer maintenance and service stations as articulated in the policy statements in the Shova Kalula Bicycle Project (Department of Transport, 2009), and integrate the service with feeder stops/stations where viable. These are critical rural employment opportunities which can consolidate labour and strengthen indigenous transport related practices[6] (Chakwizira & Nhemachena, 2012), by scholars, in rural areas.

Topography and Route

Rural areas, in the North West Province are expansive and numerous paths describe the route to school. Their scattered nature is a result of a complex set of land ownership related factors wrought by South Africa's apartheid past (i.e. tribal land ownership, local municipal by-laws etc.). Scholar travel is often faced with stumbling blocks such as rivers, actual and percieved dangers (Porter, et al., 2010) which incrementally discourage the prospective trip makers. The natural elements impact rural gravel routes significantly (Njenga & Davis, 2010), calling for innovate infrastructure and network solutions for rural areas. Declines, steeps and winds all affect the ease of cycling efficiently: in dust drenched and dry areas such as the North West Province, or the Northern Cape Province, scholars who cycle are exposed to harsh elements.

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[5]In this study, of a Vietnamese city the percentage share of cycling increased as age and distance increased; and passive commuting remained relatively constant, though walking decreased.
[6]Based on the observations, it is clear that tribal land issues dictates what has to happen in rural areas, thus it inhibit tribal population to have access to activities, because of the un-eagerness to provide land for proper development (e.g. commercial or public).

Institutional Infrastructure

The lives of rural people are characterised by isolation, exclusion, hardship, unreliable access to even the most basic economic opportunities and social services. For the majority of their transport needs, they rely on non-motorised means of transport and on rugged paths, tracks, and roads, which are typically in poor condition and often passable in dry weather[7]. (Department of Transport, 2008)

Non-motorised transport in South Africa is a considerable concern in public policy statements. It is anticipated that the Department of Transport will 'update all its institutional and legislative arrangements to effect the most cycling-friendly legislative and institutional environment possible' (Department of Transport, 2008). Thus, while such integration is expected to manifest in scholar transport services, this has been the case (especially given that the significance to rural scholar mobility and access of NMT and indigenous transport practices have not been sufficiently acknowledged) . This failure is more as a result of the policy on scholar transport (Department of Transport, 2009) orientation toward motorised transport services: with a marginal focus on rural scholar mobilities and their potentials.

BICYCLE DISTRIBUTION IN NMMD

Since 2003 North West Provincial Department of Public Works, Roads and Transport, from the 8310 bicycles were distributed within NMMD catchment area, for rural, farm and peri-urban learners. Bicycles were provided as an alternative to motorised transport, even though there are various problems which arise with this type of mobility.

Figure 2 illustrates the bicycles distributed to different rural and farm schools in NMMD from 2003 to 2013. Most of the bicycles were distributed in 2008 (27%), the least number of bicycles were in 2011 (3%) and no bicycles were distributed in 2003, 2005 and 2013. A total of 82% of bicycles were distributed between 2006 and 2010.

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[7] Draft National Non-Motorised Transport Policy, 2008: pp.11.

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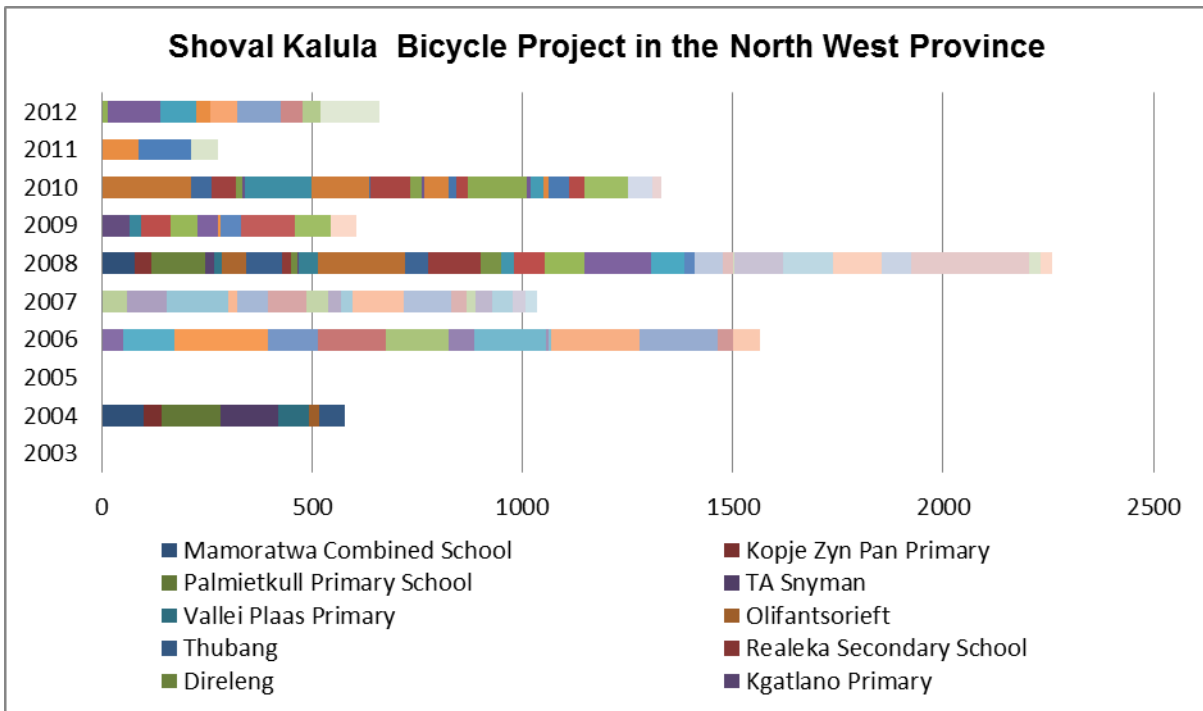
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Figure 2: Bicycle Distribution NMMD Source: (Public Works, 2014)

The gaps in bicycle distribution to each school per annum suggest that consistency in the distribution of bicycles in the district is lacking. The distribution pattern begs the question as to how often should bicycles be distributed to learners, whether annually or, based on enrolment or, catchment? Suggesting that there is a research and policy gap to fill: especially where monitoring and evaluation mechanisms for non-motorised transport provisions are not met (Department of Transport, 2008).

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CONCLUSION AND RECOMMENDATIONS

Firstly, bicycle projects are justified by the need to redress the dispersed settlement patterns and the associated dispersed location of nodal facilities such as education , in part resulting from apartheid planning (in current planning practice) which tends to marginalise rural areas. Scholar mobility, in the non-motorised context is impacted significantly by such dispersion (a) in the distance between locations, (b) time to these locations and (c) activities prior and after embarking on the trip. Thus, when implementing the draft policies which are currently utilised as guidelines these policies should take cognisance of rural scholars' activities before and after the trip has been undertaken.

Secondly, this paper highlights the view that bicycle provision in NMMD is critical for effectively mobilising rural scholars in sufficient numbers to attend school (which is crucial for their socio-economic advancement), in addition to motorized-transport, where such a relationship is possible. Therefore the current legislative frameworks should be amended in such a way that they also consider community, topographical and mobility dynamics of rural areas. In other words, a new policy discourse is necessary for scholars in rural areas. Thirdly, it is apparent that this research suggests key focus areas to be explored in non-motorised scholar mobility in rural areas:

- Research that considers rural scholar's trip time, duration, and activities along the way.
- Possible types of cycling infrastructure retrofitted to paths and tracks in rural areas, and the cost-benefit analysis thereof.
- The extent to which scholars, the local community and public sector consolidate efforts to formulate suitable scholar transport solutions.
- The need for proper maintenance facilities integrated with RTS stops.
- The need for proper monitoring and supervision to ensure that the NMT interventions provided are utilised as stated in national as well as provincial policies, and
- Conducive conditions to cycling need to be integrated in policy, planning and implementation.

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