THE POTENTIAL OF BICYCLES AS A MEANS OF TRANSPORT
FOR LEARNERS IN RURAL SOUTH AFRICA

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ABSTRACT

Transport for learners in rural areas remains an often-overlooked crisis in South Africa. While the shortage of schools and classrooms is a well-recognised problem, the transport problems that the combination of shortages of schools and the low-density settlements in many rural areas causes are often overlooked, yet they remain enormous. While reliable estimates are difficult to find, it is estimated that approximately 750,000 or more than 10% of learners in South Africa walk more than an hour each way during their daily trip to school.

A combination of providing bicycle transport and optimising locations of schools would be by far the most cost effective solution for addressing this problem. It was found that subsidising bicycles is approximately ten times more cost effective than subsidising school busses. In 2001-2002 the South African National Department of Transport piloted a subsidised scholar bicycle programme, called Shova Kalula, in which subsidies on bicycles for learners were tested on a larger scale.

It was found that expanding such programmes is financially feasible, as the cost per learner is extremely low if spread over the lifetime of a bicycle or over the school career of the learner. It is also recommended that the Departments of Education and Transport co-ordinate efforts to locate schools within cycling distance of its learners. This paper is the first of a series that will examine the school transport situation in South Africa and will discuss the viability of using bicycles to address this.

1. INTRODUCTION

Education has become one of the most important focus elements for the current South African government and as such the largest share of the budget is allocated to education. In 2001 more than R53 billion of the government budget was spent on education, which is more than 20% of the total budget. Despite this prioritisation, in many areas the state of education remains poor and the overall backlog in terms of provision of classrooms and qualified teachers remains enormous, with an estimated 77,000 teachers still un- or under-qualified and a total of 67,000 additional classrooms required. Furthermore, as in some provinces more than 90% of the budget is spend on salaries, upgrading or investing in new educational infrastructure remains difficult (CSI 2001).

Given the scope of these problems and the urgency with which they need to be addressed, the problem of transport for learners, especially in rural areas has received little attention so far. Understandably, the government has prioritised providing schools for learners with no access to schools at all, but many students still live far away from the nearest school. Another reason why learner transport has not received that attention it deserves is because it is the responsibility of two departments, the Department of Transport and the Department of Education. The Department of Transport calls children “special need customers”, but provides no further details of how the needs of these customers are to be met (NDoT 1999).
Effectively addressing this issue would require close co-ordination of these two departments\(^1\). It should be recognised however that this is not a uniquely South African problem but that this concern exists in many other developing countries (Vasconcellos E. 1997).

As the number of schools increases the focus needs to shift to optimising the use of existing schools, while at the same time working towards efficiently increasing access in low-density rural areas. Because of the low densities in many rural areas it is difficult to build large schools, as the number of learners in the catchment area of the school is too small. In these areas the government has the options to increase the number of schools, or increase the catchment area through improved transport for learners. A well-planned combination of the two would probably lead to the optimal solution.

Before endeavouring to find the optimal solution however, it is important that the current status of learner transport and access to schools is better understood. This paper will attempt to provide this. Furthermore an overview of the options available for improving learner transport will be presented. This paper will focus on the rural areas as in these areas the access to schooling is poorest and also the most difficult to address.

2. SCALE OF THE PROBLEM IN RURAL SOUTH AFRICA

As was stated earlier, one objective of this paper is to provide a better understanding of the current status of learner transport in the rural areas. The most reliable data currently available is still largely based on the 1996 census and this needs to be taken into account. In addition “Measuring Rural Development” a recent publication by Statistics South Africa provides valuable information on the overall access to services in rural areas in South Africa.

In October 1996 there were 8.1 million children between the ages of 5 and 15 in South Africa of whom 79% were attending school (Stats SA 2001). If one looks at children of the legal school attending age, which, is between 7 and 15, there are 6.5 million learners and 89% were attending school. If only the rural areas of South Africa are considered, the percentage of children between 7 and 15 attending school drops to 86%. This leaves 14% of children in this age group not attending school within the mandatory schooling age; a total of about 435,000 children\(^2\).

It should be noted, that the 86% attendance rate is not constant over the age group (see figure 1) but the percentage attending school increases with age up to 93% at the age of 11, which indicates that a large number of learners in the rural areas start school later, only at age 7, 8 or 9. The 14% of children not in school in October 1996 therefore does not mean that 14% of children in rural areas do not attend school at all, only that they start at a later age. Clearly however this puts these children at an immediate disadvantage when compared with learners in urban areas. Given the tendency for starting school late, the bulk of children within the school going age of 7 to 15 in the rural areas will be in primary school. As will be discussed later, the late start of school for many children in rural areas might be related to the reluctance of parents to have five to seven year olds walk to school for more than one hour.

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\(^1\) It is encouraging to note that in the North West Province the provincial departments of transport and education have joined efforts and launching learner bicycle projects in the beginning of 2003. The details of this programme were not yet available at the time of writing this article.

\(^2\) \([48\% \text{ of population in rural areas} \times 8.1 \text{ million (5-15)} \times 80\% \text{ (excl. 5 and 6 year olds)} \times 14\% \text{ not in school} = 435,000 \text{ children not attending school.}]\)
Attendance in rural areas peaks at 93% in the rural areas, while in urban areas it peaks at 97%. If it is assumed that the last 3% of children are not in school at any given time because of a variety of reasons such as longer illness, handicaps etc. and this figure is similar for urban and rural areas, this still leaves a 4% of rural children completely outside the schooling system for other reasons. While 4% may not seem like a lot, it does translate into approximately 160,000 children in this age group in the rural areas who never attend school. This is not an unreasonable assumption given that of the 16 year olds in both rural and urban areas surveyed at the time, 6% had no schooling at all. Again the situation in the rural areas is expected to be worse. While there are several reasons for the poor attendance and completion rates, one of these is physical access to schools, especially secondary schools, as will be demonstrated in the next section.

3. **NODAL AREAS OF THE INTEGRATED RURAL DEVELOPMENT STRATEGY**

As part of the Integrated Rural Development Strategy formulated by the National Government 13 nodal areas were identified for accelerated rural development. In order to provide a baseline study and indicators for monitoring, Statistics South Africa conducted a Social Development Indicators survey in 2001. The results of this survey were published in 2002 by Statistics South Africa under the title “Measuring Rural Development”. This survey provides valuable detailed information regarding access to primary and secondary schools in these nodal areas and some of the most relevant results will be discussed below. A summary of the overall access problem will also be provided as they will provide a secondary criterion for designing a transport solution for increasing access to schools.

It was found that for 4,7% of households the nearest primary school was more than 60 minutes away by the household’s usual means of transport. Furthermore for an additional 3,5% the nearest primary school was between 45 and 59 minutes away by the household’s usual means of transport. In the same survey it was found that for 93,3% of households the usual means of getting to school was by foot, with some areas the percentage being as high as 99%. Clearly, but unsurprisingly, walking is by far the most dominant mode of transport for learners in rural areas. Only 1,8% of learners in these rural areas travelled to school by taxi and the remaining modes accounted for 4,9% that would mostly be school busses and bicycles.
Table 1. Number of households where usual mode of transport to school is by foot and numbers where the closest school is more then 45 minutes away, per nodal area.

<table>
<thead>
<tr>
<th>Nodal Areas</th>
<th>Transport to Primary school on foot</th>
<th>Transport to Secondary school on foot</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total N (1000)</td>
<td>&gt;45 min</td>
</tr>
<tr>
<td>All nodal areas</td>
<td>1560</td>
<td>123.24</td>
</tr>
<tr>
<td>Off Tambo (EC)</td>
<td>517</td>
<td>29.184</td>
</tr>
<tr>
<td>Alfred Nzo (EC)</td>
<td>140</td>
<td>11.34</td>
</tr>
<tr>
<td>Umzinyathi (KZN)</td>
<td>77</td>
<td>8.778</td>
</tr>
<tr>
<td>Umkhanyakude (KZN)</td>
<td>83</td>
<td>18.592</td>
</tr>
<tr>
<td>Sakhuhana (LP &amp; MP)</td>
<td>199</td>
<td>9.072</td>
</tr>
<tr>
<td>Eastern Municipality (NP &amp; MP)</td>
<td>108</td>
<td>0.756</td>
</tr>
<tr>
<td>Chris Hani (EC)</td>
<td>190</td>
<td>7.98</td>
</tr>
<tr>
<td>Ukhwuleni (EC)</td>
<td>82</td>
<td>7.134</td>
</tr>
<tr>
<td>Ugu (KZN)</td>
<td>100</td>
<td>6.8</td>
</tr>
<tr>
<td>Zululand (KZN)</td>
<td>112</td>
<td>14.904</td>
</tr>
<tr>
<td>Central KwaZulu (WC)</td>
<td>10</td>
<td>0.7</td>
</tr>
<tr>
<td>Thabo Mofutsanyane (FS)</td>
<td>124</td>
<td>6.448</td>
</tr>
<tr>
<td>Kaahari- Kgalagadi (NC &amp; NW)</td>
<td>28</td>
<td>2.072</td>
</tr>
</tbody>
</table>


If we consider the secondary schools the problem is even worse. Here it was found that for 12.5% of households the nearest secondary school is more than 60 minutes away. For an additional 7.8% the nearest secondary school is between 45 and 59 minutes away, bringing the total percentage to 20.3% of households or 339 000 households. Only 4% of households in which children do not attend school say that it is so because it is too far away. The most important reasons given are that it is thought that children are too young, or that school fees cannot be paid.

In summary the most relevant findings from the Measuring Rural Development study are:

3.1 Primary schools:
7.9% of households more than 45 minutes walk away representing 123 240 households. The average household size is 4.75 and if we assume that on average on member of the household is attending primary school then approximately 123 000 children are suffering from this poor level of access.

3.2 Secondary schools:
18.2% of households more than 45 minutes walk away representing 254 618 households. The average household size is 4.75 and is we assume that on average 0.75 members of the household are attending secondary school then approximately 190 000 learners are suffering from these poor levels of access.

In addition it should be noted that 107 000 children in the 7-15 age category in these nodal areas are not attending school.

In order to get a reasonable picture of the figures nationally we can extrapolate these figures. The total population in these nodal areas is 7 900 000 or 42% of the total rural population of South Africa. If we assume that that the situation in the other rural areas is about the same, then approximately 750 000 or approximately 10% of the total school going population of South Africa.
While it is recognised that this is not a very accurate extrapolation, it does provide a reasonable estimate of the scale of the transport problem facing rural households in South Africa.

Finally, a study done by students of the Research Centre for Employment Creation in Construction provides an interesting example of the particular challenges that learners may typically face in rural areas. This study was done in the Mohlaletse area of Sukhukhune in the Limpopo province. A survey done at local schools revealed that most students walk to school, and that many have to cross the Mohlaletse River when doing so. When the river is dry this presents no problem and only 7% of learners walk more than 3 km to school. However if there is water in the river many students are forced to use the only bridge over the river and the percentage of students walking more than 3 km increases to 23% (Vos & Willems 2001). This example illustrates that aggregated figures alone need to be treated with caution when planning interventions in rural areas and that involvement of the local community is required during the planning process.

4. SCHOOL TRANSPORT ALTERNATIVES IN RURAL AREAS

Now that a clearer picture has been provided of the status of schooling and school transport in rural areas, the question is whether or not interventions are desired and can be recommended. For an outsider to define needs and priorities for a community is always difficult and usually unproductive. A community is usually in the best position to recognise and define their own priorities, something that is clearly recognised and required in the Integrated Development Planning process used by South African local governments. The purpose of this paper is therefore not to prioritise interventions, but rather to attempt to provide a practical and affordable intervention if a local community decides that improving transport for school is a local priority.

Generally school transport services are divided into two categories: public and private. Public transport options most commonly used in South Africa are school bus services or taxi services. The school busses are usually operated with close involvement of the government and often some kind of subsidy is provided to learners. Learners using taxis to travel to school is more common, but these are generally privately operated and often present a significant financial burden to the household if daily taxi fares are to be paid.

The most common form of transport for learners in South Africa is walking, which is essentially a private mode. Other private modes would include cycling or being dropped off by another household member with a private vehicle. The number of learners travelling to school with their own private motorised vehicle is negligible. From a government’s perspective, be it local, provincial or national, the realistic options for improving school transport would be to develop an affordable school bus/taxi system and/or to stimulate the use of bicycles as a means of transport for learners. It will be shown that the cost of promoting bicycles is only a fraction of the costs of developing a bus system. As both these interventions would be financed largely through public funding the intervention that can achieve the desired level of service at the lowest cost should be chosen. As discussed earlier, the actual level of service and priorities of a community should be defined by such a community and this paper will not prescribe any.

However, let us assume that in the Umkhanyaduke nodal area in KwaZulu Natal, one of the 13 nodal areas earmarked by the National government, the local government decides that the access to secondary school is unacceptable. The reason for this is that for 26.4% of all households in which the usual mode of transport to school is walking, the nearest secondary school is more than 45 minutes walking away.
The District council decides that 45 minutes is the maximum that a learner should be expected to walk to school and for these students another means of transport needs to be made available (or more schools need to be built in these areas) so that the student does not need to walk this entire distance on a daily basis. Furthermore the council decides that if other modes of transport are used the maximum travel time should also be below 45 minutes.

Umkhanyundeke has 524,000 people and 89,000 households. Therefore the average household size is 5.9. It will be assumed that each household has on average one member in secondary school. Since approximately 21,500 households indicated that these members need to walk more than 45 minutes to the nearest secondary school, improved transport for approximately 21,500 secondary school learners needs to be provided.

Given that on average a cyclists travels at about three times the speed of a pedestrian, access to a bicycle for these learners would decrease their travel time by two thirds, and well within the 45 minutes level of service desired. One alternative therefore would be for the government to implement a programme, which would provide a bicycle to these learners. Another alternative would be to implement a school bus system that would bring these learners to school, or at least provide a ride over one part of the distance.

Comparing the costs of bus and cycle transport can be done in different ways. One guideline provided for urban areas in Africa provides figures of US$ 0.02 / passenger-km for bicycles and US$ 0.04 / passenger-km for busses (de Langen & Tembele 2001). These figures are based on “total cost” and take into account, financial (investment and maintenance), time and indirect costs. Based on these guidelines, bicycles already offer a solution at 50% of the price. In rural areas however, this difference is expected to be higher for a number of reasons. Firstly it is known that in low-density rural areas busses operate much less efficiently than in high-density urban areas, so increasing the passenger-km costs of busses. For bicycles on the other hand the density does affect the operational costs. Secondly because of the poorer infrastructure in rural areas the Vehicle Operating Costs of a bus will be drastically higher than in an urban area. While the operating costs of a bicycle in rural areas will also be higher, it will not be of the same magnitude. Thirdly the figures used by de Langen and Tembele take time costs into account. With busses having a higher travel speed, this means that a relatively larger proportion of the passenger-km costs of the bicycle are composed of the costs of time. If one considers travel time to school for learners, it is questionable whether value of time should be an important consideration or a consideration at all3. If this were not the case, the difference in costs would widen even more in lowering the relative costs of bicycles even more. It can be concluded therefore that based on these guidelines, bicycle transport is overwhelmingly more attractive.

5. THE SHOVA KALULA (PEDAL EASY) NATIONAL BICYCLE DEMONSTRATION PROJECT

Another method of comparing costs is based on actual experience in South Africa. The costs of providing bicycles to learners for school transport has been piloted by the National Department of Transport as parts of its Shova Kalula project implemented in 2001-2002. The initial aim of this programme was to provide 10,000 used bicycles in ten areas of South Africa, with at least one site in each province. The estimated cost per bicycle at the beginning of the programme was R270.00 per used bicycle, bringing the total project cost to R2.7 million.

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3 This is not to say that time savings are not important in rural areas, just that it is important for reasons other than monetary ones. A community decides that more than 45 minutes is unacceptable not for monetary reasons, but for reasons of equity, policy or democracy.
Built into this cost was the establishment of ten micro-enterprises that would sell the bicycles and repair services to the community. Afribike, a South African NGO that helped initiate this project was appointed as service provider and commenced the project in February 2001.

Unfortunately the target of 10,000 bicycles was never reached and in the end only approximately 4500 bicycles were distributed through the programme. However eleven instead of ten shops were established. The main reason for the lower number of bicycles was that the cost of the bicycles was higher than estimated and that the user contribution was lower than expected. Despite this seemingly disappointing result, a more careful analysis of the figures shows that this programme still provided a highly cost effective solution for the learner transport challenge facing rural South Africa.

The majority of bicycles in the programme were provided to approximately 2500 learners in four areas in the Limpopo Province at a discounted average price of approximately R100. While this was somewhat different of how the bicycles in other areas were sold, the overall costs of the programme can be used as a guideline for determining the costs of providing bicycles in rural areas. The cost of the project to the government was R2.7 million. For this 4500 bicycles were delivered, coming to a cost of R600 per bicycle. However approximately R1.1 million was spent on the training and setting up of 11 repair/maintenance centres across the country (Afribike 2002-a). If we consider these separately, then the cost per bicycle is approximately R355 per bicycle. If the costs of establishing the shops are depreciated over 5000 bicycles delivered per shop instead of approximately 400 bicycles per shop as was the case in this project, then the cost per bicycle to the government comes to approximately R355 per bicycle + R20 depreciation= R375 per bicycle. The costs of supplying new bicycles would be higher and Afribike estimates the cost to be approximately R725 per unit including depreciation cost of shops, transport of bicycles to the rural areas, management and overheads4 (Afribike 2002-b).

It should be reiterated that in the Shova Kalula Programme bicycles were not given away for free, but a user contribution was requested from recipients of a used bicycle that helped to cover some of the costs of the programme. With the new bicycles a user contribution of at least R100 and an average of R200 could be expected which could be used to cover some of the costs of the programme. Increasing this figure would of course be to the advantage of the government, as it would reduce the cost of the programme or enable it to provide more bicycles. However finding the optimal price level in these circumstances is difficult and will be discussed in subsequent papers. Based on the above a new bicycle could realistically be delivered to a learner in rural KwaZulu Natal at a cost to the government of R625 per bicycle. If this cost is spread over five years, assuming that to be the lifetime of the bicycle, the government could provide a bicycle to a learner at a cost of R125. Without any contribution from the learners, the government would carry the full cost which would be R145 be a year.

We will now return to the previous example concerning the district of Umkhanyundeke in KwaZulu Natal. If the local government wanted to address the problem of secondary school learners walking to far it could do so at a annual cost of 21,500 x R125= R2,687,500 a year. After five years of this programme, theoretically all the learners who live too far away would have been provided with a bike and after that bicycles would just be supplied to new learners entering secondary schools. R2.69 million a year is the scale of financing that many municipalities would be able to raise, especially if they receive additional funding from the National Government which has indicated strong interest in such programmes (NDoT 2002).

4 The breakdown provided by Afribike is as follows: R500 for a new bike, R 75 transport costs from main urban centre to rural area, R110 management costs and overheads, R25 depreciation costs for a bike shop, R15 cos of sale.
If the municipality would consider using buses the costing would be completely different. One could consider the investment cost first. Given the low population density probably 40-passenger busses would be the maximum size that could be used efficiently and it will be assumed such a bus costs R300 000. In order to make a fair comparison, it is assumed that in the first year only 20% of these learners would be able to use the bus and that in five years the programme is built up so that all learners that need it have access to the bus after five years. 20% of 21,500 amounts to 4300 learners. For 4300 learners 108 busses would be required. If such a bus costs R300 000 then an initial input of R32.4 million would be required, and this would be required annually for the next five years. Clearly this puts the costs of providing bus transport to learners in a completely different cost category, as the operational costs of the busses are not even considered yet.

Another route could also be of course that the government tries to use the existing taxi and bus industry to provide transport services to learners. This would drastically reduce the capital outlay required. If we assume that taxis would charge R5 per learner per day and that there are on average 200 schooldays a year, then this would cost R1000 per year. In order to reach all 21,500 students the municipality would have to budget R21.5 million annually, compared to R2.64 million annually if the municipality were to provide bicycles. Of course the level of subsidy can be varied to shift the burden from the municipality to the learner’s household. Current subsidies in some areas amount to R0,13 per km, which for 5 km each way would amount to R1,30 daily. These rates were set in 1997 however and have not been adjusted since (M&G 2003). At an inflation rate of 8% annually this would amount to R0,21 per km in 2003 or a daily subsidy of R2,10. It unlikely however that R2,10 would be sufficient to cover these costs, as it would mean a fare of R1,05 for a 5 km trip. In reality the cost of such a trip is closer to R4 per trip. At these rates of subsidy a significant portion of the costs would be shifted to the household. Given the levels of poverty in most rural areas, it is questionable whether either the municipality or the households should be burdened with these costs if lower costs alternatives are clearly available.

What is clear from these examples is that providing bicycles instead of school busses is a much cheaper alternative for improving learner transport in rural areas. In any rural area where the local government or community considers investing in improved school transport, the provision of bicycles should be the first option. Having said this, the task of providing (subsidised) bicycles to learners should not be underestimated. Providing subsidies without having the system abused is always difficult, and with an attractive item like bicycles, it is certain that many will attempt to abuse the system and acquire a subsidised bicycle even though they might not be eligible. This represented a particular difficulty with the Shova Kalula and other projects involving subsided bicycles. However even if the costs of these abuses are taken into account, it is likely that subsidising bicycles will still be much more cost effective than subsidising school busses.

Table 2 provides a simple comparison of the costs to the government and households of bicycles and bus transport. This table provides a cost comparison on an annual per learner basis. In practice however the choice could be made to subsidise the capital costs of the bicycle and require the household to pay for the annual maintenance. However annual maintenance subsidies could be provided by example to the provision of tyres and tubes on an annual basis. For the busses the cost is based on R0.50 per passenger-km.

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5 A taxi trip from the author’s residence in Westdene to the centre of Johannesburg currently costs R4.00. The trip distance is about 6 km and the passenger km cost is about R0.66.
Table 2. Comparison of costs of bicycle and bus transport per learner and annual cost to government and households at different levels of subsidy.

<table>
<thead>
<tr>
<th>Assumptions:</th>
<th>Bicycle</th>
<th>Bus</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Average distance to school is 6 km one way</td>
<td>220</td>
<td>1200</td>
</tr>
<tr>
<td>2 Cost of bus service is R0.50/ passenger-km</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 There are 200 schooldays a year</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 Annual maintenance cost of bicycle is R75</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 Annual depreciation cost of a bicycle is R145 (5 year lifetime for the bicycle)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6. SECONDARY BENEFITS OF STIMULATING BICYCLES USE

While the cost comparison has already made it overwhelmingly clear that providing bicycles should be the first alternative considered for any municipality if it wants to provide improved school transport, provision of bicycles in rural areas has additional secondary benefits that are highly significant and deserve some attention in this paper.

Table 3. Overview of access to essential services in thirteen Nodal Areas.

<table>
<thead>
<tr>
<th>All numbers in thousands</th>
<th># households travelling by foot</th>
<th># households travelling more than 45 minutes by foot</th>
<th># households travelling by taxi</th>
<th># households travelling less than 30 minutes by taxi</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinic</td>
<td>966</td>
<td>226</td>
<td>491</td>
<td>NDA</td>
</tr>
<tr>
<td>Hospital</td>
<td>156</td>
<td>NDA</td>
<td>1129</td>
<td>274</td>
</tr>
<tr>
<td>Primary School</td>
<td>1560</td>
<td>123</td>
<td>30</td>
<td>NDA</td>
</tr>
<tr>
<td>Secondary School</td>
<td>1399</td>
<td>255</td>
<td>138</td>
<td>NDA</td>
</tr>
<tr>
<td>Food Market</td>
<td>970</td>
<td>55</td>
<td>543</td>
<td>NDA</td>
</tr>
<tr>
<td>Post office</td>
<td>481</td>
<td>NDA</td>
<td>857</td>
<td>224</td>
</tr>
<tr>
<td>Welfare Office</td>
<td>212</td>
<td>NDA</td>
<td>1080</td>
<td>250</td>
</tr>
</tbody>
</table>

Notes: NDA= No data available, Numbers in bold indicate trips that could be made by bicycles and as a result would translate into significant time and/or financial savings for households.

The second most important advantage that bicycles have over school bus transport is that bicycles can not only be used for going to school, but also before and after school, and by other members of the household. Table 3 provides an overview of the status of access to essential services in the 13 nodal areas mentioned earlier. What is clear from this table is that there is a general access problem in these areas. Providing a bicycle to a household increases the mobility of the entire household and can lead to significantly improved access and savings in transport costs. If we look at access to postal services for instance, we see that 32.5% of households or a total of 857,000 households travel to these by taxi. Of these 253 000 or 29.6% indicate that this taxi trip takes less than 30 minutes. If we assume that 70% of these trips could easily be made by bicycle if available, it would save 177 000 households the taxi fare each time they would have to go to the post office. And for the 481 000 households that access the post office by foot, a trip to the post office would be three times as fast.
In essence therefore, by providing bicycles to learners in rural areas, local governments would not only improve access to schools, but would actually increase the overall access to services for the household dramatically. This is logical as an improved means of transport is provided to the household and if the household uses it effectively if can increase its access to most services or reduce the costs of accessing these services in the cases where taxis were used. Finally it should be noted that there are highly significant environmental and health benefits associated with using bicycles as opposed to using school busses. The details of these benefits will be presented in a different paper.

7. CONCLUSIONS AND RECOMMENDATIONS

Based on the above the following conclusions can be drawn:

- In the thirteen nodal areas surveyed by Statistics South Africa alone approximately 123 000 learners walk or would have to walk more than 45 minutes to reach the nearest primary school and approximately 190 000 learners walk or would have to walk more than 45 minutes to reach the nearest secondary school.
- On a national scale it is estimated that 750 000 learners or roughly 10% of the population in the mandatory school going age walk more than 45 minutes to school each way
- By far the most cost effective solution for improving access to school for households that are far away from schools is to provide these households with (subsidised) bicycles. The costs of providing bicycles would be anywhere between two and ten times more cost effective then providing school busses.
- The Shova Kalula Programme of the National Department of Transport has clearly demonstrated that it is feasible to provide bicycles to learners cost-effectively and in a sustainable way.
- This problem remains largely un-addressed due to lack of co-operation between departments and because it is not being prioritised

It is therefore recommended that:

- The Departments of Education and Transport work out a joint strategy of how they can assist local governments who want to address this issue
- That this strategy recommends that an intervention providing bicycles to learners should be the first option to be considered because of the overwhelming lower costs and other benefits
- That the Shova Kalula programme of the Department of Transport is continued and expanded so that it can continue to develop as a model for bicycle delivery
- That when new schools are built a transport plan for the anticipated learners is included in the planning

8. REFERENCES

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THE POTENTIAL OF BICYCLES AS A MEANS OF TRANSPORT FOR LEARNERS IN RURAL SOUTH AFRICA

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Biography

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