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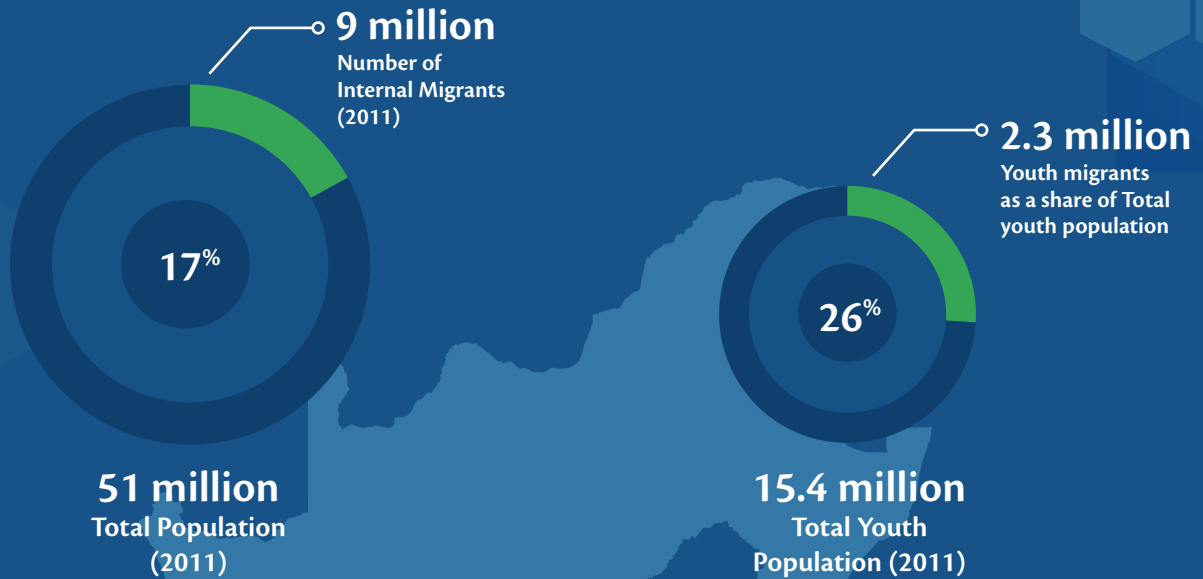
POLICY IMPLICATIONS FOR A MOBILE WORKFORCE

Transport costs as a barrier to employment

Shaista Amod, Julia Taylor & Rob Urquhart, Harambee

Harambee Youth Employment Accelerator (“Harambee”) is a not-for-profit social enterprise that works through public-private partnerships to build solutions that address the “mismatch of demand and supply” in the youth labour market. Harambee works with 450+ employers – from large corporates to small businesses to microenterprises – across all economic sectors from retail, hospitality, tourism, banking, insurance, business services, information technology, manufacturing and mining to social community services. We partner with businesses to match their entry-level job requirements to a network of high-potential work-seekers who have been locked out of the formal economy, typically because they have no social networks and come from poor households. We have scaled significantly over seven years to support over 450,000 young people in their search for employment and linked over 55,000 of these young people to employment with 450 of South Africa’s top companies spanning the retail, hospitality, tourism, financial services, insurance, business-process outsourcing, professional business services, manufacturing, technical and industrial sectors.

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Introduction

South Africa has an exceptionally high unemployment rate. By the narrowest measure, national unemployment averaged 25 percent between 2008 and 2016, and unemployment for youth (aged 15 to 24) averaged 50 percent.¹ Since 2011, economic growth has been declining and unemployment has risen, increasing competition and desperation for jobs. High unemployment in South Africa is a complex issue influenced by many factors, including a mismatch between a large supply of low-skilled workers and demand for scarcer high-skilled labor; poor quality education; an unusually small informal sector; and labor laws that, some argue, constrict employment growth.² Spatial mismatch – the mismatch between residential location and economic opportunities – is another factor that influences unemployment

rates in most metropolitan areas.³ Spatial mismatch is entrenched by the country's long history of migrant labour and unequal access to economic centers. Race-based restrictions on economic access were central to apartheid policy, which has contributed to a legacy of spatial segregation of black⁴ labor from economic hubs. Economically excluded populations live on the outskirts of cities without affordable, accessible public transport into the centers. High transport costs thus become a barrier for low-income groups in searching for jobs and sustaining employment. As part of its broader effort to address supply-demand mismatch in the South African labor market, Harambee has tested several interventions with employers that aim to assist youth workers in managing transport costs.

¹ We use the term 'black' to denote the African, mixed-race and Asian race groups. Note, however, that apartheid policies did not disadvantage these groups equally. African people were consistently the most severely targeted and continue to be worst affected.

This chapter begins with a brief discussion of the issues and research surrounding transport costs as a socio-economic barrier, before moving on to an analysis of Harambee data on transport costs incurred by youth in their job search and work commutes. These data are focused specifically on young people marginalized within the formal labour market, rather than representative of unemployed and employed groups in general. As transport policy, prices and access varies

across provinces, we will focus on Gauteng – where the majority of our sample reside – as a case study. Gauteng is an appropriate choice as it is the commercial hub of South Africa, hosting Johannesburg and Pretoria, as well as the most populous province, largely because of in-migration to seek work.⁴ We will conclude with policy implications for national and local government as well as for the private sector.

Transport costs as a barrier

Employment barriers differ across race, location and income levels

Apartheid policies deliberately targeted groups on the basis of race, and race remains a determinant of access to services and employment in South Africa. However, race is not the only barrier. Budlender and Royston's work, which controlled for race, confirms that residential location has a significant impact on probability of unemployment nearly everywhere in South Africa, except in Nelson Mandela Bay (Eastern Cape) and Cape Town.ⁱⁱ Furthermore, given the poor quality of the South African education system, employers have prioritized work experience as a proxy for entry-level skills. Lack of work experience thus restricts employment opportunities.

Income and location will determine the extent to which transport costs act as a barrier to employment. Research has highlighted transport

costs as an aspect of job search costs that prevent youth from looking for work if they do not have access to finance or income.⁵ Compared to the OECD average, commuting times are significantly higher in South Africa, and highly differentiated by race; black commuters, who tend to live further from jobs, have average commute times of 88 minutes per day compared to white South Africans whose average commute time was 54 minutes per day.⁶ The National Household Travel Survey (NHTS) also shows a positive relationship between commuting times and transport costs – meaning those who spend longer commuting also pay more to travel to work.⁷ Economic exclusion due to spatial inequality is compounded because employees with higher incomes are able to recoup transport costs, as they pay only a small portion of their income for transport, which gives them flexibility to spend higher if required, whereas those with lower incomes cannot do so.⁸

ⁱⁱ The authors note that their methodology was not well-suited to Cape Town's natural geography, so their findings do not imply absence of spatial mismatch.

In addition, the NHTS illustrates that the costs and modes of transport differ across provinces, with transport prices consistently highest in Gauteng. In six years of operating in the entry-level labour market, specifically with lower-income groups, the feedback from candidates who come to Harambee also highlights transport costs as a major barrier to finding a job.

A brief overview of public transport policy

Under apartheid, outlying areas with majority black populations were not well linked by public transport to economic centers. This was a deliberate component of the ‘separate development’ policy, which mandated that different racial groups would be responsible for their own development – while reserving the most lucrative and highly developed areas for white people. Legislation entrenched white ownership of facilities and forced removals of black people from areas in proximity to economic centers. In 1986, due in part to chronic under-provision of public transport, the private minibus taxi industry was legalized.⁹ Although a largely unregulated and unsubsidized industry, such taxis “remain the dominant public transport mode used across all provinces,” with these rides comprising approximately 70 percent of public transport work commutes today.¹⁰

Following the end of apartheid, transport policy was debated with an understanding of the socio-

economic impact of improved access. However, policy at the national level lacked integration with housing policy (determined separately at the national level) or urban planning (occurring primarily at the provincial and local levels). The emphasis in housing policy was on providing home ownership to low-income individuals, which required building more houses in cheaper outlying areas, rather than easing spatial mismatch.¹¹ Housing policy thus reproduced the same spatial segregation that had occurred under apartheid. At the same time, implementation of public transport policies was very slow and insufficiently funded. Public transport modes, planning and funding structures remain highly fragmented even today.¹² More problematically,

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public transport subsidies are overwhelmingly bus-oriented, thus failing to benefit the taxi-using majority.¹³ National policy aims for people to spend no more than 10 percent of their disposable income on public transport, but Ngarachu *et al* suggest that lower-income workers are spending up to 24 percent. This is higher than other country’s averages (household expenditure on transport is 11.4% of disposable income in the UK).¹⁴ In addition, because transport policy has focused on motorized transport and has neglected a lower-income minority that use non-motorized transport, such as walking or cycling, which can be a cheaper alternative. These transport methods are dangerous as the transport infrastructure

is not holistic and thus does not accommodate pedestrians and cyclists.

Gauteng in focus

As transport prices and patterns differ across provinces, we will focus on Gauteng specifically. In many ways, Gauteng illustrates the policies discussed above. For example, rapid in-migration and post-apartheid focus on housing delivery exacerbated existing spatial segregation in Gauteng. The province suffers from extremely high inequality, with unemployment and average household income varying dramatically across sub-regions. The Gini coefficientⁱⁱⁱ for Gauteng is 0.7, which is higher than the national average of 0.68 and also higher than other major cities in Africa, such as Nairobi, whose Gini coefficient is 0.59.¹⁵ Transport is expensive in Gauteng, and public transport access has historically been poor, although the Bus Rapid Transit system is gradually increasing access. On average, walking remains the predominant travel form, largely because public transport is difficult to access.¹⁶

Gauteng is also an example of complications with the proposed devolution of transport functions to the municipal level, as the province contains

three of South Africa's largest metropolitan municipalities – Johannesburg, Tshwane and Ekurhuleni – in close proximity to one another. Flows of people, goods and services have been increasing across these metropolitan areas. However, the 2007 Bus Rapid Transport System, with municipalities implementing and managing their own bus rapid transport infrastructure, is not integrated across the province. There is an increasing need for transport policy to be

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integrated across the different urban areas. For those people living outside of the main metros (Johannesburg and Tshwane) travel to other municipalities comprises 20 to 50 percent of their most recent trips.¹⁷ In their spatial mismatch analysis, Budlender and Royston concluded that access to economic opportunity could be misrepresented for some areas if the municipalities were analysed in isolation. Although Gauteng is the most productive and innovative province in the country, the unemployment rate is one

of the highest in the country at 29.7 percent.¹⁸ Low mobility is "a major impediment to efficient functioning of the labor market and contributes to the high unemployment and search costs."¹⁹

ⁱⁱⁱ The Gini coefficient measures income inequality. The metric is a scale from 0 – perfect equality to 1 – perfect inequality.

Empirical analysis of transport costs

Data description and characteristics

The analysis in this section is based on Harambee’s Employment Journey (EJ) survey, which is used to track employment outcomes of Harambee candidates over time. While we have chosen to focus on Gauteng, the survey covers a wider geography. Completion is voluntary. The EJ is sent six times to every person who has participated and been assessed in Harambee’s workseeker support programme — every four months after assessment over two years. This sample includes

a total of 8,542 responses from February to July 2017. Of these respondents, 6,795 (80 percent) report transport costs relating to job search, previous employment or current employment.^{iv} The other 20 percent did not report on transport costs (this is not to say that there were no transport costs to report). **Table 1** presents the demographic characteristics of the sample. Note that Harambee candidates tend to live in informal settlements far from economic centres, as illustrated by **Figure 3**. The majority of our sample is unemployed, and most (54 percent) of

Table 1
Characteristics of Harambee Employment Journey survey sample (EJ)

Age	Mode	24 (14%)
	Distribution	21-28 (81%)
Sex	Male	36%
	Female	64%
Location	Gauteng	62%
	Kwa-Zulu Natal	14%
	Other	23%
	NA	1%
Employment status	Employed	
	Unemployed	
	Unemployed, searching	
	Unemployed, not searching	
Total sample size (N)		8542

Source: Based on Harambee’s Employment Journey (EJ) survey

^{iv} If we include implicit zeroes (the 608 respondents who are unemployed but not searching for work), this becomes 87% of the sample.

the employed respondents have been employed for less than 12 months.^v

Generally in South Africa, employment rates vary sharply depending on factors including race, education and age. This is not the case in our sample, where these factors are similar across employment status, largely because the entire sample is comprised of disadvantaged youth.^{vi} As a whole, our sample is representative of youth struggling to enter the formal labour market in metropolitan areas, rather than representative of the entire South Africa labor force.

Unemployed sub-sample

Nearly 6,000, or 70 percent, of our sample is currently unemployed. Approximately 95 percent of the unemployed respondents looking for jobs reported transport costs related to job search, with a median of 350 ZAR (US\$ 26.40)^{vii} per month. This is a significant monthly outlay, considering that Harambee candidates tend to use social grants as an income to look for work. South Africa has a well-established social welfare system which pays 17 million social grants monthly. There are seven different types of grants which broadly provide support for childcare, disability, and pensioners. Note though that South Africa does not have

Figure 1

Median transport costs of employed Harambee candidates by wage level



Source: Based on Harambee's Employment Journey (EJ) survey

^v We did not have a strong prior expectation of monthly transport costs, thus we were conservative in excluding outliers (our cutoff was \$603/month, as only 3% of our sample have a monthly wage above \$603). Therefore, we used the median for graphs, but report both mean and median as the NHTS reports mean values only.

^{vi} However, there is some variation by gender. Women are statistically underrepresented in the employed group, comprising just 58% although they are 64% of the total sample.

^{vii} Rand amount converted using the ZAR/USD exchange rate of R13.26/\$1 as at 1 August 2017.

any grant for unemployed youth, so these grants are part of household income generally. This median amount, US\$ 26.40, is 22 percent of a pensioner's or disability grant and 92 percent of a child support grant. Only 23 respondents (0.6 percent of the unemployed actively looking for work) say that they do not spend anything on transport costs relating to job search. The median for transport costs incurred by unemployed respondents is strikingly similar to that incurred by employed but unpaid respondents (usually in unpaid internships or volunteering), who spend approximately US\$ 30 per month (Figure 1). This implies a floor for transport expenses if entering the formal labour market in South Africa.

There is a large difference between the aggregated medians for unemployed and for employed groups (Table 2). This seems reasonable as employed respondents would have less flexibility

in their transport times, modes and routes. More importantly, unemployed respondents would not be able to afford commuting as frequently as employed respondents. Only 13 percent of employed respondents work fewer than five days per week, yet 56 percent of the searching unemployed looked for work at that same frequency. Our monthly measures do not control for differences in job search frequency within the unemployed group. For example, spending \$26.40 monthly may cover transport for job search twice a month from an outlying township like Orange Farm or daily in Johannesburg (Figure 3). When we convert the monthly transport cost into a comparable daily cost, we find that candidates spend a median \$2.15 per day to look for work, or a median \$43.10 per month if searching for work five days a week.^{viii} This rescaled monthly median is much closer to the median for employed

Table 2

Monthly transport costs (USD)

	Employed		Unemployed		Employed (NHTS*)		Unemployed (Siyakha)	
	Total	Gauteng	Total	Gauteng	Total	Gauteng	Total	Gauteng
Mean	50.92	54.40	32.40	32.22	41.13	50.00	42.08	-
Median	45.25	45.25	26.40	26.40	-	-	26.40	-
Mode	37.71	37.71	22.62	22.62	-	-	-	-
N	2089	1367	3563	2306	-	-	1533	-
Proportion of sample	24.46	16.00	41.71	27.00	-	-	76.92	-

* The NHTS was conducted around March 2013, thus we have inflated the monthly figures (for taxi costs) using the private transport consumer price indices from Statistics South Africa.

Source: Based on Harambee's Employment Journey (EJ) survey

^{viii} We convert the monthly transport cost into a daily cost by assuming four weeks in a month and seven days in a week, e.g. if transport costs \$20 monthly and the respondent looks for work three days per week then the daily cost is $\$20/(4 \times 3) = \1.67 .

candidates, implying that the median trip cost is similar across unemployed and employed groups.

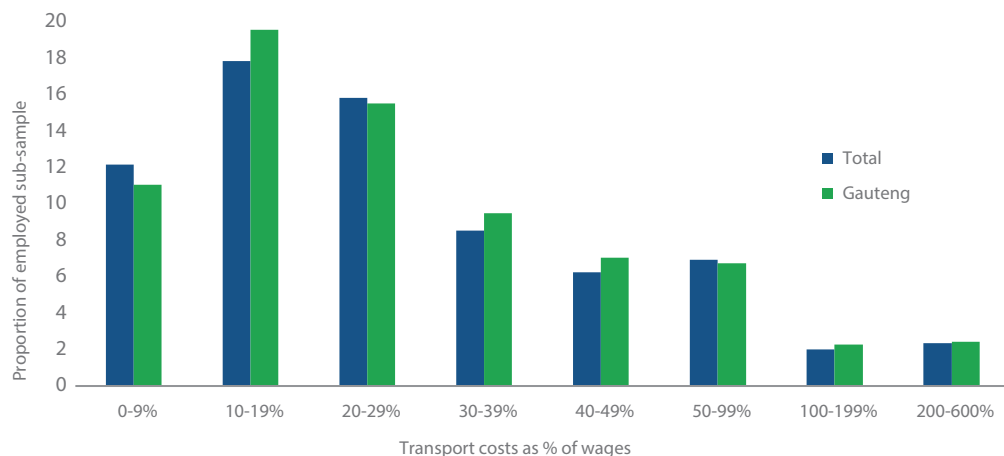
Employed sub-sample

A majority of our employed respondents earn \$263.95 or less per month. **Figure 1** shows that the median transport cost tends to increase as wages increase, although not proportionately, meaning those who earn less also tend to spend a greater share of their income on commuting. **Figure 2** shows the distribution of transport costs as a proportion of wages, taking the mid-point of wage categories as a proxy for wages.

It is unlikely that youth competing for entry-level or low-wage jobs in South Africa would be able to negotiate their wages in response to transport costs, given the extremely high rate of youth unemployment. Instead, **Figure 1** shows

a correlation between income (wage level) and transport costs, illustrating that higher earning employees are willing and able to spend more on transport as their wages increase. For example, they may choose more expensive and efficient forms of transport. As their wages or term of employment increases, some respondents are also likely to move closer to their jobs and so substitute higher housing costs for transport costs. Increased spending on housing instead may be why the highest earning group does not have the highest median transport costs. Kerr found that commute times are low for those in the lower income quintiles, are longer in the medium income quintiles and are low for those in upper quintiles. This is due to use of different modes of transport, with the lower quintiles walking, the middle quintiles using public transport and the higher quintiles using private cars.²⁰

Figure 2
Distribution of transport costs (% wage)



Source: Based on Harambee’s Employment Journey (EJ) survey

The sample groups illustrated in **Figure 2** spent a median 21.33% of wages on transport. In general, respondents spending more than 40 percent of wages on transport say that they are struggling with their transport costs, while those spending less than 20 percent report coping with transport costs. Taken together, these numbers imply that approximately half of the employed group are spending unsustainable proportions of their wages on transport, according to the national policy which identifies 10 percent as a sustainable proportion. The middle group (20-39 percent) is neutral on the issue of transport costs, which is perhaps an indication that their transport spending is manageable in the short term but not sustainable.^{ix}

Comparison with other sources

Our results for the unemployed sub-sample are in line with other research (**Table 2**). However, the transport costs for our employed sub-sample look high compared to sources such as NHTS, Ngarachu *et al* and the Income and Expenditure Survey.²¹ Note though that we must distinguish between transport costs as a proportion of wages and as a proportion of income, as our respondents are likely to have other sources of income in addition to wages, such as social grants, especially at the lower end of the wage distribution. Social grants can add between R410 (US\$30.92) per month (Child Support Grant) and R1,710 (US\$ 128.96) per month (Old Age Pension).

Nonetheless, we think relatively higher transport costs in our sample are also plausible. One of the mechanisms by which spatial mismatch operates is that workers refuse a job that is too costly because of commuting time and costs.²² In this case, we think the opposite may be true for some respondents. They are working in jobs that impose transport costs in excess of what they can afford, in line with Graham *et al* suggesting that unemployed youth find any job preferable to no job, regardless of their reservation wages.²³ They may view this as a temporary hardship with the (potentially unrealistic) expectation of higher wages in the near future. In other words, these transport costs may look unsustainable because they are unsustainable. Thus, average transport costs for a group that has been employed over a longer period may look quite different as some respondents leave jobs that impose unsustainable transport costs. Some candidates may feel that they have to manage the cost so they can acquire the work experience needed for future labour market prospects as work experience is another barrier to first-time workseekers.²⁴

Gauteng results

We focus on Gauteng transport costs for the unemployed sub-sample as there is less existing research for this group. Note that transport costs are very similar for Gauteng and for the total sample, likely because of the demographic homogeneity of the group and because the sample is based entirely in metro regions.^x

^{ix} Note also that median transport costs jump from \$11 for the lowest-spending group to \$43 for the second group. Thus, respondents in the group spending the lowest proportion of their wages on transport are generally in that category because their transport costs are low, rather than because their wages are high.

^x Graham *et al* find large differences in the transport component of job search costs between metro and non-metro regions.

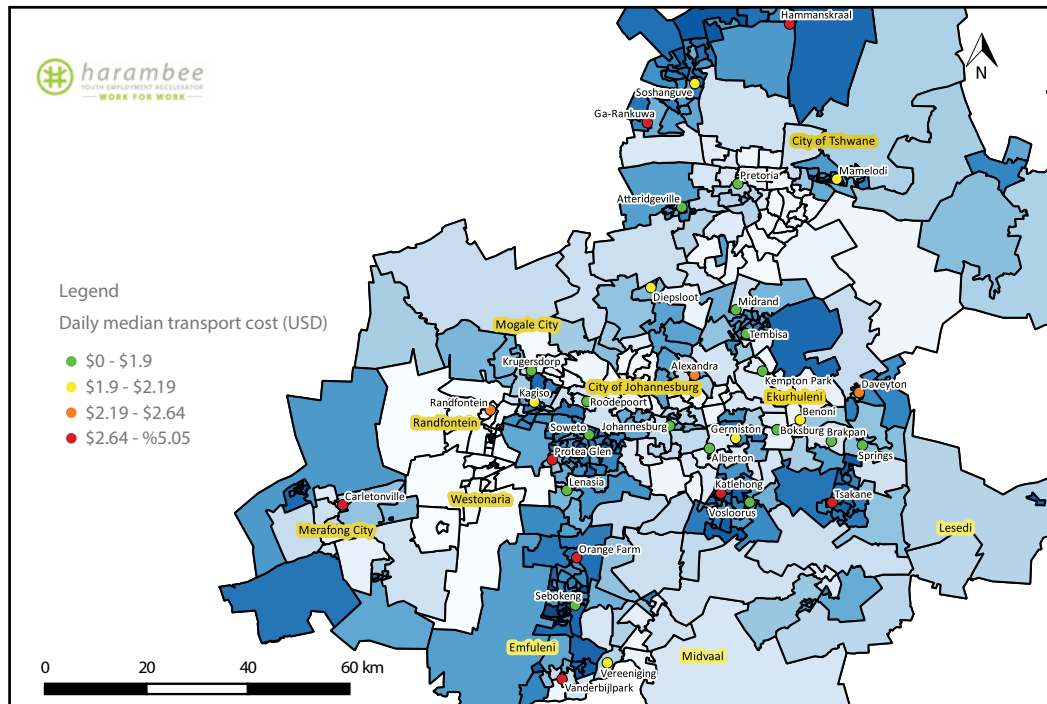
Figure 3 shows transport costs for the searching unemployed by location within Gauteng. We have used the rescaled daily median transport cost to ensure comparability across location (this is equivalent to calculating a return trip cost rather than a monthly spend). Most of these residential locations are informal settlements. Mapping distance to economic centres in the province is complicated by the existence of three metropolitan areas and thus by multiple economic hubs. The background to the map shows unemployment by ward while the coloured dots show transport costs within our

sample. Unemployment rates from the 2011 Census ranged from 4 percent to 51 percent.^{xi}

The map shows significant variability in trip cost by area. As we would expect, areas that are further away from job centers – such as Hammanskraal or Tsakane – experience higher transport costs. This is where a large proportion of low-income workers, who travel into the city center reside. On the other hand, areas with more economic activity and local jobs incur much lower trip costs (e.g. Pretoria or Boksburg) but housing costs in these areas are much higher. Ekurhuleni

Figure 3

Daily median transport costs for unemployed Harambee candidates in Gauteng



Source: Based on Harambee’s Employment Journey (EJ) survey

^{xi} Unemployment rates were not available for Randfontein or Westonaria wards.

appears an especially advantageous area for our respondents, as there are local jobs as well as access to Johannesburg and Tshwane. Moving

south and west of Johannesburg, on the other hand, there are relatively fewer places where low housing costs coincide with accessibility to jobs.

Policy implications

National government

There is increasing awareness at the national and local levels of the need to integrate transport systems, coordinate funding and planning strategies, and reduce the time and cost involved in traveling within South African cities. National government has acknowledged that its role should be limited, as transport policy is more appropriately set and implemented at the local level. The Single Economic Transport Regulator^{xii}, when implemented, should increase national coordination around transport policy and regulation. Furthermore, innovative pilot projects at the local level could potentially motivate national government to provide transport or job search subsidies tied to social grants in the future.

Yet there are other national-level policies that may alleviate the barrier of transport costs. Government could recalibrate housing policy as a tool to decrease spatial mismatch through such measures as boosting affordable rental

options in well-connected locations.²⁵ Even more urgently, perhaps, the results underline the high cost of searching for a job in South Africa and the need for a cheaper, better digital infrastructure to support young people's job search. National government could look at options to make the job search process cheaper and more remotely accessible, e.g. by implementing established policies that may lower the cost of mobile data and internet access.²⁶ Improved digital infrastructure for job search could increase access to the formal economy for job-seekers and entrepreneurs. There is also an urgent need to support economic activity in areas with high unemployment, especially by removing barriers to entrepreneurship.²⁷

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Provincial/local government

Despite capacity limitations, there are promising projects occurring at the municipal level, such as Johannesburg's Corridors of Freedom initiative which uses a transit-orientated development

^{xii} The Single Transport Economic Regulator is being established by the Department of Transport to oversee all aspects of the industry to ensure that there is regulatory certainty that will reduce the cost of doing business in South Africa. There are currently various bodies which regulate transport.

approach concentrating urban development around stations to support public transport use and developing systems to connect existing and planned developments, and bus rapid transit systems in Johannesburg, Pretoria and Cape Town.²⁸ This research suggests the positive potential of transport subsidies for unemployed young people, around \$26 per month, to support job search efforts. The Abdul Latif Jameel Poverty Action Lab (J-PAL) will be piloting just this type of transport subsidy program among young job-seekers in Johannesburg starting in 2019.²⁹

Private sector^{xiii}

Our results illustrate high costs to entering the job market, which may reduce the efficacy of unpaid work opportunities such as learnerships^{xiv} as an entry point into formal employment. Employers are often unaware that transport costs are a barrier to entry for young employees who may reside more than one taxi-bus ride away from their place of work. Informing employers can encourage them to advertise vacancies more widely in

general (especially online) and engage remotely with applicants where possible. Harambee plays a role here by connecting job-seekers and employers without requiring job-seekers to travel to employers for every interaction. Simple adjustments, such as paying the first month's wage upfront instead of at the end of the month, can allay financial problems relating to transport

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costs. Employers working with Harambee in the financial and retail sectors have arranged for transport stipends in the first month of work, and some employers have agreed to subsidize transport costs in order to increase retention rates. One employer in the business process services sector fully subsidized

late-night transport and partially subsidized daily transport, with a resulting increase in retention rates well above industry norms. These employers have expressed satisfaction and surprise at the results of these interventions. While we see a slow increase in uptake of the practice of providing transport, it is yet to be an industry norm in South Africa.

^{xiii} This sub-section is based primarily on Harambee's experiences with job-seekers and employers.

^{xiv} A learnership is a form of apprenticeship which involves vocational training and a certification after a 12-month programme.

Conclusion

Although there is evidence that transport costs act as a barrier to job search and employment, this topic has not been sufficiently explored because of a lack of data. Our research allows us to compare the impact of transport costs across employed and unemployed groups with similar characteristics, and also to disaggregate transport costs by area. Troublingly, employed respondents at the lower end of the income distribution are likely to be spending more than 20 percent of their wages on transport, and unemployed respondents have similar trip costs. Transport costs vary widely across different areas, even when controlling for travel reason and frequency. Overall, our results imply a high transport cost 'floor' hampering entrance into the formal labor market.

Our results are not representative of the negative impact of transport costs on job search and

sustained employment at the aggregate level. Instead, they represent a group that is among the most marginalized by South Africa's dysfunctional labor market. For this group, high transport costs exacerbate exclusion from the formal labor market. All of this underlines the urgent need for better transport systems, more affordable housing options in well-connected neighborhoods, cheaper job search infrastructure, and increased economic activity in areas with a high share of unemployed job-seekers. For the employed, firms ought to consider transport stipends, which have the potential to reduce turnover. Our research suggests there are numerous small and productive interventions that can be made by both the private and the public sectors to help mitigate the impact of high transport costs on young people seeking to enter the formal labor market.

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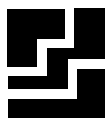
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