

Public Disclosure Authorized

# Republic of South Africa Systematic Country Diagnostic

## An Incomplete Transition: Overcoming the Legacy of Exclusion in South Africa

### Background note

### Minibus Taxis, Public Transport, and the Poor

Andrew Kerr

# Minibus Taxis, Public Transport, and the Poor

Andrew Kerr<sup>1</sup>

## Introduction

In this report I document public transport accessibility, focusing particularly on minibus taxis and on poor households, and describe the costs of commuting to work, using the 2013 National Household Travel Survey (NTS) conducted by Statistics South Africa. I also explain how the minibus taxi industry works, based on extensive ethnographic fieldwork conducted between 2013 and 2017 in the minibus taxi industry, and what this implies for costs and accessibility of minibuses to users. I analyze publicly available data on fatal crashes and police data on violence to describe the risks to users of public transport from fatal crashes and also taxi violence. I also suggest some policy options to improve transport outcomes for the poor.

## The National Household Travel Survey

Much of the analysis in this report is based on the NTS. The National Household Travel Survey is a survey of 50 000 households conducted in 2013 by Statistics South Africa (Stats SA). It contains transport-related questions to households and their members. It is a two stage cluster sample with 10 households sampled per cluster and is stratified by what Stats SA calls travel analysis zones, of which there were 380.

Because the survey is focused on transport there are not detailed questions about expenditure required to be able to create a measure of household poverty. There are questions about individual income from work, similar to the questions asked in the Quarterly Labour Force Survey (QLFS). There are also questions about a number of social grants and whether each individual receives these, as well as individual questions about private pension income and remittances received from non-resident migrant family members and the amounts in each case. Expenditure data was limited to one question asking the household which of ten brackets its total monthly expenditure fell into.

To create a poverty measure for this study the individual income questions were summed together and divided by household size to create a per capita income measure for each household, after imputing labour income in the case of refusals or bracket responses (using mid points for brackets and a basic mincerian earnings regression for complete refusals). If per capita expenditure was greater than per capita income this was used instead of income in calculating whether a household was poor. The poverty line used was R1100 per capita per month, adjusting the R975 “upper bound” line used in Budlender et al (2015) on the 2011 IES data for inflation. Using this method around 45% of households in poverty are estimated to be in poverty in the 2013 NTS, compared to the 50% reported by Budlender et al (2015) using the 2011 IES. This suggests the NTS data can give a reasonable approximation of poverty rates and which households are in poverty, especially considering that it is a transport and not poverty, consumption or income focused survey.

## Public Transport Accessibility

In this section I document public transport accessibility for households using the 2013 NTS. The survey includes questions about whether household has access to a taxi service and, if it does, the time in minutes it takes to walk from the dwelling to the taxi rank. There are also the same questions asked for buses, trains and BRT.

Minibus taxi is by far the most accessible mode of transport. Only 17% of households do not have access to a taxi. When breaking access down by geography type only 12% of rural households report not being able to access a taxi, compared to 22% in urban, non-metro areas and 18% in metro areas. When limiting to only poor households, less than 10% of households do not have access to a taxi. Of those that do state

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that they can access a taxi, the median walking time to the nearest taxi rank was 10 minutes, and the 90th percentile was 30 minutes, with a mean of 13 minutes. The walking times to a taxi are very similar when considering only poor households. They are also very similar across geography types – with the median and 90th percentile being identical except that for metros the 90th percentile is 20 minutes- 10 minutes lower than for urban and rural areas.

Train and bus access is much lower than for minibus taxis. About 50% of households report not having access to a bus service whilst 81% of households report not having access to train service (trains only operate in the larger metro areas -in Gauteng, Durban, Cape Town, East London and Port Elizabeth). These numbers are similar by poverty status. 54% of households in metro areas report having bus access, compared to 57% in rural areas and 23% in urban, non-metro areas. Only 19% of households have access to train service, and this falls to 13% for poor households, since the poor are more likely to reside in rural areas, in which there is no short distance train service. 40% of households in metro areas report having access to train services. For those that are able to access bus services, walking times to ranks are very similar to those reported for taxis above- a median of 10 minutes and a 90th percentile of 30 minutes. Train stations are further away than bus or taxi ranks for those who can access them. The median walking time is 30 minutes and the 90th percentile is 60 minutes.

15% of all households and only 7.5% of poor households report no access to buses, trains or taxis. Of poor households with no access to any public transport, 17% are in metro areas, 40% in urban areas and 43% in rural areas, whilst 26% are in the Eastern Cape, 15% are in Gauteng and 11% are in North West, with less than 10% being in each of the other provinces.

The above analysis suggests that taxis are much more accessible to households than buses or trains, and are a similar distance to buses and much closer than trains when they are accessible. This is also reflected in the answers to the question about transport related problems experienced by households in the NTS 2013. The most commonly reported problem was a lack of buses, 18% of households reported this as a problem, and only 4% reported that buses being too far was a problem- suggesting they are close enough for those that want to use them and have access to them. Only 4% of households said that no taxis being available was one of two transport related problems they faced.

The 2013 NTS also asked about satisfaction levels for a number of public transport services. 60% of taxi using households were either satisfied or very satisfied with the overall service, compared to 72% for buses (excluding Bus Rapid Transit systems like Rea Vaya) and 53% for trains (Metrorail, operated by PRASA- the Passenger Rail Agency of South Africa).

## **Transport Costs**

In this section I describe the costs of public transport, focusing primarily on taxis and on poor commuters. I show that the poor who commute to work spend a lot of money on transport. The poor often live far from work, particularly in metro areas. But it should also be noted that poor households do not travel as much as richer households- this is shown below. In commuting for example, low earning workers may walk to work- saving money but spending more time on travel. This needs to be borne in mind in any analysis of transport costs by incomes. Detailed cost information for all types of transport are not included in the South African National Household Travel Survey.<sup>2</sup> I thus focus on the costs of commuting to work, although the poor are more likely not to work and therefore not to commute, so they are underrepresented in the commuting data analyzed below.

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<sup>2</sup> The Statistics South Africa Income and Expenditure Surveys do have household level information about public transport costs but there is almost no information on the travel that led to these travel costs.

Table 1 shows the mean number of daily trips reported by individuals, excluding walking, by poverty status and geography type. Poor individuals report an average of 1.4 trips per day, which was 0.85 fewer trips per day than the average for non-poor, or about 30% fewer trips than reported by the non-poor. Partly this is because those who are working take more trips because they commute to work, and because those who are working are less likely to live in poor households. But when excluding work trips and walking trips (not shown), poor individuals still make about 28% fewer trips than non-poor individuals.

**Table 1: Number of trips per day by poverty status and Geography type**

	Non-poor	Poor	All
Metro	2.51	1.82	2.30
Urban	1.99	1.29	1.71
Rural	1.74	1.15	1.33
All	2.24	1.39	1.86

Source: Own calculations from NTS 2013

I now focus on the costs of getting to work, for which there is good data in the 2013 National Travel Survey, and show how these vary by individual earnings from work. Table 2 shows that 44% of the commuters in the lowest earnings quintile walk to work, whilst another 8% work at home. This means that half of those in the lowest earnings quintile do not pay any transport costs. Breaking this down by geography, in metro areas 24% walk to work whilst in rural areas 56% walk to work. Table 2 also shows that minibus taxis are by far the most common form of “public” transport, even for workers in the lowest earnings quintile, although they are privately operated and their operations are not subsidized by the state.

**Table 2: Mode use by income quintile**

	1	2	3	4	5	Total
Work Travel Mode						
1. Walk	43.89	23.89	15.86	13.28	6.64	20.66
2. Cycle	1.52	1.47	0.84	0.89	0.5	1.04
3. Drive	5.49	8.45	21.23	40.9	63.98	27.87
4. Train	1.81	4.61	3.44	2.2	1.39	2.71
5. Bus	5.74	8.12	8.03	4.85	2.53	5.89
6. Minibus Taxi	20.22	30.61	27.38	17.48	10.28	21.3
7. Car Passenger	6.54	7	8.76	8.72	5.29	7.28
8. Company Transport	1.69	2.26	2.05	1.71	0.81	1.71
9. Other	0.39	0.44	0.45	0.35	0.3	0.39
10. Multiple Modes	4.78	8.67	8.64	6.17	3.64	6.42
11. Works at Home	7.94	4.48	3.33	3.45	4.64	4.75
Total	100	100	100	100	100	100

Source: Own calculations from NTS 2013

Table 3 shows the average percentage of gross earnings spent on transport by gross earnings quintile and geography type. The average proportion of gross earnings for those in metro areas in the bottom quintile is 21%. This is an extremely high figure, especially considering that 25% of individuals in this group were walking and thus spent zero. When we exclude the walkers and those who work at home the average proportion spent on transport increases to a staggering 40% for individuals in metro areas in the bottom earnings quintile.

**Table 3: Mean percentage of gross earnings spent on transport by gross labour earnings quintile and geography type**

	Metro	Urban	Rural
Quintile 1	20.7%	10.1%	8.4%
Quintile 2	18.3%	9.6%	11.8%
Quintile 3	14.0%	9.6%	9.4%
Quintile 4	11.6%	8.5%	7.1%
Quintile 5	6.8%	6.6%	5.5%

Source: Own calculations from NTS 2013

### **Cost by Distance**

It is possible to examine the costs per kilometer of the daily commute of different public transport options. The NTS 2013 asked individuals about where they worked. These were coded by Statistics South Africa into subplaces, where this was possible. The subplace is a relatively small area used by Statistics South Africa. Median areas of home and work subplaces are about 2.5 and 4 square kilometers respectively. We have the home and work subplace for about 75% of all workers. We calculate the centroid of each home and work subplace and use these to estimate the straight line distance between work and home, and thus the cost per straightline kilometer of various forms of public transport- we are thus overestimating the cost per kilometer in using this straightline measure.

The median cost of a taxi was approximately R1 a kilometer with a mean of about R1.50 a kilometer (in 2013 prices). The train median cost was 50c per kilometer and the mean was 90c. Buses occupy an intermediate position- the median price per kilometer for bus users was 70c per kilometer and the mean was R1.30. The CPI has increased by about 20% between June 2013 when the NTS was undertaken and September 2017 according to Stats SA<sup>3</sup>. So the median cost per km for a taxi in September 2017 rands is about R1.20 per straight-line kilometer. The SARS 2018 tax year rates for fuel costs per kilometer for the lowest value car were 91c per kilometer driven and maintenance costs 33c per kilometer, implying that the straight line cost per kilometer of taking a taxi worked out to be about as costly as the fuel and maintenance costs of driving a small car. In the following section I describe some of the reasons for the relatively high price of taxis.

### **Description of the workings of taxi associations**

Taxi associations are groups of owners that control a route or many routes. A route has a start and end point and a particular set of roads that a taxi with a permit to operate on that route is allowed to drive on. These are set out in the conditions of the permit for that route by the operating license board, a provincial government entity. Control means that the association sets the price to be charged to all passengers on the route and also prevents entry by other taxi operators that have not been approved by the association.

The setting of prices on routes by associations would appear to be a contravention of the South African Competition Act of 1998, which prevents independent firms (individual taxi operators owning one or several taxis) from agreeing on set prices. The effect of these cartels is probably to raise prices above their competitive levels. This clearly has impacts on all those who use taxis. But, given the parlous state of alternative government run or funded public transport options, many commuters still prefer minibus taxis, even if they cost more than the state subsidized bus or train. As noted above, satisfaction levels for taxis are higher than trains, although lower than for buses. It is also likely that the presence of a similar bus or train route will constrain the pricing of the taxi association to below a monopoly/cartel price. However,

<sup>3</sup> <http://www.statssa.gov.za/publications/P0141/P0141September2017.pdf>

45% of households report no train or bus access, and this will be an underestimate of the lack of competition for taxi cartels since just because a household reports bus or train access this does not mean these services compete directly with taxis on the same routes. This means that for most taxi commuters, there is no alternative public transport to constrain cartel pricing.

Taxi associations prevent entry by other operators through a number of different means, not all of which are used by every association. Firstly, some associations do not take on new members. Operating license boards usually only grant new permits for a particular route to members of the association whose members currently operate on that route. This means OLBs have partly outsourced the decision on new entry to associations- who can choose to limit entry by not granting permission to potential entrants. Secondly, some associations have limits on the number of members each member can own. Many associations in Cape Town have a limit of 6 taxis per member. This is also a limit on further “entry” by operators already operating. Thirdly, taxi associations use the legal system to interdict rival associations operating on what they see as their routes. Fourthly, taxi associations can use violence or the threat of violence to intimidate rival associations. I discuss the extent of violence and trends over time below.

For those associations that do take on new members, the price of joining an association can give a good idea of the expected future benefits prospective members can expect. In my fieldwork around Cape Town in 2013-2014 once-off joining fees of 50 000-80 000 rand were regularly mentioned, although for one association in Pretoria the joining fee was only a few thousand rand. Considering that the median labour earnings is about R3500 per month or R42000 per year, R50 000 to join a taxi association is an extremely large amount of money.

One reason for the large joining fees is that profits from operating a taxi are generally extremely high. Entry deterrence and cartel price setting make owning a taxi extremely lucrative on many routes. The City of Cape Town recently paid out R1 billion to taxi owners for their licenses so that there would be less competition for the new Bus Rapid transport system. This payment was based on a survey the city conducted of 12 associations with a total of 700 vehicles. This survey showed average profits of R72000 a year when average vehicle value is probably R100000- R200000- ie a 30-70% annual rate of return on capital invested. The limits on entry described above are clearly sub-optimal and very likely contribute to higher taxi prices and profits for those who do operate. Operators who think they can make a profit should ideally be given a license and allowed to enter the market, and they should be protected from violence by the state. However, given the history of violence between associations, which is often the result of competition over routes, the government seems reluctant to make licenses more easily available and encourage entry beyond that deemed sufficient by taxi associations.

This is not to say the state is not trying. In one route in Cape Town the drivers driving for one association whom I spoke to said that the city was trying to give out licenses to them, but that the owners were refusing to take on drivers as new members of the association. This is clearly something the state should attempt to find a solution to. Perhaps on new routes a number of licenses can be issued before an association takes firmer control of entry? Encouraging participation and consultation during the process of licensing of a broader set of actors than just taxi associations and other transport providers would also be beneficial. For example allowing taxi commuters to make submissions about new licenses or the conditions on the routes they use would allow a more diverse set of voices as the operating license board decides on licenses.

One of the other problems in this regard, at least in the Western Cape and KwaZulu-Natal, is that the regulators were convinced there was in fact an oversupply of minibus taxis (Western Cape Government, 2005), a belief also shared by some transport academics, although the city’s position seems to have shifted somewhat in the recent Comprehensive Integrated Transport Plan 2017-2022 (City Of Cape Town Transport and Urban Development Authority, 2017). KwaZulu-Natal apparently has had a moratorium on

new taxi licenses being issued since 2007<sup>4</sup>. Oversupply is hard to square with the findings of the extremely high profits being made by the City of Cape Town's own survey, and also the observation that many ranks have large queues in the morning and evening rush hour.

### **Route Efficiency**

In theory taxi routes are allocated to associations by the provincial operating license boards that issue licenses. Growth in new areas or a new shopping mall hiring workers who require public transport to get to work can lead to existing associations starting new routes, often obtaining approval after beginning operations. This demand responsiveness and flexibility is a good thing, although it can lead to violence as rival associations compete for new routes.

In practice taxi associations see the routes they operate on as theirs and exercise their perceived property rights over them. This can mean inefficiencies in routes as associations prevent other associations from taking away passengers from "their" routes, even if this is more efficient. An example of this can be found in Hout Bay, Cape Town. A service between Hout Bay and Wynberg in the Southern Suburbs had existed for some time. Taxi operators realised that as demand grew there was enough demand for another service between Hout Bay and Claremont, a suburb in the Southern Suburbs. Previously passengers wanting to go to Claremont from Hout Bay had to take the route to Wynberg and then another taxi to Claremont. The new direct route between Hout Bay and Claremont cut transport times and costs for passengers, but was resisted by the association controlling the Wynberg route. This also led to some conflict between rival operators, although both routes are now running. This example illustrates that entry, in the sense of new routes being started, is almost always by associations and owners that already operate taxis, rather than completely new entrants.

One other possibly inefficient practice in the industry is that minibus taxis generally only leave when they are full. On some routes there may be passengers who want to get onto the taxi along the route but taxis are full when they come past. This means passengers must spend money and/or time travelling to the start of the route and then wait for a taxi there. This happens in Durban regularly- taxi drivers do not mind diverting off the N3 to drop off passengers who work along the route in the morning on their way into Durban but in the evening taxis leaving Durban cannot be found at the same places. Workers must spend R5 and at least an extra 30 minutes travelling back into town to wait for a taxi going back the way the passenger had just come from. In a publicly run system there would be stops along the way out of Durban to pick up these passengers. But in a system where risk-averse drivers have no incentive to start out with empty seats in case they do not fill them, there is mostly no coordinated effort by taxi associations to generate the outcome one would expect in a public run system. There are exceptions, however. In 2013 on the Durbanville- Bellville route in Cape Town the association was requiring drivers to leave Durbanville with only 10 passengers, forcing them pick others up along the way, which seems to have led to people waiting along the route for taxis.

### **Safety and risk to life for riders** **Crash Fatality rates**

The first aspect of safety examined is the extent of fatal accidents in taxis and comparing taxis to cars and buses. To do this requires data on the number of fatalities and kilometers travelled by each mode (car, bus and taxi). This data (for each year between 2001 and 2008) has been made publicly available by the Road Traffic Management Corporation (RTMC)<sup>5</sup>. Table 4 shows the number of deaths per year between 2001 and 2008 (the last year for which such statistics are available). In the data from the RTMC crash fatalities

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<sup>4</sup> <https://www.iol.co.za/dailynews/taxis-fake-permit-scheme-10382879>

<sup>5</sup> See [https://www.arrivealive.co.za/documents/Vehicles\\_in\\_Crashes\\_2001\\_2008.xls](https://www.arrivealive.co.za/documents/Vehicles_in_Crashes_2001_2008.xls)

are separated by minibus taxis and minibuses. Minibus taxis were those which had a permit and were registered as taxis. Minibuses include minibus type vehicles used for other purposes like pupil transport, old age homes but also probably include many unregistered minibus taxis. Crash fatalities in minibus taxis decreased substantially over the period, from 1177 in 2001 to 462 in 2008, whilst fatalities increased dramatically for minibuses, from 446 in 2001 to 1275 in 2008. This suggests that the Road Traffic Management Corporation was getting worse data over time on which minibus taxis were registered and/or that the number of minibus taxis without permits was increasing. The combined total is thus probably the more useful number- it shows a 7% increase in fatalities from 1623 in 2001 to 1737 in 2008. The total distance driven in minibuses (taxis and others) increased from 6.7 billion kilometers in 2001 to 7.3 billion in 2008-also shown in Table 4. This means that the fatality rate was 24 deaths per 100 million kilometers travelled in 2001 and declined very slightly to 23.8 in 2008. Fatality rates for buses were 34 per 100 million in 2001 and 29 in 2008, whilst for cars they were 8 in 2001 and 9 in 2008. Thus minibuses were about 2.5 times more likely to have a fatality per kilometer driven than a car and about 17% less likely to have a fatality per kilometer driven than buses. Fatality rates in taxis are 60 and 40 times higher than the overall fatality rate per kilometer driven in the UK and USA respectively.<sup>6</sup>

**Table 4: Number of vehicle crash deaths per year between 2001 and 2008 and Crash rates per kilometre driven**

		2001	2002	2003	2004	2005	2006	2007	2008
Fatalities	Motorcars	5 075	5 255	5 266	5 686	6 737	7 237	7 146	6 381
	Minibuses	446	524	559	1 036	1 138	1 433	1 456	1 275
	Minibus Taxis	1 177	1 023	982	739	566	431	236	462
	Buses	325	305	301	221	323	441	306	406
Hundreds of Millions of kilometres driven									
	Motorcars	670.1	670.0	692.1	715.2	728.0	735.8	760.5	724.7
	Minibuses	67.01	67.1	69.3	71.7	73.0	73.9	76.5	73.0
	Buses	9.46	9.9	10.5	11.2	11.8	12.6	14.1	14.0
Fatality rate per 100 million kilometres									
	Motorcars	7.57	7.84	7.61	7.95	9.25	9.84	9.40	8.81
	Minibuses	24.23	23.06	22.23	24.77	23.36	25.23	22.11	23.81
	Buses	34.39	30.76	28.58	19.75	27.34	34.96	21.70	28.90

Note: Own calculations from Road Traffic Management Corporation data. In this data kilometres driven by minibuses and minibus taxis are not separated so the fatality rates are calculated using the sum of minibus and minibus taxi fatalities.

In discussions with a Cape Town minibus taxi association the senior members stated that the serious accidents in taxis owned by members of the association occurred when drivers were driving long distances to the Eastern Cape with little sleep. Drivers often drive ten- twelve hours with passengers and then return immediately to Cape Town. This is an area in which better enforcement might not make a difference- since it would be hard to force drivers to take breaks. Given that many taxis have GPS tracking devices it might be possible for insurance companies to require that taxis cannot have been on the road for a 20 hour period without any substantial breaks for owners to receive a claim payout- this would likely change driver behavior.

<sup>6</sup> See Figure 1.3 in the OECD/ITF 2015 Road Safety Annual report [https://www.itf-oecd.org/sites/default/files/docs/15irtadannualreport\\_0.pdf](https://www.itf-oecd.org/sites/default/files/docs/15irtadannualreport_0.pdf)



## **Taxi Violence**

The taxi industry is characterized by what many believe are high levels of violence, which occurs as a result of rival associations fighting to control lucrative routes and also as a result of intra-association conflict as individuals fight for more lucrative positions within associations. Violence is generally argued to be one of the key negative aspects of the taxi industry- and has recently been linked to broader political conflict (Shaw and Thomas, 2017). Dugard (2001) wrote about taxi violence in the 1980s and 1990s and was able to use police data on murders and injuries associated with violence in the taxi industry. Using Dugard's numbers on deaths from taxi violence, as well as public data on the total number of murders in South Africa, taxi industry-related murders accounted for about 1% of total murders in South Africa in the late 1990s- around 250 per year. In almost all subsequent years there has not been reporting on taxi industry-specific murders by the police. However in the South African Police Service (SAPS) 2015-2016 Crime Statistics Addendum<sup>7</sup> taxi-related murders are shown, and broken down by province. There were 190 taxi related murders in the 2015-2016 year according to this document. This is a fairly large decline from the numbers reported by Dugard (2001) for the 1990s, particularly considering population growth and growth in the taxi industry over the last 20 years, although how reliable these later numbers are is not clear. There may have been other murders related to the taxi industry not recorded as such, although this is also true of the data from the 1990s. In 2015-2016 the SAPS data showed that Gauteng had 76 taxi-related murders, KwaZulu-Natal 74 and the Western Cape 23. The other 6 provinces had a total of 17 murders recorded, with none in the Northern Cape.

## **Fiscal support for Public transport**

The Department of Transport pays out a scrapping allowance to owners of old taxis as part of the taxi recapitalization program, which was R82000 per taxi in the 2016 financial year. This process has led to taxis with more safety features being manufactured and used, but overloading, which was supposed to be one of the features of the minibus taxi industry done away with after the recapitalization program, is still common. Payments for the scrapping allowance represented less than 1% of the total spending on public transport according to a 2013 presentation by the Department of Transport (Kerr, 2017), although minibuses benefit through spending on the road network and taxi ranks provided and maintained by local authorities, which is not included in the direct spending on public transport figures.

The scrapping subsidy to mini bus taxi owners benefits existing operators at the expense of individuals not currently operating a taxi. Someone with an old taxi can get over R80 000 towards the purchase of a new taxi, which is about a quarter of the value of a new taxi. This is not possible for a new potential operator and thus disadvantages him or her relative to any existing operator who is thinking of buying a new taxi and scrapping an old one.

The Passenger Rail Agency of South Africa, the publicly owned passenger rail operator, is heavily subsidized by the state, with subsidy from government constituting about 50% of PRASA's total revenue in the 2014/2015 financial year<sup>8</sup>. Private bus operators are also subsidized by the state- the Golden Arrow bus company in Cape Town received about 55% of its income from government subsidy in 2012<sup>9</sup>. The more recent Bus Rapid Transit systems that have been rolled out in Cape Town, Pretoria and Johannesburg are also extremely heavily subsidized- for example revenues from Cape Town's Myciti service were covering only about 35% of its costs in the 2015/2016 financial year<sup>10</sup>.

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<sup>7</sup> [https://www.saps.gov.za/services/c\\_thumbnail.php?id=282](https://www.saps.gov.za/services/c_thumbnail.php?id=282)

<sup>8</sup> [https://www.prasa.com/Corporate%20Plans/Corporate\\_Plan%202016\\_19.pdf](https://www.prasa.com/Corporate%20Plans/Corporate_Plan%202016_19.pdf)

<sup>9</sup> <https://www.iol.co.za/capetimes/council-eyes-r700m-subsidy-1503406>

<sup>10</sup> <https://myciti.org.za/docs/2549/MyCiTi%20Business%20Plan%202015%20Update.pdf>

The Department of Transport has sometimes argued that minibus taxis need to be integrated with the rest of the public transport system and that this would include subsidization of operations— for example the DoT hosted a conference in 2015 on “Integrating the Minibus Taxi Industry”- in which subsidization of minibus taxis was explicitly discussed. No clear plan for how this would happen emerged from the conference and none has been publicly articulated since. Taxi operators and their lobbyists attending this conference also argued strongly for subsidization in the form of a demand side subsidy in which passengers could choose which mode of transport to spend the subsidy, although who would qualify and how this would work was not described.

Subsidization of public transport is usually supported because public transport brings positive externalities- such as decreasing congestion- and because it would not be provided in sufficient quantities by private suppliers without a subsidy. It is not clear that this second part is true for minibus taxis- as noted above many routes in Cape Town are extremely profitable even without a subsidy. This is partly because taxis benefit from one two important implicit subsidies. Firstly, competition law is non enforced despite the cartel-like nature of many associations. Secondly, owners do not obey labor regulations, so costs are much lower for taxis than for formal sector buses and trains. Antrobus and Kerr (2016) used a survey of taxi drivers in four provinces to show that the hourly wage for taxi drivers is much lower than the minimum wage for many drivers, and that the daily hours worked is much longer than the regulations allow. Any discussion of subsidization of minibus taxis should thus take into account both the high current profit levels on many routes and the implicit subsidization through the non-enforcement of labor regulations around hours and hourly earnings.

### **Policy options to improve accessibility, efficiency, and cost**

As noted above, 83% of South African households state that they have access to minibus taxis, which increases to 90% for poor households. For households that do have access, 90% report that it takes household members less than 30 minutes to walk to the nearest taxi. Only 7.5% of poor households report no access to bus, train or taxi. This relatively small figure suggests that accessibility to public transport is not a serious problem in South Africa. One possibility is that areas that are not currently serviced by taxis may not be profitably served without a subsidy. A less likely but still plausible alternative is that taxis may not be licensed to operate in these areas- this could be one of the causes of a lack of potential profitability if operators are concerned about fines or impounding of their vehicles. If this is true the state could contribute by licensing taxis in these areas.

As shown above, minibus taxis are generally more expensive per kilometer travelled than bus or trains, and it has been noted that this may be due to taxi associations functioning like cartels in setting prices charged on the routes they control. It may also be due to taxis being seen as higher quality public transport than trains, which allows operators to set higher prices. A third reason for higher prices may be that taxis are not subsidized by the state, although subsidization has been discussed by the Department of Transport and pushed by lobbyists for the taxi industry. The industry already benefits from the implicit subsidy of the non-enforcement of labor legislation governing the pay and working hours of taxi drivers and the non-enforcement of competition law. Any discussion of subsidization should also take these implicit subsidies, the high returns on capital of many associations and the extent to which taxis lessen congestion relative to buses and trains into account.

The lack of easy entry into the industry is a key aspect of the high profitability and the ability of associations to set prices above costs. Entry by new operators is curtailed because of the veto power taxis have through operating license boards requiring that new operators have the support of the taxi association operating on the route the entrant wants to enter. Allowing for easier entry is in theory a good solution, although ways to achieve this without associations resorting to violence need to be found.

Operating license boards are routinely criticized for slow decision making on permit applications. One clear policy improvement would be for these decisions to be speeded up. The Ntsebeza Commission report<sup>11</sup> detailed complaints from operators that these boards are corrupt, and that individuals on the boards have been paid off by rival associations. Subjecting these boards and their members to greater scrutiny would also be a possible way to create more impartial decision making. Including the voices of users of public transport in the decisions about licensing would also be an important improvement to licensing decisions. Finally, PRASA, the intra-city passenger rail operator has been one of the worst performing state entities in recent years. As a result many commuters in metropolitan areas have abandoned trains in favor of more expensive taxis. Policies to improve the operational efficiency of PRASA would result in commuters returning to cheaper passenger rail transport, which would benefit poor commuters in cities- who have been shown to spend very large fractions of their incomes on commuting to work. Improved train services may also lead to lower taxi prices if trains are subsequently seen as closer substitutes for taxis by more passengers.

## **Conclusion**

South African households have fairly good access to public transport, with only 7.5% of poor households reporting no access to either bus, train or taxi, and 83% of these being outside metro areas. Poor individuals take about 0.8 fewer public transport trips per day than non-poor households (1.4 per day compared to 2.2 per day for poor households). In commuting to work low income individuals are much more likely to walk to work. But the average proportion of gross income spent on transport to work was 21% in the bottom quintile in metro areas, and 40% when excluding walkers and those working at home. Thus the poorest workers in cities who rely on public transport pay extremely large fractions of their incomes for transport to work. The costs per straight-line kilometer are higher for taxis than buses or trains, and, for taxis, approximately the same as the running costs of a small car.

The higher cost of taxis is partly because associations would seem to function like cartels, with individual members all agreeing on the same price, the possibly higher quality of taxis (at least relative to trains, if not buses) and possibly due to the other public transport modes being subsidized. In addition to setting prices, taxi associations also work to keep out rivals through a combination of making it hard or impossible to join the association, use of the legal system to interdict rivals from operating on the route and maintaining their control and threats of and actual violence against rivals. Operating a taxi is thus generally fairly profitable, with the City of Cape Town survey data suggesting that the return on capital was between 30-70% across the 12 routes they surveyed.

Taxi violence is still an issue, although the number of deaths seems to have been reduced substantially since the late 1990s, particularly since the population and the number of taxis and taxi owners would have increased in the last 20 years. The more serious issue is fatalities from crashes. Fatalities are 2.5 times more likely per kilometer driven by a taxi compared to a car but 17% less likely per kilometer driven compared to buses. Fatality rates per kilometer driven in taxis are 40 and 60 times higher than the USA and UK overall fatality rate.

Despite the relatively high costs and the high fatality rates, taxis have higher satisfaction levels than trains, although they are lower than for bus users. 60% of taxi-using households were either satisfied or very satisfied with the overall service, compared to 72% for buses (excluding Bus Rapid Transit systems like Rea Vaya) and 53% for trains (Metrorail, operated by PRASA- the Passenger Rail Agency of South Africa). I have outlined several options to improve transport outcomes for the poor. Making the taxi licensing process more efficient, transparent and inclusive of a diversity of voices would help reduce frustration,

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<sup>11</sup> <http://pmg-assets.s3-website-eu-west-1.amazonaws.com/docs/2006/061107taxi.htm>.

improve supply and possibly reduce violence. The state may want to consider reducing the power of associations to veto new entry on the routes they control, although how this can be done without violent responses from associations need to be thought through very carefully. Including commuters who use the routes which may have future licenses allocated to them in the licensing process would also be useful.

Minibus taxi operations are not directly subsidized by the state, whereas about 50% of PRASA's revenue came from the government subsidy to rail transport. Subsidized by privately owned bus companies receive similar levels of support, whilst the Bus Rapid Transit systems (also privately owned) receive even higher levels of subsidization. Subsidization of minibuses is pushed by taxi owners, although any discussion of it should be thought about in the context of extremely high profits of taxi owners, at least on some routes, the implicit subsidy received through the non-enforcement of labor and competition regulations throughout the taxi industry, and the extent to which taxis reduce congestion compared to trains and buses.

Improving governance and operations at PRASA, the intra-city train operator, would mean shorter journey times, fewer cancellations and draw more commuters back to rail, which is cheaper and therefore benefits the poor. It may also lead to lower taxi prices if trains are seen as closer substitutes for taxis.

The minibus taxi industry is an important and valuable part of the South African economy that allows millions of people to go to work, visit hospital and see friends and family, without direct subsidization from the South African state. Despite this lack of subsidization, taxis are by far the most accessible form of public transport and satisfaction levels are higher than trains but lower than buses. However, prices per kilometer are higher than either publicly subsidized trains or buses and it is likely that at least some taxi associations function like cartels to raise prices on the routes they control, particularly in areas where there are no competing buses or trains, and to limit entry. This is an area that deserves further investigation.

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