



# Statistical surprises: Key results from Census 2022 for Gauteng

**Date:** 16 October 2023

**Type of output:** Rapid Research Paper

**Research theme:** Government Support

**Authors:** Graeme Götz, Richard Ballard, Ebrahim-Khalil Hassen, Christian Hamann, Phemelo Mahamuza, Gillian Maree, Shamsunisaa Miles-Timotheus, Mamokete Modiba, Brian Murahwa, Darlington Mushongera, Yashena Naidoo, Laven Naidoo, Pedzisai Ndagurwa

**Cover Photo:** Graeme Götz

Copyright 2023 © Gauteng City-Region Observatory (GCRO)

**Suggested citation:** Götz, G., Ballard, R., Hassen, E.K., Hamann, C., Mahamuza, P., Maree, G., Miles-Timotheus, S., Modiba, M. Murahwa, B. Mushongera, D., Naidoo, L., Naidoo, Y., Ndagurwa, P. (2023). Statistical surprises: Key results from Census 2022 for Gauteng. *GCRO Rapid Research Paper*. Johannesburg: Gauteng City-Region Observatory  
<https://doi.org/10.36634/PTPX7414>

**Note:** This work is part of GCRO's series of rapid research papers. Rapid research papers are akin to working papers, often – but not always – produced in response to requests from government stakeholders. The emphasis is on quick turnaround. While the data and analysis in this work has been internally checked, it is important to note that unlike other GCRO publications such as Research Reports, Occasional Papers and Provocations, it has not benefited from extensive and rigorous processes of internal review and shaping, external peer review and revision, or careful copy-editing and design by external specialists.



Gauteng  
City-Region  
Observatory

Telephone: +27 11 717 7280

6th Floor University Corner

11 Jorissen St (Cnr Jorissen and Jan Smuts)

Braamfontein, Johannesburg, 2000

# Table of contents

<b>1 Key highlights</b> .....	3
<b>2 Introduction</b> .....	6
2.1 Census 2022 results out! .....	6
2.2 ... and surprises!.....	6
<b>3 Population growth</b> .....	7
3.1 Provincial population size and growth.....	7
3.2 Municipal population changes.....	8
3.3 Breakdown by race.....	10
<b>4 Migration</b> .....	11
4.1 Migration status of the Gauteng population .....	11
4.2 Gauteng migrant population by place of birth, and previous place of residence in 2011 ...	12
<b>5 Age and sex composition of the population</b> .....	13
5.1 Age-structure 2011 versus 2022.....	13
5.2 Working age population .....	14
7.1 Dependency ratio.....	15
5.3 Sex ratio.....	16
<b>6 Population density</b> .....	17
<b>7 Household growth</b> .....	18
7.1 Household growth and average household size.....	18
<b>8 Formal and informal housing</b> .....	19
8.1 Formal dwellings increase and informal dwellings decrease .....	19
<b>9 Household services</b> .....	21
9.1 Percentage of households with piped water .....	21
9.2 Household access to type of toilet.....	22
9.3 Percentage of households using electricity for lighting .....	24
9.4 Percentage of households using electricity for cooking.....	25
9.5 Percentage of households with access to refuse removal .....	26
9.6 Internet access.....	27
<b>10 Education levels</b> .....	28
10.1 Early Childhood Development (ECD).....	28
10.2 Adult education attendance and outcomes.....	28
<b>References</b> .....	30

# 1 Key highlights

- When the 2011 census results were released in October 2012, GCRO worked quickly to produce a brief summary report on what the data was saying about Gauteng. Here we replicate that effort, synthesizing and analysing the 2022 census results released on 10 October 2023.
- The 2012 report started with the sentence, "In many respects, what is surprising about the results ... is how unsurprising they are". This time round we cannot say the same. Rather than simply confirming commonly understood trends, the data offers some real surprises.
- Over the last decade Gauteng has grown by almost a quarter (23%) of its own previously measured population size of 12.7 million, and now houses some 15.1 million people. While this increase may seem large, the count is a million people short of what StatsSA estimated the population to be in its last mid-year population statistical release.
- The average annual compound growth rate of Gauteng's population was just 1.9% per year between 2011 and 2022. This is significantly slower than the annual growth rate of 2.7% between 2001 and 2011, and the 4.3% growth between 1996 and 2001.
- The census data, if correct, suggests a remarkable shift in the fortunes of Johannesburg relative to other Gauteng municipalities and other major cities in South Africa. Johannesburg added only 368 631 people between 2011 and 2022. This was a mere 0.7% annual average compound growth per year. By comparison, Tshwane saw 3% annual average compound growth, and Emfuleni, historically a very low growth municipality, grew at 2.5% per year.
- If the census data is to be believed, Johannesburg was only just ahead of Cape Town in population size in early 2022. Since Cape Town is reportedly growing at 2.2% per annum it would today stand as the largest municipality in South Africa.
- There have been marked shifts in the racial composition of the Gauteng population. Gauteng saw some 400 000 fewer white residents counted in 2022 than in 2011. By contrast the Western Cape gained some 300 000. Half of the whites 'lost' from the province were from Johannesburg, which also apparently saw declines in its coloured and Indian/Asian populations. Only black African residents increased, but reportedly at a meagre 1.7% per annum, no higher than the background growth rate of the country as a whole.
- According to the census data, there have been marked proportional shifts in where those currently living in the province were born, seemingly reflecting big changes in migration streams. The percentage of the population born in Gauteng increased from 56% in 2011 to 64.7% in 2022, with a corresponding shift down in the percentage having migrated in from other provinces. The share of foreign migrants in the population stayed relatively static.

- On the indicator ‘place of previous residents’, where residents were asked where they were living at the time of the last census, there are dramatic numbers compared with 2011. In-migration into the province halved, from some 1,4 million between 2001 and 2011 to 795 000 over the last decade. However the number of people moving out stayed roughly the same, down fractionally from 402 000 to 396 000. Gauteng was therefore left with a net migration of just 399 000 over the last decade.
- The proportion of Gauteng’s population that is of working age (72%) is higher than the proportion of working age people in the national population (67%). However the national proportion has been increasing since 1996 while Gauteng’s proportion has been relatively constant.
- At 38.9, the dependency ratio for Gauteng – the ratio of children and elderly dependent on those of working age typically expected to support them – is lower than the national ratio (48.8). The West Rand, Sedibeng and City of Tshwane have the same or increasing dependency ratios when comparing 2022 to 2011.
- Gauteng has become more densely populated with each passing census. The highest increase in population density occurred between the 2011 and 2022 census estimates (18.7% increase) from 675 to 831 people per km<sup>2</sup>.
- The total number of households in Gauteng is increasing at a rate of 2.8% per annum, much faster than population growth at 1.9%. Correspondingly household sizes are reducing although there are noticeable differences between Gauteng municipalities.
- Housing in Gauteng, as with South Africa in general, has formalised. The proportion of households living in informal dwellings has decreased and the proportion living in formal dwellings has correspondingly increased, from 79.8% in 2011 to 88.5% in 2022.. The degree to which this has happened in Gauteng is greater than in some metros in other provinces.
- There has been a large increase in the percentage of households getting water piped into their dwelling, from 62.1% in 2011 to 75.0% in 2022. The numbers behind this are remarkable and worth applauding: whereas Gauteng’s total count of households increased by 1 409 643 between 2011 and 2022, 1 560 956 households gained access to water inside their dwellings, closing the gap in access to services.
- In 2022, 90% of Gauteng’s households have access to flushing toilet facilities. With the improvement in access to flushing toilet facilities, there has been a resultant reduction in households that use a pit latrine (13.7% to 5.6%) and those that have no toilet facilities (2.4% to 0.4%). Amongst all the municipalities in Gauteng, the City of Tshwane registered a lower prevalence of flush toilets at 81.5% and a greater reliance on pit toilets, by 14.2% of its households.
- At a household level there has been a significant change in the energy source for cooking between 2011 and 2022 in Gauteng. Nearly a third of households (32%) now use gas for cooking, compared to only 3.1% in 2011.

- The proportion of households that have their refuse removed by a local authority at least once a week increased by 5.8% between 2001 and 2011. However it declined from 88.3% to 85% between 2011 and 2022. The reduction is accounted for by the collapse of municipal waste services in some parts of the province that was also detected in our last Quality of Life Survey. This is most notable in Emfuleni where the proportion with weekly refuse collection declined from 89,8% in 2011 to just 50,9% in 2022. Even with this decline, Gauteng's average is significantly higher than the national figure of 66.3% of households enjoying weekly refuse removal services.
- In Gauteng the proportion of people reporting that they had no access to the internet (13.6%) is far lower than the national figure of 21.1%. The majority of South Africans access the internet via cell phone or other mobile network.
- The proportion of the population aged 20 years and older with a matric qualification increased from 34.4% in 2011 to 42.9% in 2022. By contrast, the proportion of people with a tertiary education qualification decreased slightly from 18.1% in 2011 to 16.2% in 2022.

## 2 Introduction

### 2.1 Census 2022 results out!

This report gives summary results of the Census 2022 for Gauteng province. The Census was conducted nationally by Statistics South Africa (Stats SA) starting in February 2022, and the results were released on 10 October 2023. Census data are of paramount importance as they provide a comprehensive snapshot of a country's population and its characteristics. Information on the population count is crucial for the allocation of resources, in particular each province and municipality's share of nationally earned tax revenue, and for determining the overall scale of services needed. Data on demographic characteristics such as age, sex, race, ethnicity, and household composition is vital for understanding the composition of the population and identifying trends and changes over time. Decomposing these data by geographical areas helps in understanding population distribution and migration patterns, and such information is invaluable for urban planning, infrastructure development, and disaster preparedness. Government, businesses, and civil society organizations all rely on Census data to make informed decisions about economic development, the labour force, education, healthcare, and service delivery planning in general.

The GCRO, in its ongoing endeavour to provide reliable cross-sectoral information on Gauteng, welcomes the release of the 2022 Census by Stats SA. Census data, complemented by other data such as that from Quality of Life Surveys that the GCRO conducts every two to three years, provides an important basis for assessing developmental progress in Gauteng, and benchmarking this against other provinces and the country as a whole.

### 2.2 ... and surprises!

*"There are three kinds of lies: lies, damned lies, and statistics"* (Mark Twain)

This rapid research report has been put together by the GCRO to provide a summary overview and preliminary analysis of the key findings for Gauteng emerging from the 2022 National Census. A similar report was published by the GCRO in October 2012, immediately following the release of the 2011 census results (Mushongera & Götz, 2012).

Our 2012 report started with the sentence, "In many respects, what is surprising about the results ... is how unsurprising they are". That sentence sought to emphasize that the 2011 results seemed to largely confirm what we already knew from existing data and analysis on how Gauteng's fast urbanising centres were growing and developing. It also gestured to how similar some of the findings were to results emerging from our own Quality of Life (QoL) Survey, then still in its infancy with QoL II (2011) data just having been released. The title for this paper, playing on Mark Twain's famous quote, could have been a tongue-in-cheek "Lies, lies .... and surprises!", reflecting the fact that while the census results released last week do confirm some assumptions there are also some real surprises. Some of the data, especially on population growth, changes in certain age categories, the presence of migrants, the drop in the percentage in

informal housing, and attainment of post-schooling qualifications, amongst others, seem bewildering. They speak to trends that confound all expectations.

In the days following the release of the 2022 results some commentators have questioned the validity of the numbers (Davis, 2023). They point at the very high undercount shown by StatsSA’s own post enumeration survey (PES). At 31% this was double that reported for Census 2011. It will be interesting to see if there is a restatement of some of the numbers at some point in the future. It has happened before. Revisions might bring some of the 2022 measures more into line with expectations.

However we do not start with the supposition that the data must be false. Rather we are agnostic on the question of data validity, and provide a preliminary analysis of the key indicators that simply highlights – not dismisses – some of the most surprising findings. It is worth noting that the 2012 census was conducted in a time of crisis – the tail of the COVID pandemic, the aftermath of the July 2021 violence, a growing wave of infrastructure failings, and governance instability at the local level. It is not impossible that these ruptures are indeed reshaping Gauteng in dramatic and unexpected ways. The surprises we highlight may therefore be read as an invitation for deeper, more probing, analysis. We hope you will find this report informative and useful!

## 3 Population growth

### 3.1 Provincial population size and growth

	1996	2001	2011	2022	Forward projection to 2030 at current growth
Gauteng	7 624 893	9 388 855	12 272 263	15 099 422	17 556 616
South Africa	40 583 572	44 819 777	51 770 560	62 027 503	70 741 824
% share	18.8%	21%	23.7%	24.3%	

*Table 1. Population of Gauteng and South Africa, 1996-2022*

Census 2022 measured the population of Gauteng at just under 15.1 million people in early 2022. Gauteng housed 24.3% of South Africa’s total population of 62 million people. This represents a slight increase in its share of the national population from 23.7% in 2011.

Gauteng saw a total increase of 2 827 159 people over the population recorded in the last census in 2011. Put differently, over the last decade Gauteng has grown by almost a quarter (23%) of its own previously measured population size. While this may seem large at first glance, two things need to be noted.



First, the count of 15.1 million is a million less than the population estimated by Statistics South Africa in its 2022 mid-year population estimates. Referenced back to the 2011 count of 12.3 million, the mid-year population estimates projected that the Gauteng population would have grown by 3.8 million people to stand at 16 098 571 in 2022. By contrast, the 2022 mid-year population estimates put South Africa’s total population at just over 60,6 million. This has now been shown to be an underestimate by some 1.6 million of the South African population actually counted in Census 2022.

Population	1996-2001	2001-2011	2011-2022
Gauteng	4.2%	2.7%	1.9%
South Africa	2.0%	1.5%	1.7%

Table 2. Average annual compound growth rates for Gauteng and South Africa between census years

Second, the average annual growth rate of Gauteng has slowed significantly since that recorded in previous censuses. Between 1996 and 2001 the average annual compound growth rate for Gauteng was 4.3%. This dropped to 2.7% between 2001 and 2011, and then dropped still further to just 1.9% per year between 2011 and 2022. Remarkably, the national average annual compound growth rate *increased* from 1.5% in the 2001-2011 period, to 1.7% over the last decade. A possible reason for this is the lowering of South Africa’s mortality rate as the HIV & AIDS crisis of the early- to mid-2000s has resolved itself. However, this means that – according to Census 2022 – the current growth rate of Gauteng is only *fractionally* higher than the background growth rate of the country as a whole.

The fact that the Gauteng population is not as large as previously imagined, and the fact that the growth rate has slowed from previous periods compared to an acceleration in the South African rate of increase, are two of the key findings from the Census.

### 3.2 Municipal population changes

It is worth delving deeper into the population changes in each of Gauteng’s municipalities. The data, if correct, suggests a remarkable shift in the fortunes of Johannesburg relative to other Gauteng municipalities and other major cities in South Africa. According to Census 2022, Johannesburg added only 368 631 people between 2011 and 2022, a total growth of 8.3%. This is a mere 0.7% annual average compound growth. By comparison, three times this number was added to the population of Tshwane. It saw a total population change of 38.3% or 3% annual average compound growth. All other Gauteng municipalities grew faster than Johannesburg. Particularly notable here is Emfuleni, historically a very low-growth municipality, growing by 223 987 people, or 31% since the last census.

	2011	2022	Total growth 2011 – 2022	Percentage change 2011 – 2022
SOUTH AFRICA	51 770 560	62 027 503	10 256 943	19.81%
GAUTENG	12 272 263	15 099 422	2 827 159	23.04%
Ekurhuleni	3 178 470	4 066 691	888 221	27.94%
Johannesburg	4 434 631	4 803 262	368 631	8.31%
Tshwane	2 921 488	4 040 315	1 118 827	38.30%
Emfuleni	721 663	945 650	223 987	31.04%
Midvaal	95 301	112 254	16 953	17.79%
Lesedi	99 520	132 783	33 263	33.42%
Mogale City	362 618	438 217	75 599	20.85%
Merafong City	197 520	225 476	27 956	14.15%
Rand West City	261 053	334 773	73 720	28.24%
eThekwini	3 476 686	4 239 901	763 215	21.95%
Cape Town	3 740 031	4 772 846	1 032 815	27.62%
Nelson Mandela Bay	1 152 115	1 190 496	38 381	3.33%

Table 3. Population and population growth for Gauteng municipalities, compared to other major cities

The picture is even more stark when Johannesburg’s growth is compared to some other major South African cities. Johannesburg’s average annual growth, at 0.7%, was higher than that for Nelson Mandela Bay at 0.3%, but far behind Cape Town at 2.2%. If the data is to be believed Cape Town’s total population, at 4 772 846, almost matched that of Johannesburg on census day. And incredibly, since it is apparently growing much faster, Cape Town’s population would have surpassed that of Johannesburg sometime in 2023 for it to become South Africa’s largest city.

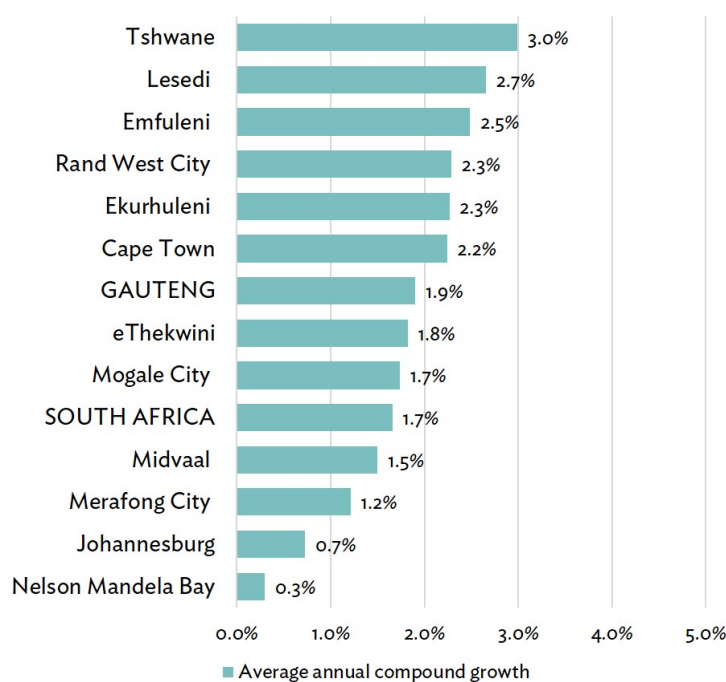


Figure 1. Ranked average annual compound growth for South Africa, Gauteng and other major cities

### 3.3 Breakdown by race

One clue for how to understand the population growth trends, in particular in Johannesburg, can be found in the changing racial composition of the province. The most notable finding is that while the number of whites in Gauteng increased by 145 842 between 2001 and 2011, the white population dropped by 404 084 between 2011 and 2022. There may be enumeration constraints that explain this lower count of white residents, with census enumerators possibly struggling to access gated communities and lifestyle estates. However, it is also probable that emigration and so called ‘semigration’ of wealthier white residents to other parts of the country were significant factors. By comparison, the Western Cape gained 302 284 white residents between 2011 and 2022.

	1996		2001		2011		2022	
	Number	%	Number	%	Number	%	Number	%
Black African	5 620 774	72,3%	7 064 389	75,2%	9 493 684	77,4%	12 764 799	84,6%
Coloured	280 235	3,6%	339 973	3,6%	423 594	3,5%	443 855	2,9%
Indian	161 429	2,1%	218 124	2,3%	356 574	2,9%	329 736	2,2%
White	1 711 015	22,0%	1 768 042	18,8%	1 913 884	15,6%	1 509 800	10,0%
Other					84 527	0,7%	35 890	0,2%

*Table 4. Population group numbers and proportions for Gauteng, 1996-2022*

Half of the decline of white residents in Gauteng was accounted for in Johannesburg, where the number of whites declined from 544 529 in 2011, to 333 651 in 2022. The number of Indian/Asian residents in Johannesburg reportedly also dropped from 206 247 to 171 126, and the number of coloured residents declined from 134 109 to 96 830. So Johannesburg’s meagre growth was apparently accounted for solely by an increase in the number of Black African residents. However, it is important to note that this growth was not substantial: at just 1.6% per annum, the growth in Johannesburg’s Black African residents was lower than the background growth rates of Gauteng and South Africa as a whole.

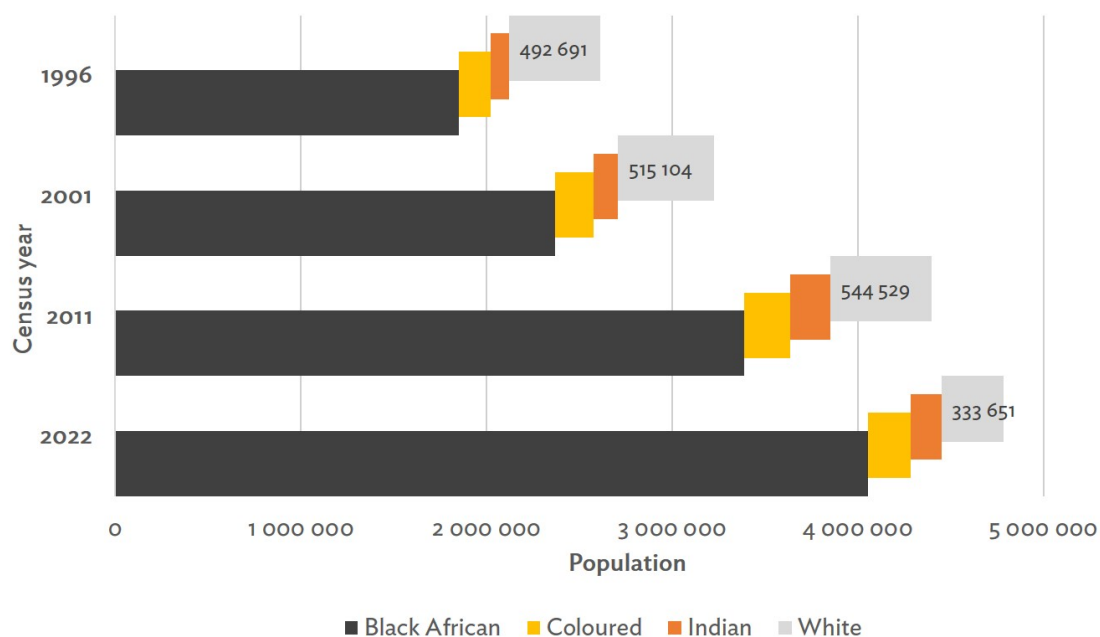


Figure 2. Population group composition of Johannesburg, 1996-2022

## 4 Migration

### 4.1 Migration status of the Gauteng population

Between 2011 and 2022, the proportion of the Gauteng population that was born in the province increased from 56% to 64.7%, a remarkable increase of eight percentage-points. By contrast, the proportion of those born outside Gauteng and migrating in from other provinces declined from 34.5% in 2011 to 27.2% in 2022. The proportion of those born outside South Africa dropped very marginally from 9.5% to 8.1%. This does not suggest a picture of a large undercount of foreign migrants in the census, or a dramatic influx of foreign migrants. Rather, the significant and surprising change is in the proportion of the population made up of those born in Gauteng relative to internal South African born migrants.

There is no reason why internal migrants would resist being counted, leading to the conclusion that the figures may reflect a real reduction in the pace of rural to urban migration in South Africa, or an uptick in reverse migration driven by COVID-19 related lock-downs, as well as urban job-losses, costs and uncertainties.

	Born in GP	Born outside of GP	Born outside of SA
Census 2022	64.7%	27.2%	8.1%
Census 2011	56.0%	34.5%	9.5%
Census 2001	59.2%	35.3%	5.4%

Table 5. Migration status of the Gauteng population, 2001-2022

## 4.2 Gauteng migrant population by place of birth, and previous place of residence in 2011

Origin of migrants	LP	KZN	MP	EC	FS	NW	WC	NC	Outside of SA
Census 2022	26.6%	14.2%	9.7%	9.6%	6.7%	7.2%	1.9%	1.3%	22.9%
Census 2011	24.6%	13.4%	9.7%	10.2%	7.3%	8.0%	3.5%	1.8%	21.6%
Census 2001	24.7%	14.4%	14.1%	9.8%	7.9%	9.8%	4.4%	2.1%	12.7%

Table 6. Distribution of the Gauteng migrant population by place of birth, 2001-2022

The table above refers to Gauteng's migrant population, which makes up 35.3% of the province's people in 2022. Limpopo accounts for the largest proportion of the migrant population in Gauteng, followed by KwaZulu Natal. Just over a quarter of Gauteng residents who were born outside the province were born in Limpopo. About 22.9% of the total migrant population in Gauteng were born outside South Africa.

While Table 5 considers the place of birth of all migrants, regardless of when they actually moved to Gauteng, Table 6 gives a sense of changes in migration streams over previous census years. It provides detail on where migrants enumerated in 2022 previously lived eleven years ago at the point of the previous census in 2011, and similarly for where migrants counted in 2011 lived in 2001.

As context, census data shows that between 2001 and 2011 some 1,4 million people moved into Gauteng (with 487 000 of these coming from countries outside South Africa), while some 402 000 people moved out, leaving a net migration of 1 037 871. Between 2011 and 2022 Gauteng received half the same number of migrants at 795 000 (283 000 of these from outside the country). Roughly the same number as in the previous decade, 396 000, moved out, leaving a net migration of just 399 000.

Relative to 2011, the 2022 census shows a marginal increase in the proportion of migrants who lived outside of South Africa a decade previously. Limpopo continues to be the leading sending province of internal migrants to Gauteng, followed by KwaZulu Natal.

Previous Residence	LP	KZN	MP	FS	EC	NW	WC	NC	Outside of SA
Census 2022	20.4%	12.6%	8.9%	4.6%	6.8%	7.1%	3.2%	0.8%	35.6%
Census 2011	19.7%	12.8%	8.5%	5.2%	8.2%	7.2%	3.5%	1.1%	33.8%

Table 7. Distribution of Gauteng migrant population by place of previous residence in 2011

# 5 Age and sex composition of the population

## 5.1 Age-structure 2011 versus 2022

There have been noticeable shifts in age-sex distribution of Gauteng since the last census of 2011. The proportion of infants (0-4) has remained relatively high. Census 2011 showed that there were some 1,2 million 0-4 year olds in Gauteng, and that number went up to 1,3 million in 2022. The age distribution continues to show a bulge for ages between 20 and 44 for both, however since 2011 this age cohort has visibly shrunk in proportional terms. The numbers behind this are dramatic.

Over time the median age is increasing and in Gauteng has risen from 27 years in 2011 to 30 years in 2022. This is higher than the South African median age of 28 and only the Western Cape (31 years) also has a median age higher than average.

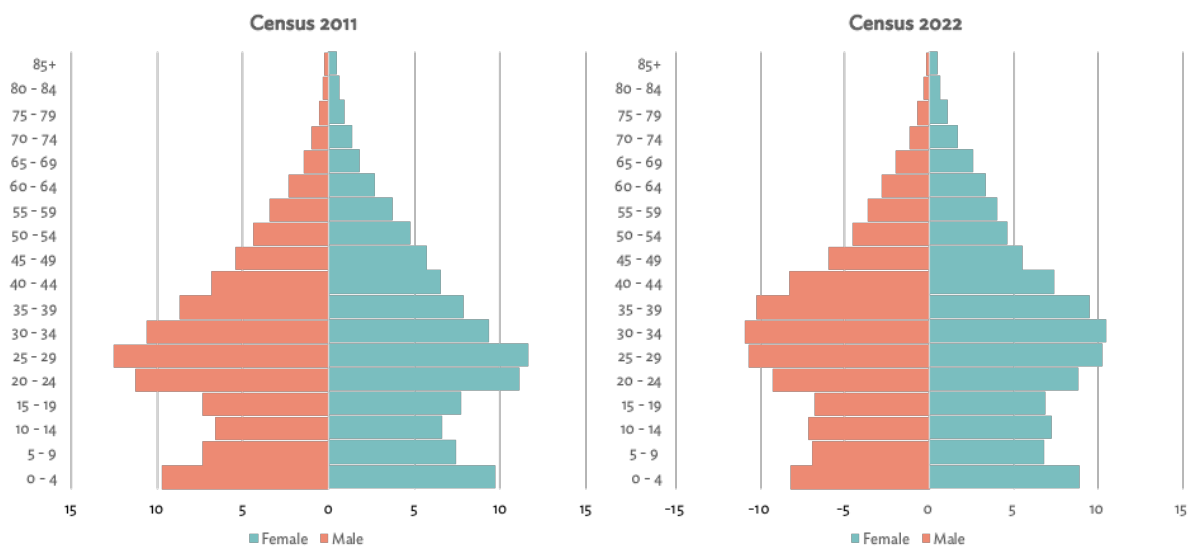


Figure 3. Population pyramids for Gauteng per 5 year age cohort in 2011 and 2022

There have been noticeable shifts in age-sex distribution of Gauteng since the last census of 2011. The proportion of infants (0-4) has remained relatively high. Census 2011 showed that there were some 1,2 million 0-4 year olds in Gauteng, and that number increased to 1,3 million in 2022. The age distribution continues to show a bulge for ages between 20 and 44, however since 2011 this age cohort has visibly shrunk in proportional terms. The numbers behind this are dramatic, as reflected in Figure 4. It shows that the number of 25-29 year olds in the province increased only marginally by 7% between 2011 and 2022. And the number of 20-24 year olds actually declined by 0,3%. In Johannesburg, these two age cohorts actually declined by over 100 000. There were however continued increases in the age cohorts above these.

Over time, consequently, the median age is increasing. In Gauteng the median age has risen from 27 years in 2011 to 30 years in 2022. This is higher than the South African median age of 28 and only the Western Cape (31 years) also has a median age higher than average.

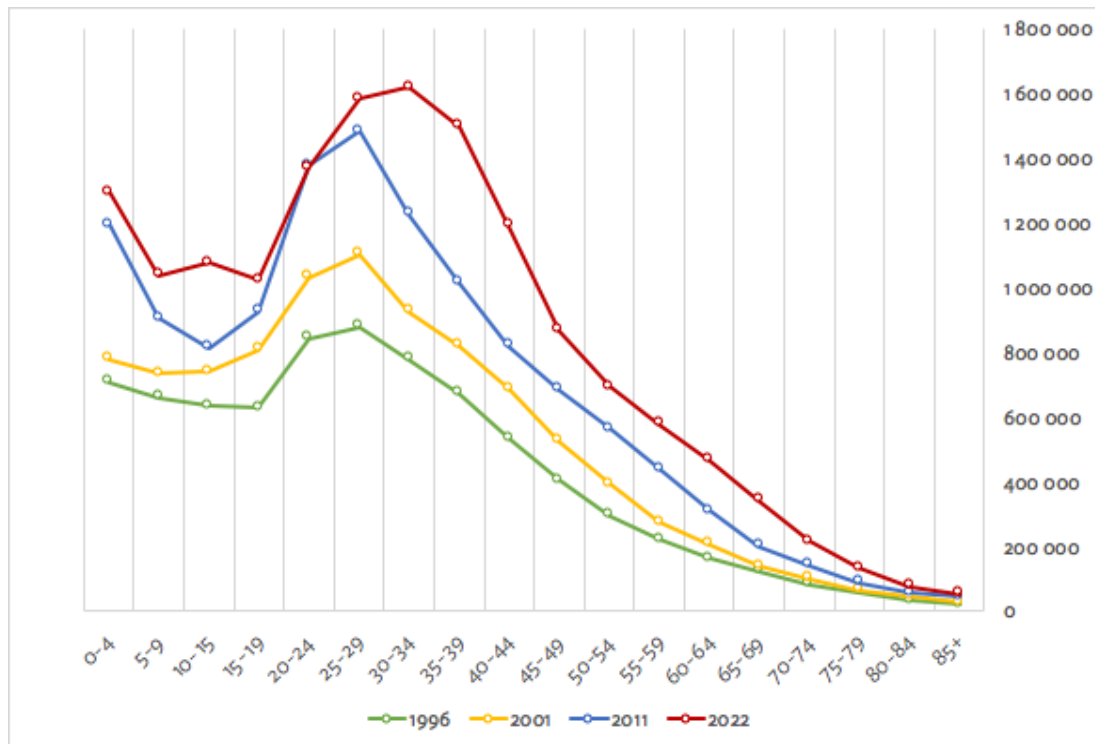


Figure 4. Number of Gauteng residents in each five year age cohort, 1996-2022

## 5.2 Working age population

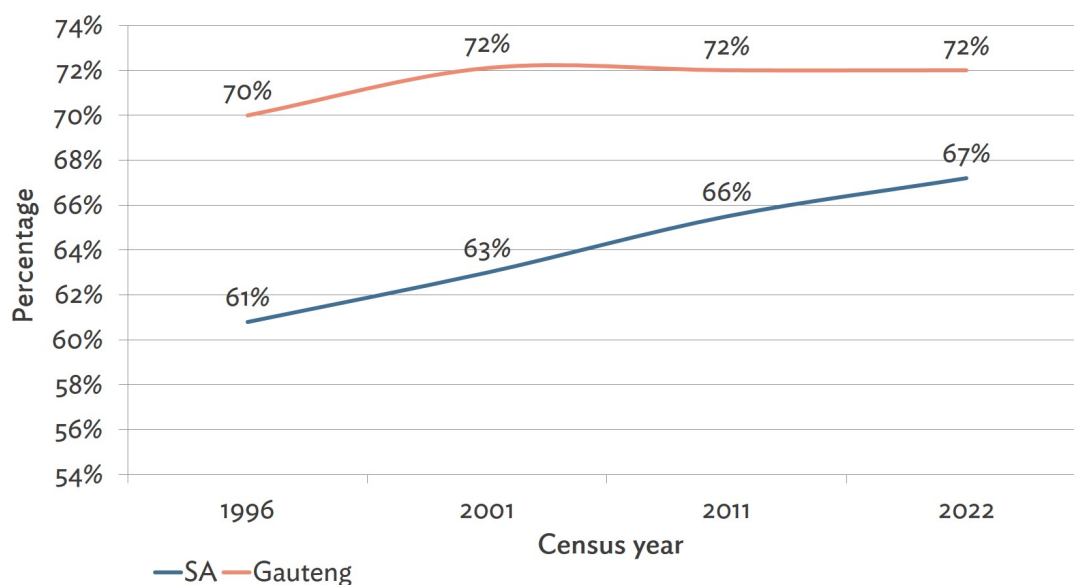


Figure 5. Proportion of working age population for South Africa and Gauteng, 1996-2022

Gauteng has a significantly higher proportion of its population in the working age brackets of 15-65 than South Africa as a whole. This has been the case since 1996. However, the working age population for Gauteng has remained relatively constant at 72% since 2001, a trend that is also reflected across all its municipalities (see table below). By contrast, the proportion of the working age population for South Africa has been rising steadily, from 61% in 1996 to 67% in the current census.

	1996	2001	2011	2022
SOUTH AFRICA	60.8%	63%	65.5%	67.2%
GAUTENG	70.0%	72.1%	72.0%	72.0%
City of Ekurhuleni	69.8%	71.9%	71.7%	72.8%
City of Johannesburg	70.8%	73.2%	72.7%	73.1%
City of Tshwane	68.2%	71.0%	71.9%	70.9%
Sedibeng	67.6%	70.0%	69.5%	69.5%
West Rand	74.5%	73.3%	71.9%	71.0%

Table 8. Proportion of working age population, 1996-2022

## 1.1 7.1 Dependency ratio

	1996	2001	2011	2022
SOUTH AFRICA	64.4	58.7	52.7	48.8
GAUTENG	42.9	38.7	39.0	38.9
City of Ekurhuleni	43.2	39.1	39.4	37.3
City of Johannesburg	41.1	36.6	37.6	36.8
City of Tshwane	46.6	40.9	39.0	41.0
Sedibeng	48.0	42.9	43.8	43.8
West Rand	34.3	36.4	39.2	40.8

Table 9. Dependency ratio for South Africa, Gauteng and district municipalities from 1996 to 2022

The dependency ratio measures the number of individuals dependent on the support of others or, conversely, the burden carried by the working age population to take care of those not able to work. It is formally defined as the ratio of those typically not in the labour force – those aged 0-14 and those aged 65 and above – to those of working age. The dependency ratio has declined overall in South Africa over time. The Gauteng Province has historically had a dependency ratio lower than the ratio for South Africa. This is due to Gauteng being a largely urban province, with a large working population, where migrant labour trends have historically driven a smaller proportion of children and elderly relative to those who have come to the province seeking work. This trend continues in Census 2022 with the national dependency ratio being 48.8 compared to Gauteng's 38.9. The dependency ratio in Gauteng however remains virtually unchanged between 2011 and



2022,. At a municipal level, the City of Tshwane, Sedibeng and West Rand have experienced increases in dependency ratios.

The graph below shows how the dependency ratio has changed between 1996 and 2022, and between 2011 and 2022. The table shows that nationally there has been a decrease in the dependency ratio, but in the Gauteng province the decrease has been much less pronounced. The West Rand has experienced an increase in the dependency ratio whether one compares from 1996 or 2011.

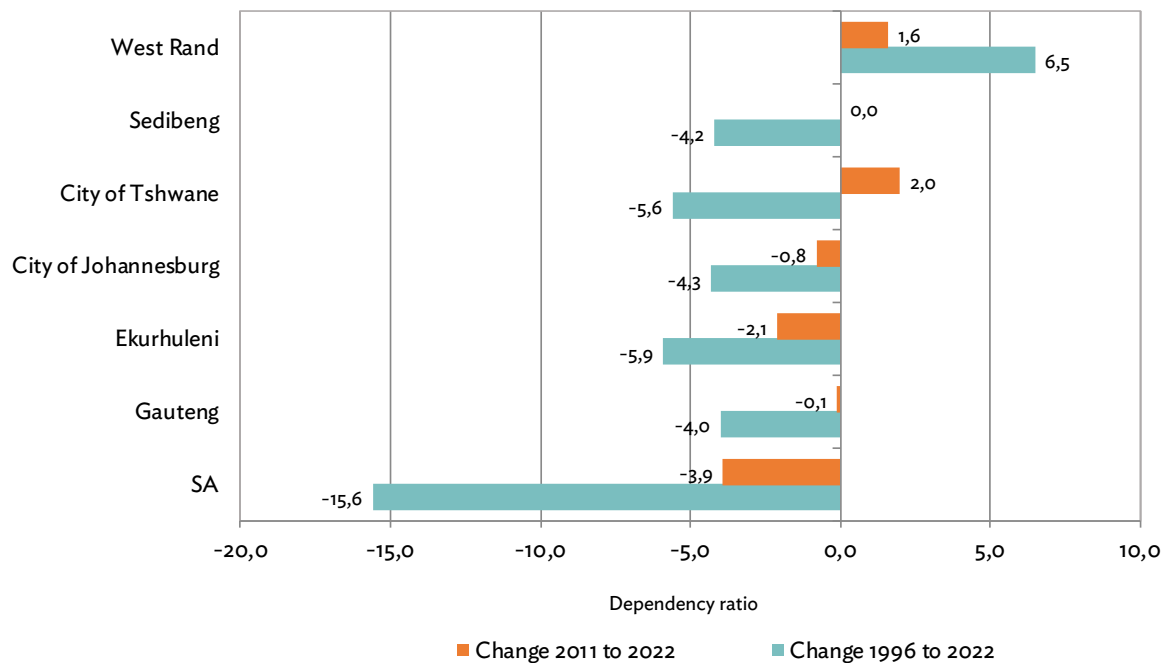


Figure 6. Changes in dependency ratios between 1996 and 2022, and 2011 and 2022, per District Municipality

### 5.3 Sex ratio

The sex ratio is the ratio of the number of males to females in a population expressed as the number of males for every 100 females. If the value is less than 100 there are proportionally more women to men. Gauteng has proportionally more males than females (101.8), which is the opposite to the South African trend of more females to males (94.1). According to the census release, Gauteng is the only province that has consistently recorded a sex ratio over 100 since 1996. While the sex ratio has remained the same in Gauteng between 2011 and 2022 there have been shifts at a municipal level. Emfuleni (98.1) is the only municipality that has more females to males. In 2011 Merapong City had disproportionately more males (118.6), most likely due to the concentration of mining activities in the area, but this has reduced to 103.7% in 2022.

Municipality	Sex ratio 2011	Sex Ratio 2022
SOUTH AFRICA	94,8	94,1
GAUTENG	101.8	101.8
Emfuleni	96.7	98.1
Midvaal	106.6	100.8
Lesedi	106.5	100.0
Mogale City	104.3	102.4
Merafong City	118.6	103.7
Rand West City	108.8	101.6
Ekurhuleni	105.0	104.4
City of Johannesburg	100.7	101.5
City of Tshwane	99.0	100.5
South Africa	94,8	94,1

Table 10. Sex ratio per municipality in Gauteng between 2011 and 2022

## 6 Population density

	1996	2001	2011	2022	Forward projection to 2030 at current growth
Gauteng	432	519	675	831	957
South Africa	33	37	42	51	56

Table 11. Population density per km<sup>2</sup>, 1996-2022

Gauteng is not only the province with the highest overall population; it is also that with the highest population density of 830.71 people per km<sup>2</sup>. Gauteng has become more dense with each passing census. The highest increase in population density occurring between the 2011 and 2022 census estimates (18.7% increase). The same can be said for South Africa as a whole with a consistent increase in population density at the country scale but not close in magnitude to the Gauteng province. The population density increased by 17.3% between 2011 and 2022 at the country wide scale. Although forward projection numbers for 2030 have not been published by StatsSA, based on the graph below and the derived linear formula, the estimated population density of Gauteng could be around the 957.16 people per km<sup>2</sup> mark (conservatively, just shy of 1000 people per km<sup>2</sup>) by 2030. Applying the similar linear formula approach, the population density of South Africa is expected to reach 55.75 people per km<sup>2</sup> by 2030.

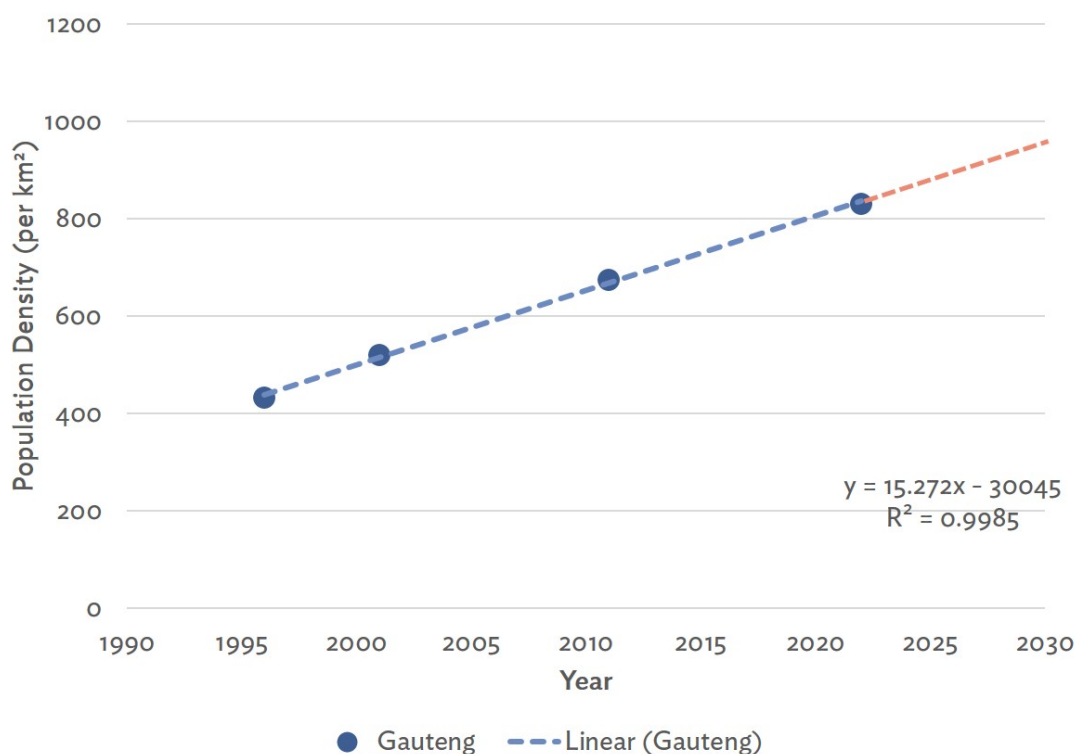


Figure 7: Gauteng population density across 1996, 2001, 2011 and 2022 censuses and projected trends for 2030

## 7 Household growth

### 7.1 Household growth and average household size

	1996	2001	2011	2022	Projection to 2030 at current growth rate
Gauteng	2 069 629	2 735 168	3 909 022	5 318 665	6 653 714
South Africa	9 059 571	11 202 705	14 450 161	17 828 778	20 772 291
Gauteng's % share of SA	22.8%	24.4%	27.1%	29.8%	32.0%

Table 12. Number of households in Gauteng and South Africa, 1996-2022

The table above shows that the total number of households in Gauteng is increasing at a rate of 2.8% per annum, much faster than population growth at 1.9%. If the current annual rate of increase continues, Gauteng will have some 6.8 million households by 2030. Gauteng currently accounts for just under 30% of all households in South Africa, On the basis of our forward projections Gauteng will account for 32% of South Africa's households in 2030.

Household growth rates, typically much faster than annual increases in the population, are driven by various trends, including the setting up of single person households by new migrants, and the splitting of previous multigenerational households. The consequence over time is a trend towards smaller household sizes. Gauteng’s households have consistently been smaller than the national average. Census 2022 estimates that the average size of Gauteng households is 2.8 persons, markedly less than the 3.1 in 2011. It is noteworthy that there are significant differences between municipalities. In Johannesburg household sizes dropped from 3.1 to 2.6 between 2011 and 2022. In spite of the fact that its population growth rate was higher Tshwane’s household size decreased only marginally from 3.2 to 3.1. Interestingly, not every city in South Africa is trending towards smaller household sizes. In the slow growing Nelson Mandela Bay metro for example, household sizes increased from 3.6 to 3.9.

	1996	2001	2011	2022	Projection to 2030 at current growth rate	GCRO Quality of Life Survey 6 (2020/21)
Gauteng	3.8	3.4	3.1	2.8	2.6	3.2
South Africa	4.5	4.0	3.6	3.5	3.4	-

Table 13. Average household sizes, Gauteng and South Africa, 1996-2022

## 8 Formal and informal housing

### 8.1 Formal dwellings increase and informal dwellings decrease

In 2022, 88.5% of households in South Africa resided in formal dwellings, 3.1% in traditional dwellings and 8.1% in informal dwellings.

In Gauteng, the proportion of formal dwellings increased from 79.8% in 2011 to 88.5% in 2022. Correspondingly, the proportion of informal and traditional dwellings declined. The findings from the 2022 Census are very similar to the findings from the GCRO Quality of Life Survey 6 (2020/21), although our survey shows a slightly higher proportion of informal dwellings and a slightly lower proportion of formal dwellings.

	1996	2001	2011	2022	GCRO Quality of Life Survey 6 (2020/21)
Formal	74.8%	74.4%	79.8%	88.5%	85.6%
Informal & traditional	24.8%	25.2%	19.3%	11.3%	13.4%
Other	0.3%	0.3%	0.9%	0.3%	1.0%
Total	100%	100%	100%	100%	100%

Table 14. Distribution of dwelling types in Gauteng, 1996-2022

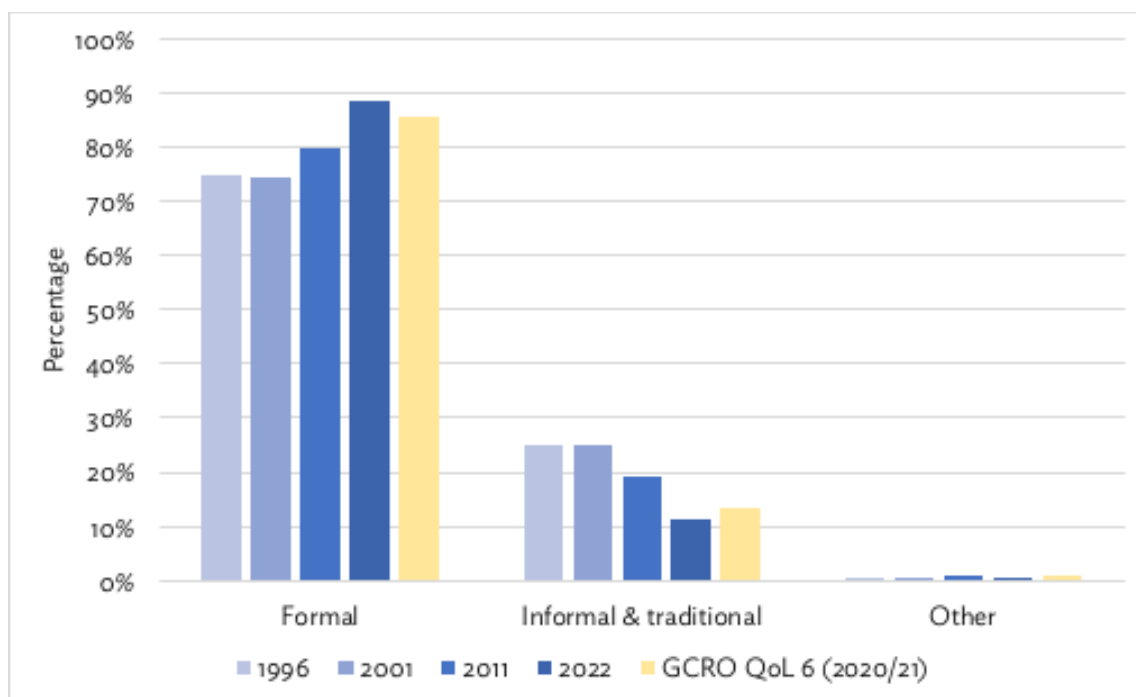


Figure 8. Change in dwelling types in Gauteng, 1996-2022 GCRQ's Quality of Life Survey 6

Among Gauteng municipalities, the proportion of households living in formal dwellings was highest in the Lesedi local municipality at 95.1%. The proportion of households living in informal dwellings was highest in Mogale City at 14.7%. Between 2011 and 2022, the City of Johannesburg experienced the largest numerical increase in households living in formal dwellings (486 603 additional formal dwellings) as well as the largest numerical reduction in households living in informal dwellings (70 790 fewer informal dwellings). Proportionally, the Rand West City municipality experienced the biggest increase in households living in formal dwellings (19.7 percentage point increase) and the biggest decrease in those living in informal dwellings (18.6 percentage point decrease) between 2011 and 2022.

The data suggests that Gauteng has formalised to a greater degree than in other large municipalities. On average, the changes in the distribution from informal to formal dwelling types are much larger in Gauteng municipalities than in other metropolitan municipalities in South Africa (City of Cape Town, Nelson Mandela Bay, Mangaung, and eThekweni).

	Formal dwellings		Informal and traditional dwellings		Other dwellings	
	2011	2022	2011	2022	2011	2022
Ekurhuleni	77.4%	88.2%	21.7%	11.5%	0.8%	0.3%
City of Johannesburg	81.4%	89.8%	17.8%	9.9%	0.8%	0.2%
City of Tshwane	80.7%	86.3%	18.4%	13.4%	0.9%	0.3%
Emfuleni	85.3%	90.1%	14.2%	9.7%	0.4%	0.2%
Midvaal	80.2%	93.2%	18.5%	6.5%	1.3%	0.4%
Lesedi	85.5%	95.1%	13.5%	4.8%	1%	0.1%
Mogale City	73.5%	85.0%	25.6%	14.7%	0.8%	0.3%
Merafong City	74.7%	91.6%	21.5%	8.2%	3.8%	0.1%

Rand West City	69.9%	89.5%	28.9%	10.3%	1.2%	0.1%
GAUTENG	79.8%	88.5%	19.3%	11.3%	0.9%	0.3%
City of Cape Town	78.4%	87.5%	20.8%	12.2%	0.8%	0.2%
Nelson Mandela Bay	87.2%	92.0%	12%	7.8%	0.5%	0.2%
Mangaung	83.8%	90.1%	14.1%	9.3%	0.8%	0.5%
eThekweni	78.8%	89.2%	15.5%	10.6%	1.2%	0.2%

Table 15. Distribution of dwelling types in municipalities in Gauteng and South Africa, 2011-2022

## 9 Household services

### 9.1 Percentage of households with piped water

The Census suggests that the proportion of households with access to piped water, whether in dwelling or yard, or through a community standpipe, has very slightly decreased between 2011 and 2022 from 98.2% to 97.9% respectively. The figure is equivalent to the GCRO QoL 6 (2020/21) result of 97.6%. 75.0% of households have access to piped water inside their dwellings, 19.2% have access to piped water inside the yard, and 3.7% have access to piped water through community standpipes.

Access to piped water	Census 1996	Census 2001	Census 2011	Census 2022	GCRO Quality of Life Survey 6 (2020/21)
Gauteng	96.2%	97.1%	98.2%	97.9%	97.6%
South Africa	80.3%	84.5%	91.2%	91.3%	n/a

Table 16. Access to piped water at the Gauteng and country-wide scales and comparison to GCRO's Quality of Life Survey 6

	No access to piped water	Piped water on community stand	Piped water inside the yard	Piped water inside the dwelling	Total
QoL 6 (2020/21)	2.4%	4.6%	18.9%	74.1%	100%
Census 2022	2.1%	3.7%	19.2%	75.0%	100%
Census 2011	1.8%	8.8%	27.3%	62.1%	100%

Table 17. Access to piped water at the Gauteng scale, broken down by piped water type, in comparison to GCRO's Quality of Life Survey 6

Household growth is an important consideration when measuring service access. While the table above shows a small percentage decline in access to piped water (0.3%) this is a proportional change and there has actually been a large increase in the number of households with access to water. In Gauteng between 2011 and 2022 an additional 1 560 956 households gained access to water inside their dwellings. As indicated in the household growth section of this report above,

Gauteng added 1 409 643 more households during this time period, meaning that the number of households with water piped into their dwellings increased at a rate higher than household growth, closing the gap in access to services. The challenge in Gauteng is not connection to the water infrastructure network, but the reliability of water services, which is not measured in the Census.

	Piped (tap) water inside the dwelling	Piped (tap) water inside the yard	Piped (tap) water on community stand	No access to piped water
GAUTENG	3 987 428 (1 560 956)	1 018 740 (-48 854)	199 419 (-144 988)	113 077 (42 724)
Emfuleni	239 457 (85 561)	49 804 (-3 636)	6 430 (-5 104)	2 219 (959)
Midvaal	31 766 (12 308)	2 787 (-2 588)	1 012 (-2 852)	898 (-367)
Lesedi	30 990 (15 466)	10 469 (-1 347)	829 (-1 142)	308 (-44)
Mogale City	107 968 (43 659)	30 088 (-8 065)	10 422 (-1 102)	2 309 (-1 145)
Merafong City	63 580 (28 347)	10 825 (-9 455)	2 211 (-8223)	984 (307)
Rand West City	102 066 (58 361)	22 079 (1 107)	2 915 (-14 716)	1 085 (-3)
Ekurhuleni	1 048 360 (467 508)	288 146 (-15 871)	73 736 (-45 481)	10 762 (-549)
City of Johannesburg	1 420 739 (492 535)	336 892 (-49 244)	53 641 (-46 882)	30 645 (10 793)
City of Tshwane	942 502 (357 211)	267 650 (40 246)	48 231 (-19 478)	63 868 (32 774)

Table 18. Number of households that have access to piped water in 2022 (value in brackets shows the change (increase or decrease in number of households) since the 2011 census)

## 9.2 Household access to type of toilet

The tables below illustrate access to toilet facilities at both the Gauteng and country-wide scales. These statistics were also compared to the results from the GCRO's Quality of Life Survey 6 (2020/21). Overall percentage access to toilet facilities has improved from 1996 to 2022 with drastic improvements noted at the country-wide scale (Gauteng already had relatively high access in 1996). The census 2022 results are closely aligned with the GCRO's QoL 6 results, with only a 0.2% difference.

According to the 2022 census results, 90% of Gauteng's households have access to flush toilet facilities. With the improvement in access to flushing toilet facilities in Gauteng, there has been a resultant reduction in households that use a pit latrine (13.7% to 5.6%) and those that have no toilet facilities (2.4% to 0.4%). Access to chemical toilets, bucket toilets and other means remained mostly consistent throughout the census periods. These specific statistics from the census 2022 also aligned closely with the QoL 6 Survey results.

Access to toilet facility	Census 1996	Census 2001	Census 2011	Census 2022	GCRO Quality of Life Survey 6 (2020/21)
Gauteng	97.6%	96.4%	98.9%	99.5%	99.7%
South Africa	87.6%	86.4%	94.8%	98.4%	n/a

*Table 19. Access to toilet facilities at the Gauteng and country-wide scales, and comparison to GCRO's Quality of Life Survey 6*

Disparities in household access to toilet facilities are discernible across various municipalities. Emfuleni, Lesedi, Midvaal and Merafong City have the highest proportions of households equipped with flush toilets. In contrast, the City of Tshwane registers a significantly lower prevalence of flush toilets at just 81.5%, corresponding with a noteworthy reliance on pit toilets by 14.2% of its households.

Access to toilet facility	Census 1996	Census 2001	Census 2011	Census 2022	GCRO Quality of Life Survey 6 (2020/21)
Access to flush toilet	81.5%	80.0%	85.4%	89.7%	87.6%
Chemical Toilet	-	1.1%	1.1%	1.5%	1.9%
Pit latrine	13.7%	13.1%	9.8%	5.6%	7.7%
Bucket toilet	2.4%	2.2%	1.8%	2.5%	0.9%
Other	-	-	0.8%	0.2%	1.6%
No toilet	2.4	3.6%	1.1%	0.4%	0.3%
Total	100%	100%	100%	100%	100%

*Table 20. Percentage access to toilet facilities at the Gauteng scale, broken down by toilet facility type, and comparison to GCRO's Quality of Life Survey 6*

Disparities in household access to toilet facilities are discernible across various municipalities. Emfuleni, Lesedi, Midvaal and Merafong City have the highest proportions of households equipped with flush toilets. In contrast, the City of Tshwane registers a significantly lower prevalence of flush toilets at just 81.5%, corresponding with a noteworthy reliance on pit toilets by 14.2% of its households.



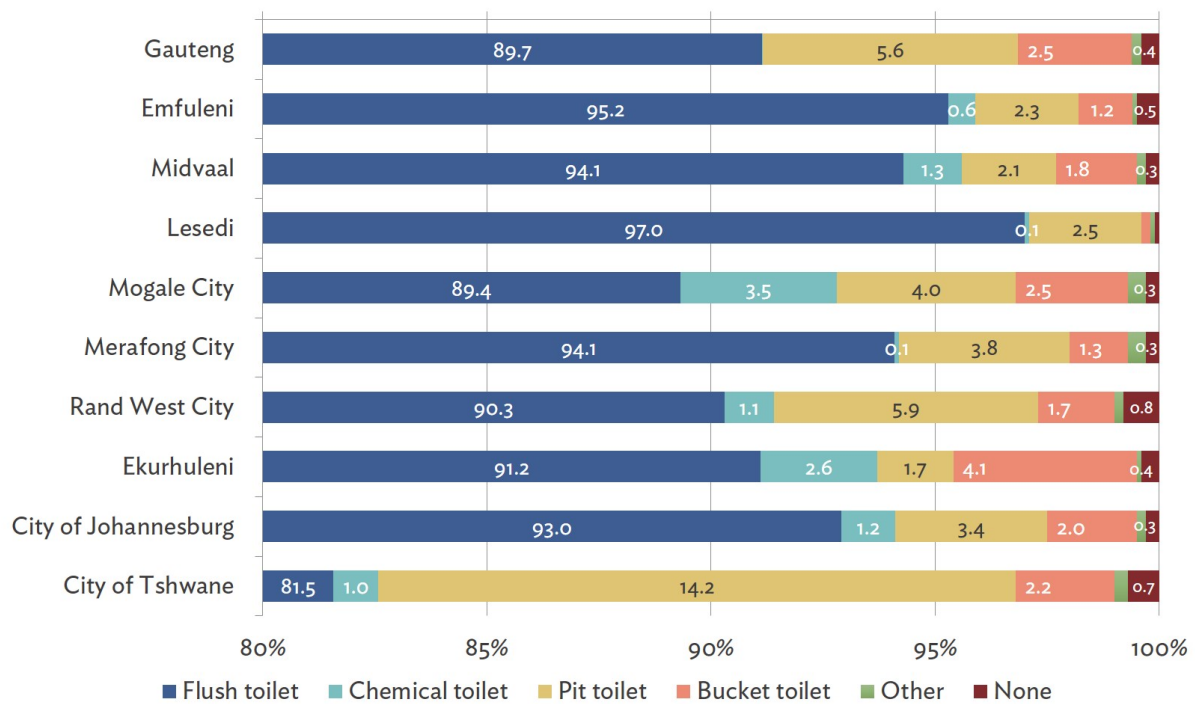


Figure 9. Percentage of household access to toilet facilities across municipalities in Gauteng, 2022 (Note: because of the small percentages for the non-flush toilet categories, the axis scale starts at 80%)

### 9.3 Percentage of households using electricity for lighting

Energy for lighting provides a useful indicator of service level access. There has been a steady increase in the proportion of households using electricity as the main source of lighting energy from 87.4% in 2011 to 93.2% in 2022.

Use of electricity for lighting	Census 1996	Census 2001	Census 2011	Census 2022
Gauteng	78,7%	80,5%	87,4%	93,2%
South Africa	57,6%	70,2%	84,7%	94,7%

Table 21. Percentage of households using electricity for lighting between 1996 and 2022

There have been changes in the source of energy used for lighting since the 2011 census. While electricity supplied from the grid is the predominant source of lighting there has been an increase in the use of solar and alternative forms of lighting. There has been a growing trend in solar use from 0.2% in 2011 to 1.1% in 2022. The use of more risky fuels like paraffin and candles has halved.

	Electricity from mains	Gas	Paraffin	Candles	Solar	Other	None
2011	87.4%	0.2%	2.6%	9.4%	0.2%		0.2%
2022	93.2%	0.2%	1.1%	4.2%	1.1%	0.1%	0.1%

Table 22. Household source of energy for cooking between 2011 and 2022

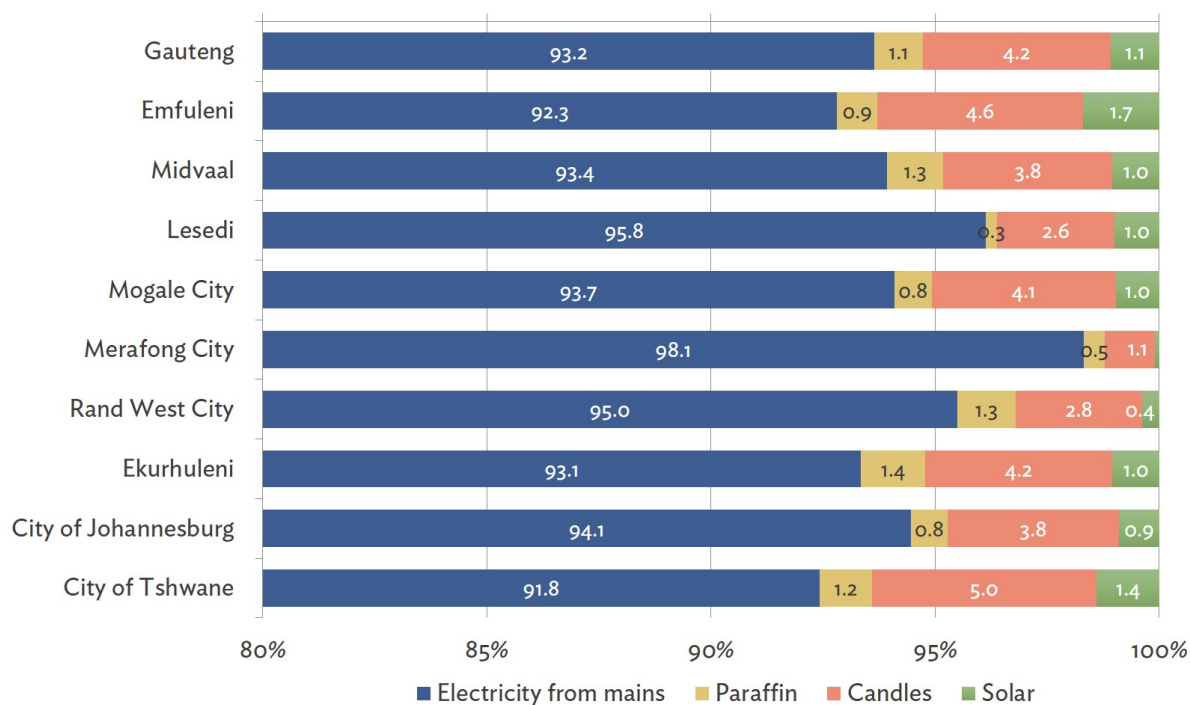


Figure 10. Household energy source for lighting in Gauteng. Note: the chart only shows the four most frequently used sources of energy (excludes other and none); because of the small percentages for non-electricity sources the axis scale starts at 80%.

There are some differences in lighting sources between municipalities. Almost all households in Merafong City (98.1%) use electricity from the grid while households in Tshwane are the most likely to use alternative sources (91.8% using electricity from the grid for lighting).

## 9.4 Percentage of households using electricity for cooking

Cooking is more energy intensive than lighting so households often use alternative sources of energy for cooking. At a household level there has been a significant change in the energy source for cooking between 2011 and 2022. Nearly a third of households (32%) now use gas for cooking, compared to only 3.1% in 2011. This is mostly likely due to loadshedding.

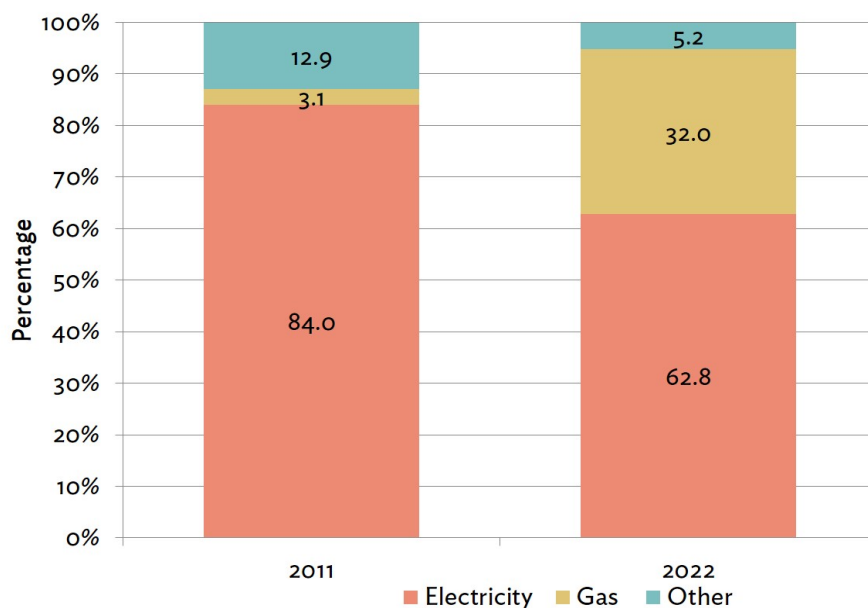


Figure 11. Household energy source for cooking between 2011 and 2022 in Gauteng

## 9.5 Percentage of households with access to refuse removal

The proportion of households that have their refuse removed by a local authority at least once a week increased by 5.8 percentage points between 2001 and 2011. However, between 2011 and 2022 it declined from 88.3% to 85%. Even with this decline, Gauteng is significantly higher than the national figure of 66.3% of households having access to refuse removal by a local authority at least once a week. When comparing Census 2022 results with the 1996 results, there is an increase by 5 percentage points in the proportion of households that have access to refuse removal services at least once a week. The QoL 6 results largely align with the results on the 2022 Census results.

	Gauteng Census 1996	Gauteng Census 2001	Gauteng Census 2011	Gauteng Census 2022	GCRO Quality of Life Survey 6 (2020/21)
Removed by local authority at least once a week	80.9%	82.5%	88.3%	85%	83%
Removed by local authority less often	3.7%	2.1%	1.4%	1.4%	2.2%
Communal refuse dump	3.3	2.3%	1.8%	5%	3.5%
Own refuse dump	8.9%	10.1%	6.1%	4.6%	2.1%
No rubbish disposal	2.9%	3%	2%	3.8%	N/A
Other	0.1%	N/A	0.4%	0.2%	9.2%

Table 23. Percentage of households with access to different forms of refuse removal, 1996-2022

The decline in overall proportion enjoying weekly refuse collection has been driven by a collapse in service levels in some parts of Gauteng. The notable example here is Emfuleni, where Census 2022 confirms our own QoL findings of a dramatic drop in service standards. In 2011, 89,8% of Emfuleni’s residents enjoyed weekly refuse removal services. This plummeted to just 50,9% in 2022. This is well below the provincial average of 85%. Residents in Emfuleni have the largest proportion of people who have no refuse disposal service (16.7%), significantly higher than all other municipalities and the provincial average of 3.8%. A greater proportion of Emfuleni households makes use of their own refuse dumps (20.1%) or communal refuse collection (6.4%).

	Removed by local authority at least once a week	Removed by local authority less often	Communal refuse dump	Communal container/central collection point	Own refuse dump	No Rubbish Disposal	Other
Ekurhuleni	88.6%	1.2%	1.5%	3.3%	2.1%	3.0%	0.1%
Johannesburg	90.5%	1.2%	1.3%	3.7%	1.6%	1.6%	0.1%
Tshwane	81.0%	1.2%	1.5%	3.3%	7.8%	4.8%	0.3%
Emfuleni	50.9%	4.5%	6.4%	0.8%	20.1%	16.7%	0.5%
Lesedi	91.3%	1.2%	0.3%	2.0%	3.8%	1.3%	0.1%
Merapong City	81.9%	0.8%	1.6%	1.4%	5.4%	8.8%	0.1%
Midvaal	85.8%	1.4%	1.3%	8.9%	1.7%	0.7%	0.2%
Mogale City	84.8%	1.0%	1.3%	4.4%	5.8%	2.5%	0.3%
Rand West	85.2%	1.2%	2.3%	2.9%	5.8%	2.4%	0.1%
GAUTENG	85.0%	1.4%	1.7%	3.3%	4.6%	3.8%	0.2%

Figure 24. Percentage of households with access to different forms of refuse removal per municipality in Gauteng, 2022

## 9.6 Internet access

Access to the internet has increased significantly between 2011 and 2022. In 2022, 60.5% of South Africans accessed the internet via a cellphone. There has been a corresponding decrease in people indicating that they did not have access to the internet from 64.8% in 2011 to 21.1% in 2022.

Gauteng has the lowest proportion of the households (13.6%) reporting that they had no access to the internet in 2022, compared to a national percentage of 21.1%. In provinces such as the Eastern Cape (34.3%) and Limpopo (31.9%) around a third of households reported no access to the internet.

Census Year	Home with an internet connection in dwelling	Use cellphone or any other mobile device	From place of work	From elsewhere	No access to internet services
2022	13.3%	60.5%	0.3%	4.7%	21.1%
2011	8.6%	16.3%	4.7%	5.6%	64.8%

Table 25. Access to internet in South Africa (2011 and 2022)

## 10 Education levels

### 10.1 Early Childhood Development (ECD)

In South Africa, 60.1% of children aged between 0 and 4 years attended an Early Childhood Development (ECD) institution in 2022. The Western Cape province had the highest proportion of children attending an ECD institution, at 69.5%, followed by Gauteng, at 66%.

In Gauteng, of the population aged 0 to 4 years, 40.8% attended a Crèche or educare centre, 7.1% attended a pre-school, nursery school or pre-school grades, 11% stayed with a day mother or gogo, and 6.7% stayed at home or at a community playgroup. About 33.6% of the population aged 0 to 4 years did not attend any ECD program.

### 10.2 Adult education attendance and outcomes

In South Africa, the proportion of the population aged 20 years and older with matric/National Senior Certificate/Grade 12 increased from 16.3% in 1996 to 37.6% in 2022. This is a substantial increase that improves the prospects of education equality in South Africa.

In Gauteng, education attendance and the distribution of education qualification has mostly shifted in a positive direction. The proportion of the population aged 5 to 24 years who attended an educational institution increased from 66.9% in 1996 to 69.3% in 2022.

The proportion of the population aged 20 years and older with a matric qualification increased from 34.4% in 2011 to 42.9% in 2022. By contrast, the proportion of people with a tertiary education qualification decreased slightly from 18.1% in 2011 to 16.2% in 2022. The decrease in tertiary education qualifications is very likely related to emigration and 'semigration' (migration to other provinces, notably the Western Cape). A key factor here may be the trend over the COVID and post-COVID period for tertiary sector employees to want to work from remote locations.

However, GCRO Quality of Life Survey 6 (2020/21) results suggest that a larger proportion of Gauteng residents have tertiary education qualifications than indicated by the 2022 census. The GCRO QoL survey results, across all the previous 6 survey iterations, have shown a consistent

increase in the proportion of Gauteng residents who have tertiary education qualifications, and only recorded a slight drop in recent years (a similar drop to the Census 2022 results). The Census 2022 results does not suggest a similar increase of tertiary education qualification over time in Gauteng. The current discrepancy between the GCRO QoL 6 (2020/21) and Census 2022 estimate is larger than expected and it would need further investigation to clarify the reasons for the discrepancy. Clarifying the discrepancy, and the extent of emigration and semigration as determining factors, may be a key policy issue into the future, as there is a pressing need to retain residents with tertiary education qualifications in order to appropriately grow the provincial economy.

	1996	2001	2011	GCRO QoL Survey 4 (2015/16)	GCRO QoL Survey 5 (2017/18)	GCRO QoL Survey 6 (2020/21)	2022
None	9.7%	8.7%	3.7%	1.5%	2.7%	2%	3.9%
Primary only	18.3%	17.1%	10.8%	10.6%	8.7%	9.5%	6.8%
Secondary incomplete	39.3%	34.2%	33%	28.3%	26.2%	30.9%	29.2%
Matric	22.8%	27.7%	34.4%	33%	31.3%	31.2%	42.9%
Tertiary education	9.9%	12.3%	18.1%	24.3%	29.1%	25.6%	16.2%
Other	n/a	n/a	n/a	2.2%	2%	0.8%	0.9%
Total	100%	100%	100%	100%	100%	100%	100%

Table 26. Highest education qualifications in Gauteng, 1996-2022

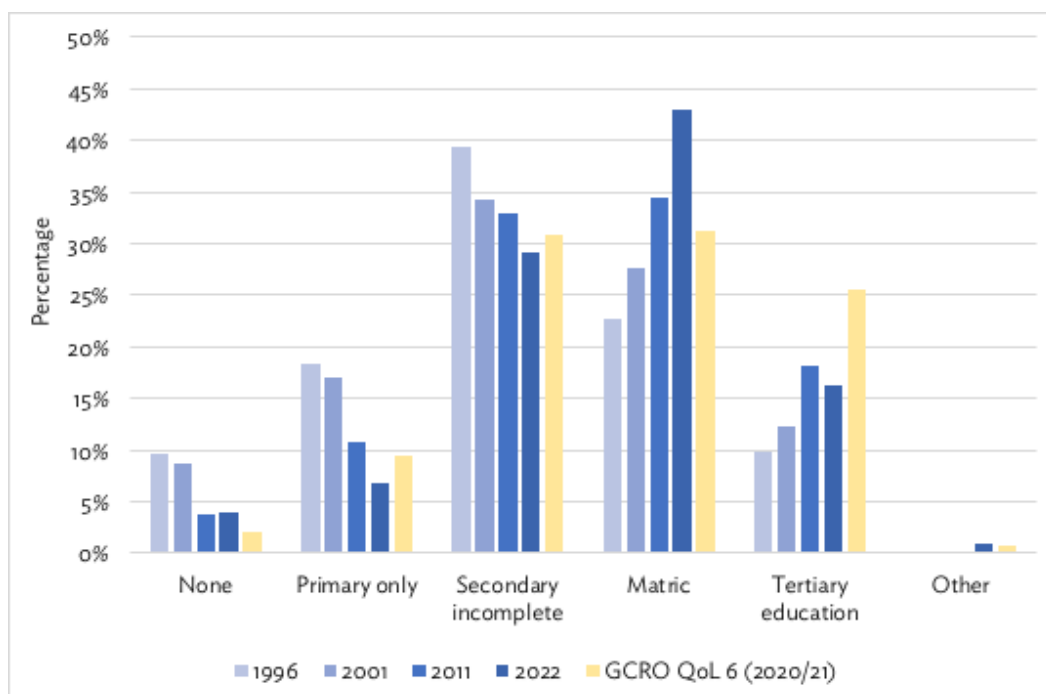


Figure 12. Highest education qualification for persons aged 20 years and older

## 2 References

de Kadt, J., Hamann, C., Mkhize, S.P., & Parker, A.(Eds.).(2021). Quality of Life Survey 6 (2020/21): Overview Report. Johannesburg: Gauteng City-Region Observatory (GCRO).

GCRO (Gauteng City-Region Observatory). (2021). Quality of Life Survey 6 (2020/21) [Dataset]. Version 1. Johannesburg and Cape Town: GCRO & DataFirst. <https://doi.org/10.25828/wemz-vf31>

Davis, R. (2023). How much can we rely on Census 2022? Daily Maverick, 12 October 2023. Retrieved 13 October 2023 from <https://www.dailymaverick.co.za/article/2023-10-12-how-much-can-we-rely-on-census-2022/>

Mushongera, D. & Götz, G. (2012). Summary analysis for Gauteng from the National Census 2011. GCRO DataBrief 2. Gauteng City Region Observatory, 5 October 2012. <https://doi.org/10.36634/GUGV5750>

Statistics South Africa (2023). Census 2022. Statistical Release P0301.4. Republic of South Africa, Pretoria.

Statistics South Africa (2012). Census 2011. Statistical Release P0301.4. Republic of South Africa, Pretoria.

Statistics South Africa (2004). Census 2001. Primary tables South Africa Census 2001. Report No. 03-02-04 (2001) Republic of South Africa, Pretoria.