

The 2022 School Monitoring Survey

Percentage of schools meeting minimum physical infrastructure standards

The design and purpose of the School Monitoring Survey

The School Monitoring Survey (SMS) is a survey of a nationally representative sample of schools. The survey comprises two separate samples of public ordinary schools: a nationally representative sample of 1000 schools offering grade 6 and a nationally representative sample of schools offering grade 12. The samples are stratified by province, to ensure that the sample size for each of the nine (9) provinces is approximately the same; this ensures that confidence intervals, or levels of certainty, are similar across provinces. Each provincial sample is further stratified by quintile, to ensure it represents the quintile ratios within the respective provinces. The School Monitoring Survey: (1) reports on 13 indicators of the Action Plan to 2024, (2) focuses specifically on gathering information which is not available in other systems, such as the Education Management Information System (EMIS), and (3) acts as a verification measure for selected indicators. The SMS of 2022 is the third round of the SMS, following from two previous rounds conducted in 2011 and 2017. The three rounds allow for a more nuanced look at trends in school infrastructure development over time.

School physical infrastructure policy context

“Everyone has the right to education...and education shall be directed to the full development of the human personality and to the strengthening of respect for human rights and fundamental freedoms.” – Article 26 of the Universal Declaration of Human Rights

The importance of improving the delivery and maintenance of school physical infrastructure is one of the five priority areas in government’s Medium Term Strategic Framework (MTSF) for Basic Education (2019-2024); it is one of six priorities identified by the Council of Education Ministers (CEM) in 2020, and has featured prominently in all President Ramaphosa’s annual State of the Nation Addresses. Adequate school infrastructure is more than just an enabling factor for learners and teachers, it is a matter of human dignity, of learner safety, and a precondition for meaningful teaching and learning to happen. However one looks at it, this is a top priority of government.

The Norms and Standards for minimum school infrastructure as gazetted in Regulation 920 of 2013 (hereafter referred to as ‘the Norms and Standards’) lists the following standards and basic features as the minimum physical infrastructure requirements that all schools need to have in place: running water, working electricity, separate toilets for boys, girls and educators (flush toilets and ventilated pit latrine and Enviro-loo toilets are considered appropriate.), and adequate classrooms - that is classrooms that could accommodate all learners at the school with a maximum of 40 learners per classroom.

The Norms and Standards envisage meeting minimum standards for four key goals achievable by all schools by the following dates with respect to:

- water, toilets, electricity and materials used for school buildings (2016 targets);
- a minimum number of classrooms, relative to enrolments; electronic connectivity (internet); and perimeter fencing; toilets adapted for wheelchair access (2020 targets);
- the required libraries and laboratories (2023 targets);
- and all remaining standards governing, for instance, sporting facilities (2030). The first goal's targets were due to have been achieved before the SMS 2017 data was collected.

The results presented in this brief distinguish between the 2016 and 2020 targets, in order to show the different rates of compliance depending on which criteria are used.

Main findings on school physical infrastructure in the 2022 SMS

The School Monitoring Survey collected data on school infrastructure through a Principal Interview and a School Observation schedule where the fieldworkers did a physical inspection of facilities.

In 2022, 67% of schools complied with all of the minimum physical infrastructure standards set for 2016, while only 43% complied with the more extensive standards set for 2020. It is important to note that these figures represent a combination of facilities at a school; therefore, only schools that complied with the standards for *all* targeted facilities, are regarded as having complied. This strict way of defining the indicator should be kept in mind, and the percentage of schools complying with each separate aspect of infrastructure should also be considered.

Table 1: Percentage of schools complying with the Norms and Standards of 2016 as aligned with Regulation 920 of 2013 by province, 2011 - 2022

Province	Electricity			Water			Sanitation / Toilets			Adequate Classrooms		
	2011	2017	2022	2011	2017	2022	2011	2017	2022	2011	2017	2022
EC	73.2	79.6	86.5	65.3	74.4	74.2	65.5	69.8	73.7	66.3	75.5	72.1
FS	86.0	96.3	96.2	83.6	78.7	95.3	76.7	71.8	91.6	87.8	71.9	77.5
GT	99.0	95.0	97.2	99.5	95.9	86.5	94.4	98.4	94.7	69.4	64.7	57.4
KZ	80.2	86.9	94.2	78.5	54.5	67.7	73.7	77.6	91.1	60.9	67.3	68.4
LP	95.2	98.2	97.5	87.5	87.4	85.7	64.0	77.0	84.6	75.4	60.3	67.0
MP	90.1	94.2	92.1	86.9	80.2	88.4	83.6	91.8	92.7	62.3	55.3	52.2
NC	98.5	99.4	95.1	89.1	91.0	96.2	86.1	89.1	95.4	82.5	83.0	84.2
NW	95.3	87.1	89.3	88.9	76.8	91.7	77.2	82.4	86.8	69.0	53.6	55.8
WC	99.4	98.7	95.9	98.2	94.2	98.6	94.1	96.3	96.1	88.2	82.9	86.5
SA	86.0	89.9	93.2	81.2	76.0	80.7	73.7	80.0	86.8	69.0	67.7	67.9

Table 1 shows that at a national level, the results indicate an upward trend for the three 2016 infrastructure targets: electricity, running water and adequate toilets, over the period under study. These results are particularly important considering government-led programmes such as the Accelerated School Infrastructure Delivery Initiative (ASIDI) and Sanitation Appropriate for Education (SAFE) programmes, which aim at reducing infrastructure and sanitation backlogs in schools. Alternatively, conversely to infrastructure spending, these improvements could reflect the closure of small and non-viable schools, which tend to have worse access to water and sanitation infrastructure. The exclusion of closed schools from the calculation of the indicator values would therefore reflect

positively in national statistics. Schools in Gauteng showed a slight decline in terms of meeting the minimum standards for water, moving from 100% in 2011, to 96% in 2017 and finally to 87% in 2022. Compliance with the national minimum standards for adequate classrooms have remained virtually constant at a national level. However, substantial declines were recorded in some provinces, with the Free State, Gauteng, Mpumalanga and the North West recording declines of 10% or more from the 2011 figures. These declines may likely be a reflection of the inability building programmes to keep pace with rapid increases in enrolments, which are exacerbated by cross-regional and provincial migration which negatively affect pupil-teacher and learner-to-classroom ratios. The Teacher Demographic Dividend (TDD) study, in which the DBE is participating, is a study focusing on the demand, supply and utilisation of teachers in South Africa and aims to understand the underlying issues leading to excessive class sizes.

Figure 1: Percentage of primary and secondary schools combined adhering to the 2020 minimum physical infrastructure standards by province, 2011 – 2022

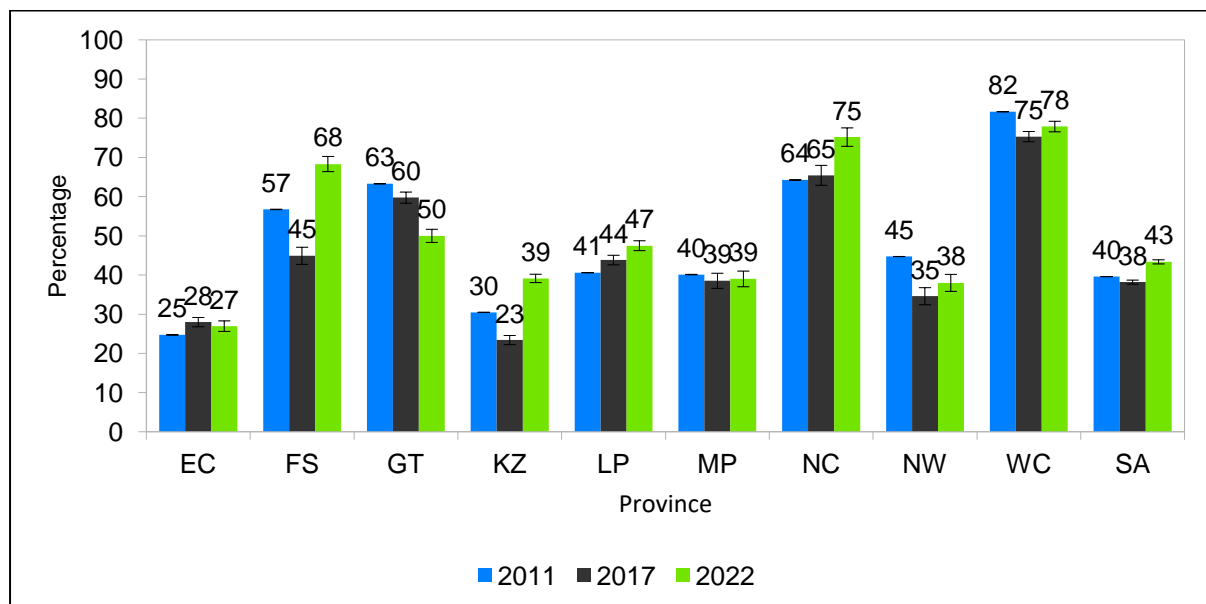
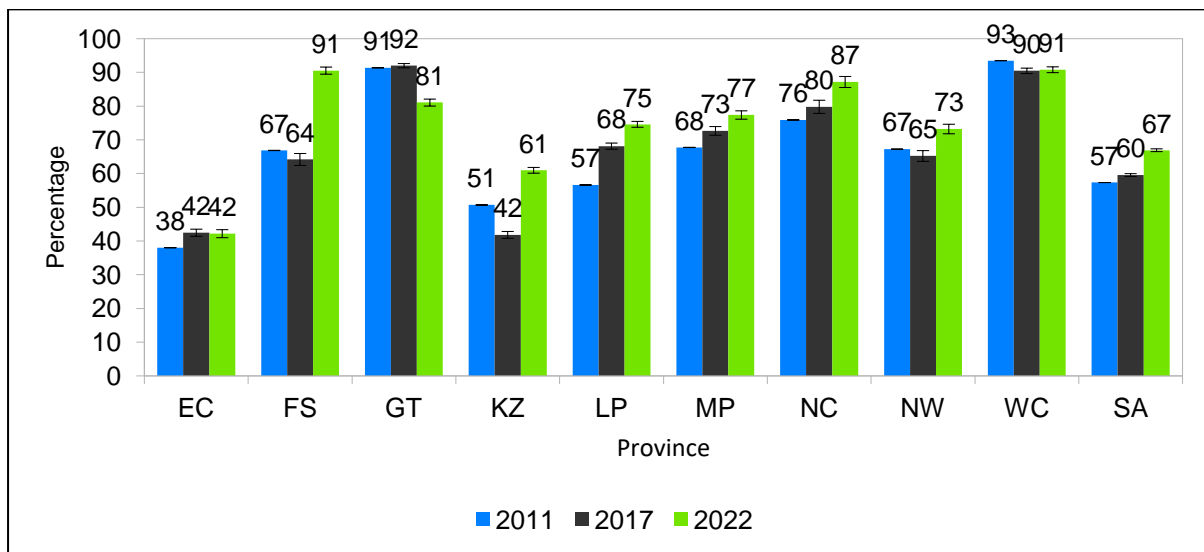


Figure 1 above shows that national compliance with the 2020 minimum infrastructure standards showed a slight increase in 2022, with national averages of 40% in 2011, a decline to 38% in 2017, and an increase to 43% in 2022. Free State, KwaZulu-Natal and the Northern Cape have shown substantive increases from their 2017 levels. The Free State increased from 45% (in 2017) to 68% (in 2022), KwaZulu-Natal from 23% (in 2017) to 39% (in 2022) and the Northern Cape from 65% (in 2017) to 75% (in 2022). Gauteng declined from 60% in 2017 to 50% in 2022. The Eastern Cape has the lowest compliance levels, ranging between 25% and 28%.

Figure 2 below shows that the national compliance with the 2016 minimum infrastructure requirements showed a steady upward trend from 2011 to 2022, with a national average of 57% in 2011, 60% in 2017 and 67% in 2022. The 2016 pattern was fairly similar when compared to that of the 2020 targets, with the exception that the North West showed a stronger growth for the three 2016 infrastructure targets, from 65% in 2017 to 73% in 2022. The Eastern Cape also had better compliance to the 2016 targets (38%, 42% and 42%) in contrast to the 2020 targets (25%, 28% and 27%) which indicates that the classroom adequacy target negatively impacts compliance.

Figure 2: Percentage of primary and secondary schools combined adhering to the 2016 minimum physical infrastructure standards by province, 2011 – 2022



Trends showing compliance with the 2016 minimum infrastructure standards over time by quintile status, are shown in Figure 3 below for primary and secondary schools combined. Except for Quintile 4 schools, all the schools showed an increase in compliance in 2022 from their 2011 and 2017 levels. Quintile 4 compliance declined slightly in 2022, dropping from 91% in 2017 to 86% in 2022.

Figure 3: Percentages of primary and secondary schools combined adhering to the 2016 minimum physical infrastructure standards by quintile, 2011 – 2022

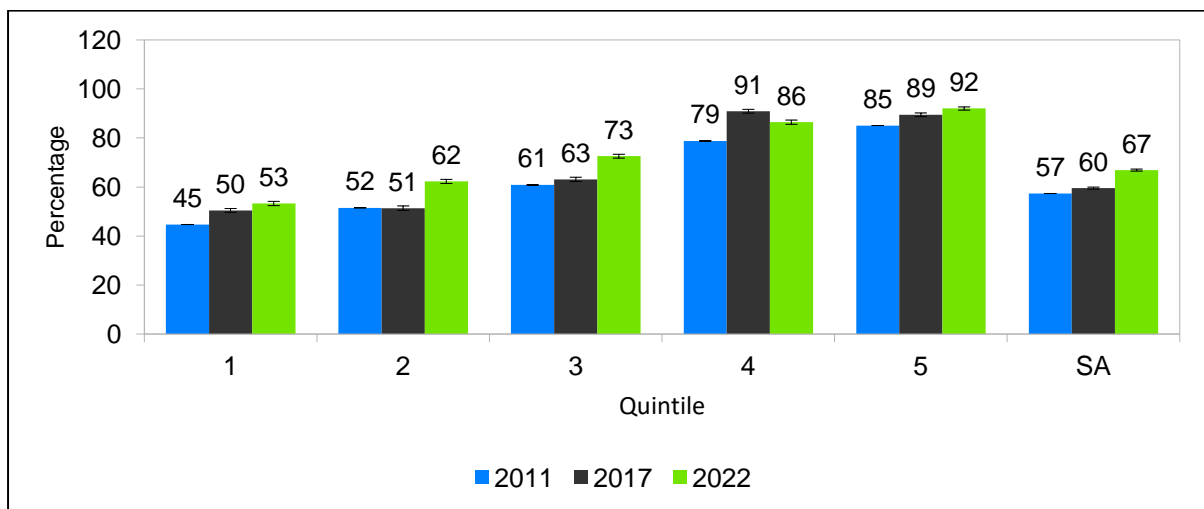


Table 2: Percentage of schools complying with the additional Norms and Standards of 2020 as aligned with Regulation 920 of 2013 by province, 2011 - 2022

Province	Internet			Fencing			Toilets: Wheelchair		
	2011	2017	2022	2011	2017	2022	2011	2017	2022
EC	27.4	44.9	53.8	79.5	82.0	95.4	5.6	25.4	32.0
FS	33.8	77.6	96.9	76.6	78.3	100.0	20.0	20.5	27.2
GT	56.7	89.0	96.5	99.5	97.6	99.4	11.8	22.1	18.1
KZ	21.4	30.2	39.9	89.3	89.9	98.2	7.5	34.6	26.1
LP	13.2	55.9	80.7	98.1	86.2	99.8	4.5	31.8	38.9
MP	22.2	66.7	81.6	80.9	78.5	99.6	13.1	37.1	57.6
NC	28.0	76.6	91.8	81.6	92.6	98.6	18.6	41.3	41.9
NW	17.1	71.9	68.9	88.3	93.4	99.5	12.1	35.1	16.1
WC	76.8	98.4	98.0	90.5	92.8	99.8	15.5	35.1	20.9
SA	34.8	56.1	67.0	89.0	87.2	98.3	8.3	30.6	30.4

Questions pertaining to internet connectivity, perimeter fencing and toilets adapted for wheelchair access, all of which form part of the 2020 goals/targets, were included in the 2022 survey, but not included in the 'minimum infrastructure standards' indicator computation. Nonetheless, table 2 above reports on the progress made in providing these facilities to schools. Seen here are percentages of primary and secondary schools combined where these additional facilities were in place at schools for the three rounds of the SMS.

Nationally, internet connectivity in schools shows a strong upward trend from 35% in 2011, 56% in 2017, to 67% in 2022; this is true for most provinces except for the North West and the Western Cape, which recorded slight and negligible declines in 2022 from their 2017 levels. Free State, Gauteng, the Northern and Western Cape reported the highest levels of internet connectivity in 2022, all averaging above 90%. Despite marked improvements in internet connectivity, the Eastern Cape and KwaZulu-Natal significantly fall behind the rest, with percentages of 54% and 40% in 2022, respectively.

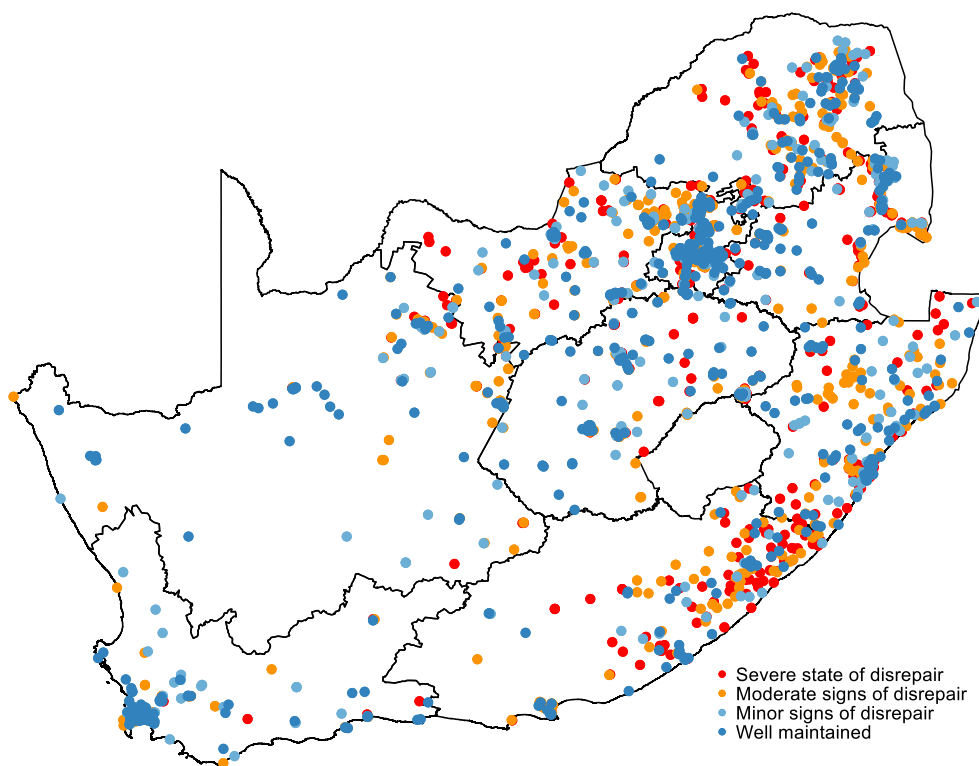
Meeting the standards of perimeter fencing at schools, an important component for school safety, also revealed an upward trend, with virtually all schools across all provinces having some form of perimeter fencing in place in 2022. The largest increases, over the three rounds of the SMS, were for schools in the Eastern Cape (80%, 82% and 95%), Free State (77%, 78% and 100%) and Mpumalanga (81%, 79% and 100%).

For schools with toilets adapted for wheelchair access (and use) for learners, the national average in 2011 was 8%; this increased to 31% in 2017 and remained stable at 30% in 2022. Meeting this standard varied across provinces, with schools in Mpumalanga and the Northern Cape reporting the highest percentages of 58% and 42% in 2022, respectively. The North West (16%) had the lowest percentage followed by Gauteng (18%) and the Western Cape (21%).

Spatial trends in leading school infrastructure variables

The following section presents a series of maps that focus on key trends in critical infrastructure variables, including flush toilets, water supply, electricity, internet access, and overcrowding, spanning the years 2017 to 2022. It is important to note that the School Monitoring Survey did not survey the exact same schools in both 2017 and 2022. Consequently, the analysis does not attempt to showcase direct like-for-like changes in the same schools for these variables. Instead, the aim is to provide an overview of high-level trends in improvements or deteriorations over this five-year period. These maps offer valuable insights into the evolving landscape of school infrastructure across South Africa and the broader implications for education and development, acknowledging the broader context and complexities of the data.

Figure 4: Severity of Infrastructural Disrepair in South African Schools



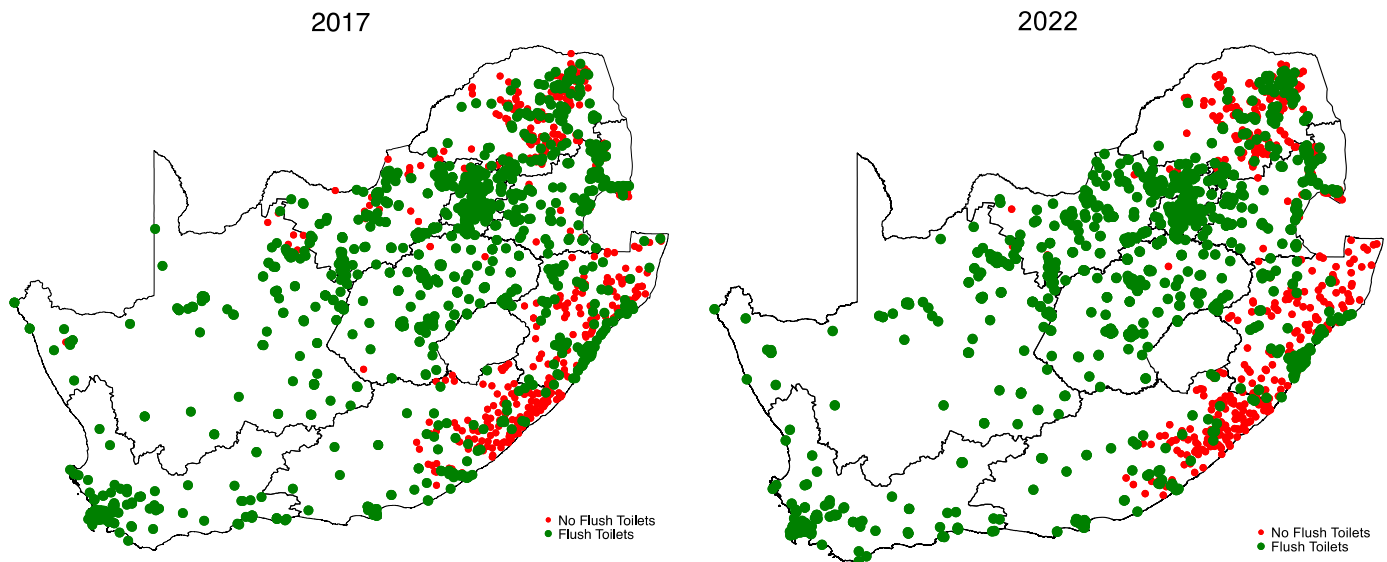
Source: School Monitoring Survey 2022

Figure 4 presents a comprehensive overview of the severity of infrastructural disrepair in all 2000 schools within the SMS sample. This visual representation unmistakably highlights the persisting influence of the Apartheid era on South Africa's former homeland regions. Notably, schools in these areas exhibit higher levels of both severe and moderate infrastructural disrepair, underscoring the enduring disparities in educational infrastructure. This issue is particularly acute in the remote rural areas of the Eastern Cape, where a distressing concentration of underprivileged school infrastructure persists, serving as a stark reminder of historical inequalities.

Conversely, South Africa's urban centres portray a more encouraging picture, as they enjoy superior school infrastructure conditions. Within these urban hubs, a higher concentration of well-maintained schools and those displaying only minor signs of disrepair is evident. This urban-rural divide

underscores the ongoing challenges faced in rectifying the historical injustices and inequalities ingrained in the nation's education system.

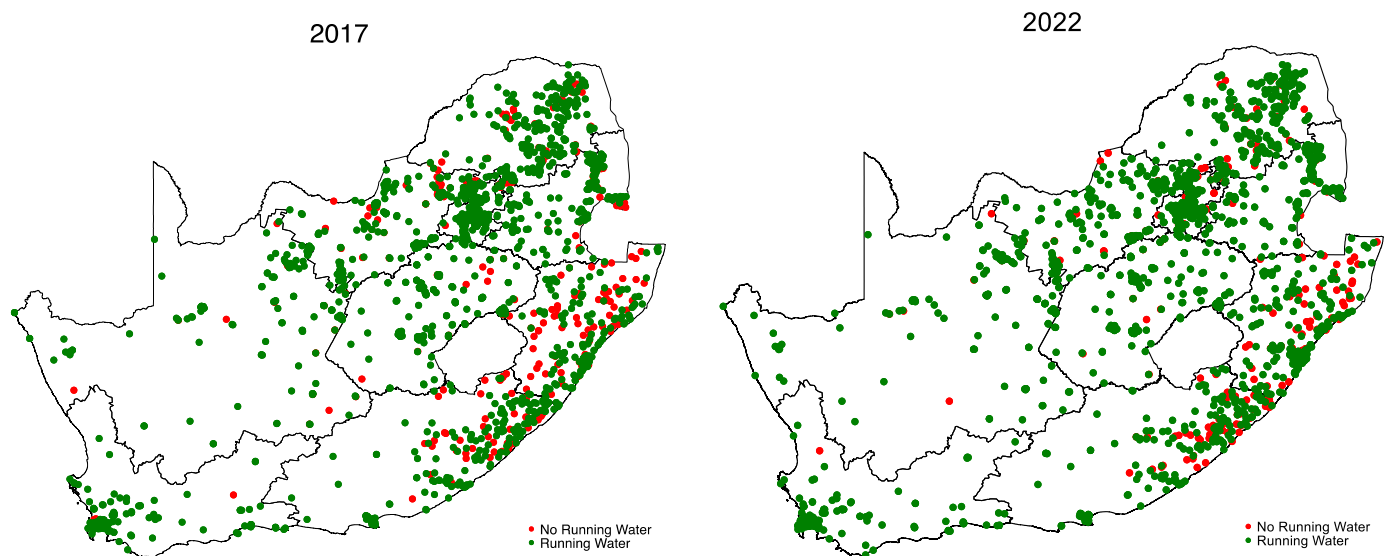
Figure 5: Access to Flush Toilets in South African Schools for 2017 and 2022.



Source: School Monitoring Survey, 2017 and 2022

Between 2017 and 2022, South Africa witnessed both persistent challenges and some notable progress in improving access to flush toilets in its primary and secondary schools. In this analysis, flush toilets, i.e. municipal connections, are regarded as the standard towards which all should be brought to; therefore, the variable of interest considers only the binary outcome of whether a school had flush toilets or not. Furthermore, it is important to note that water is a precondition for flush toilets, therefore these patterns are driven by municipal infrastructure rather than provincial education departments' failure to provide flush toilets. Lastly, flush toilets are not the only approved form of toilets, therefore, the red dots on the map do not necessarily reflect non-compliance with the norms and standards, but rather the type of municipal infrastructure in those areas. A significant factor shaping this landscape is the enduring legacy of apartheid, which continues to hinder progress in certain regions, particularly in the former homeland regions.

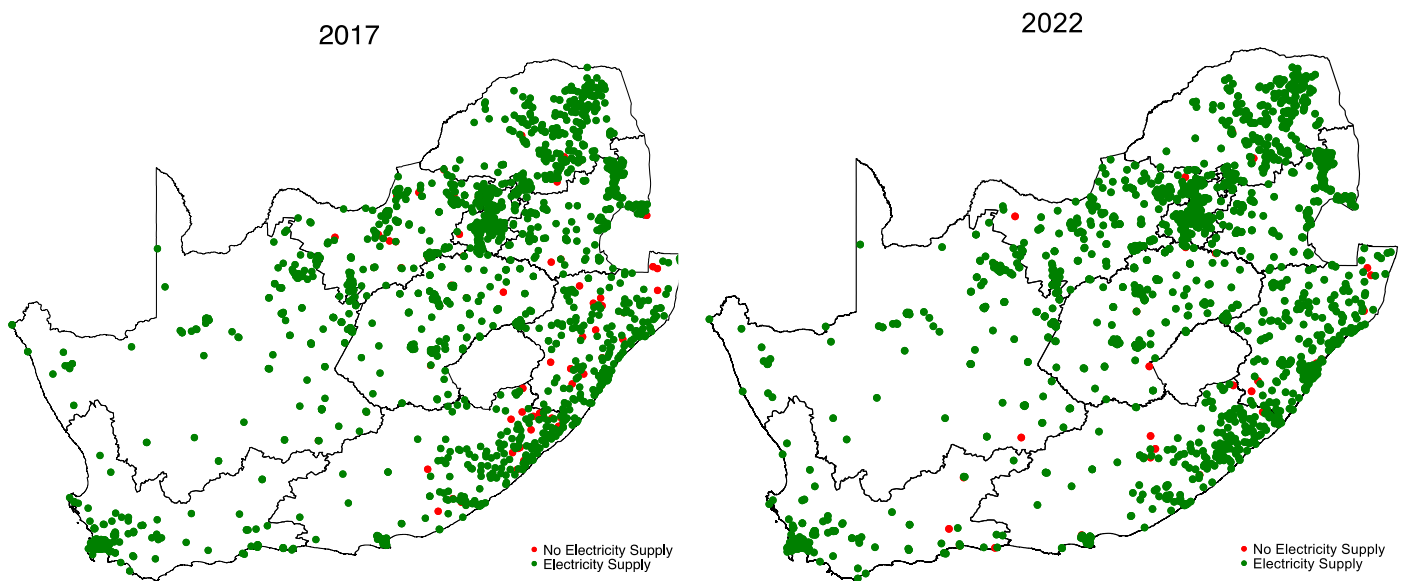
However, there is a glimmer of hope in the North West province, where improvements have been observed in access to flush toilets between 2017 and 2022. This suggests that concerted efforts and targeted investments can yield positive outcomes, even in challenging contexts. Notably, South Africa's urban hubs have consistently enjoyed greater access to flush toilets during this period, reflecting the prioritization of infrastructure development and resources in these areas.

Figure 6: Access to Running Water in South African Schools for 2017 and 2022

Source: School Monitoring Survey, 2017 and 2022

Figure 6 above shows the trends in access to running water in South African primary and secondary schools. The variable of interest here focuses solely on whether schools had running water on the day of the visit, irrespective of the water source, be it a municipal connection, borehole, rainwater, or tanks. Analogously to the trends seen access to flush toilets, although not to the same extent, the overall trend in water supply between 2017 and 2022 reveals the same complex and persistent issue that is characterized by the enduring impact of apartheid in the former homeland regions, particularly in the Eastern Cape and Kwa-Zulu Natal.

Schools in these areas continue to face significant setbacks in water supply, emphasizing the lingering disparities in educational infrastructure. While South Africa, as a whole, boasts widespread access to water supply, these pockets of deprivation underscore the need for targeted efforts to address historical inequalities.

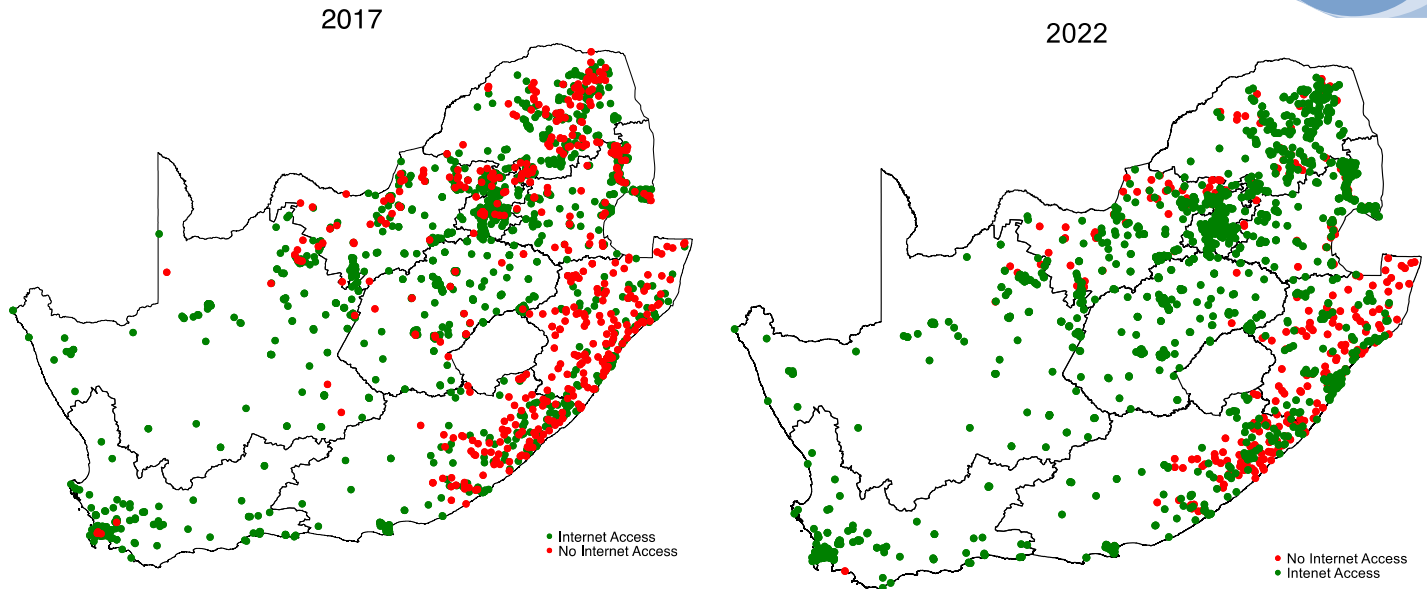
Figure 7: Access to Electricity in South African Schools for 2017 and 2022

Source: School Monitoring Survey, 2017 and 2022

The trends in access to electricity in South African primary and secondary schools highlight both remarkable progress and the remaining challenges in achieving universal electrification. The variable of interest considers whether a school had functional electricity on the day of the visit, regardless of the source, whether it's a municipal connection, generators, or renewable sources like solar or wind-generated electricity.

Between 2017 and 2022, there has been a notable and positive shift in the electrification of the majority of South African schools. While isolated cases exist, notably parts of the Eastern Cape and Kwa-Zulu Natal, the general trend points towards universal electrification. The progress made during this period serves as a promising sign of the nation's commitment to providing a foundational infrastructure necessary for a modern education system.

Figure 8: Internet Access in South African School for 2017 and 2022.



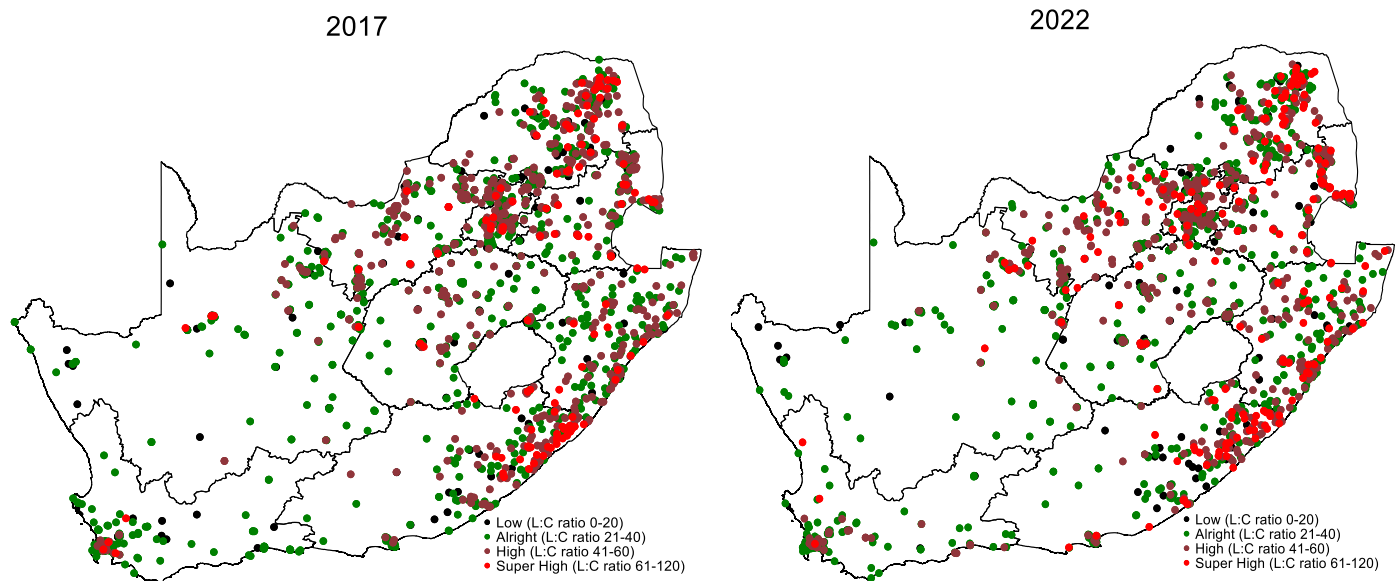
Source: School Monitoring Survey, 2017 and 2022

The trends in access to the internet in South African primary and secondary schools reflect a compelling narrative of progress and determination in bridging the digital divide. The variable of interest focuses on whether a school had internet access on the day of the visit, irrespective of the personnel for whom it was supplied, e.g. whether for teachers, learners, administrative staff, or other personnel.

Between 2017 and 2022, a distinct pattern of advancement emerges through the centre of the country. Significant strides have been made in several provinces, with the North West, Mpumalanga, Gauteng, and Limpopo leading the way. Notably, Limpopo stands out as an exemplar of progress, with substantial improvements in internet access.

The persistent legacy of apartheid, however, continues to cast a shadow over educational infrastructure in the Eastern Cape and Kwa-Zulu Natal. These provinces continue to face challenges in providing internet access, underscoring the ongoing disparities in service delivery in the rural parts of these provinces. Addressing this issue is crucial, as access to the internet is increasingly vital, not only for modern education, but keeping schools and teachers connected in an ever-increasing hybrid world.

Figure 9: Learner-to-Classroom Ratios in South African Schools for 2017 and 2022



Source: School Monitoring Survey, 2017 and 2022

The trends in overcrowding in South African primary and secondary schools, as measured by the learner-to-classroom ratio, reveal a persistent challenge that varies across different regions. In this analysis, the learner-to-classroom ratio is categorized into four categories of overcrowding: "Low" (0-20); "Alright" (21-40); "High" (41-60); and "Super High" (61-120).

Between 2017 and 2022, the trend in overcrowding remains objectively consistent, with urban areas and select rural regions grappling with this issue. In urban centres, overcrowding often stems from migration, as schools struggle to accommodate large numbers of incoming students. The inability of schools to cope with the rapid increase in enrolment numbers creates high and excessively high learner-to-classroom ratios.

In rural areas, particularly in the Eastern Cape, Kwa-Zulu Natal, Limpopo, and the North West, overcrowding persists, but the factors at play are different. In these areas, the problem often arises from schools not receiving timely infrastructure developments, which hamper the expansion and improvement of school facilities, leading to higher learner-to-classroom ratios as student populations grow to exceed available classroom spaces.

Recommendations

In conclusion, the spatial trends illustrated in figures 4 through 9, highlight the need for targeted interventions and investments to ensure that all students have access to a quality education, regardless of their geographical location. Addressing the issue of school infrastructure is essential for creating a more equitable and effective education system in South Africa. Improving school infrastructure is essential for providing quality education and ensuring a conducive and dignified learning and teaching environment for students and teachers. The three recommendations below can help the DBE address backlogs and improve school infrastructure:

1. **Expand existing maintenance and repair programmes:** Involve General School Assistants (GSAs) into existing maintenance and repair programmes. This can be done as part of the Presidential Youth Employment Initiative (PYEI), especially in non-fee-paying schools and underserved communities, to ensure those schools enjoy routine maintenance, repairs, and upgrades to prevent further deterioration. These individuals should be equipped with proper training in line with the Guidelines for General Upkeep and Maintenance of Education Facilities of 2018, to avoid compromising the structural integrity of schools.
2. **Incorporate school repair and maintenance programmes into vocational training of the Three-Streams Model in schools:** The Three-Streams Model of the DBE offers an opportunity to provide learners with an aptitude for artisanal training to gain practical experience in school maintenance and repair. Once more, the guidelines for infrastructure maintenance should play a pivotal role in guiding the practical training programmes in vocational schools.
3. **Public-private partnerships (PPPs):** The call for government to foster partnerships between itself and private entities, including businesses, NGOs, and philanthropic organizations remains an appealing one. Continue to strengthen partnerships and encourage partners to contribute financially, technologically, or through expertise in constructing and renovating schools. PPPs can help accelerate progress in addressing infrastructure backlogs.