

URBAN SAFETY BRIEF No. 1/2017

Improving crime statistics for local government

This fourth in a series of Urban Safety Briefs considers what local governments can do to improve the quality and usefulness of crime data, which can improve the effectiveness of all essential city services.

The SA Cities Urban Safety Reference Group's Briefs Series is designed to distil the state of current knowledge on urban safety-related topics for a policy and planning audience. It is presented quarterly to the City Budget Forum and other key stakeholders.



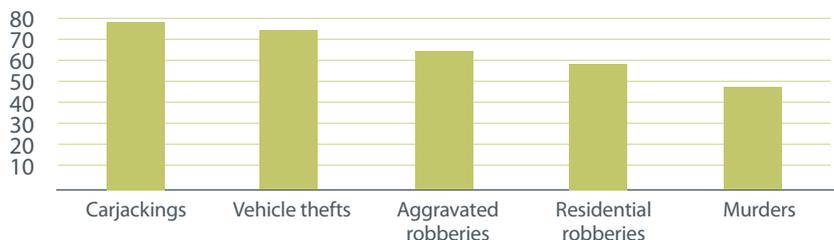
BACKGROUND

In most parts of the world and for most crime types (but especially property crimes), urban centres suffer crime rates significantly higher than more rural areas. Theories about which are the key causal factors include cities' offers of greater anonymity (i.e. perpetrators and victims don't know each other), their higher financial returns to crime (there is more to steal), closer proximity of inequality (more poverty physically close to wealth), greater concentrations of already more crime-prone people (such as younger people and/or those with greater appetites for novelty and risk), and higher levels of family disruption (resulting in less surveillance and social control of the youth).

The current members of the South African Cities Network (SACN) are:

- City of Johannesburg Metropolitan Municipality,
- City of Tshwane Metropolitan Municipality, Metropolitan Municipality,
- eThekweni Metropolitan Municipality,
- Buffalo City Metropolitan Municipality,
- Ekurhuleni Metropolitan Municipality,
- Mangaung Metropolitan Municipality, and
- Nelson Mandela Bay
- Msunduzi Local Municipality.

These municipalities plus the other major metropolitan municipality of the City of Cape Town between them host about 40% of the residents of South Africa, but record about 77% of the carjackings, 74% of the vehicle thefts, 64% of the aggravated robberies, 58% of the residential robberies, and 47% of the murders.



Safety is often considered to be primarily the responsibility of national authorities. Yet crime hampers all essential city services – obstructing their effectiveness, raising their costs, and slowing overall socioeconomic upliftment. This was discussed in greater detail in an earlier policy brief, on unfunded mandatesⁱ.

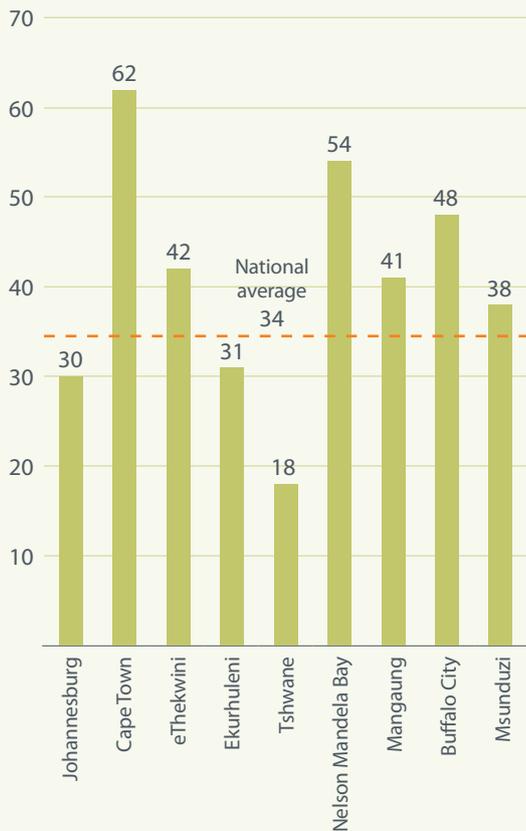
In order to better counter these effects, cities should also invest in developing and improving urban crime data. There are a number of initiatives that can support improvements in the quality and usefulness to cities of existing SAPS crime statistics.



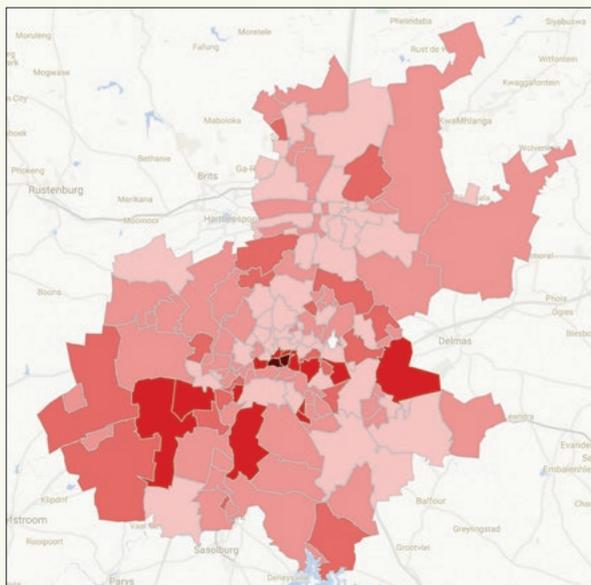
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ⁱ USRG Policy Brief, Unfunded Mandates, 3/2016, <http://www.saferspaces.org.za/resources/entry/local-government-safety-functions-and-the-question-of-unfunded-mandates>

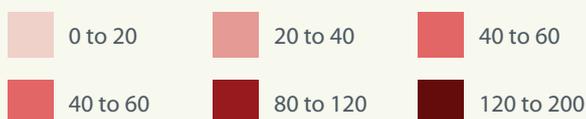
FIGURE 1: City murder rates per 100 000 residents in 2015/16



Gauteng Police Station 2015/16 murder rates per 100 000 Residents



MURDER RATE



DISCUSSION

01 THE IMPORTANCE OF LOCAL DATA

National crime statistics obscure the immensely skewed distribution of crime within a country, city, neighbourhood, and even household. For example, the current national murder rate per 100 000 people in South Africa is about 34. This is more than five times the global average of 6.2 and is higher than only a handful of countries worldwide (largely in Central and Latin America). This is the risk of murder for the ‘average’ person in the country. However, there is major variation between people in different areas.

According to research conducted for the SA Cities Urban Safety Reference Group, murder rates in the major SA cities vary from almost twice the national level (in Cape Town) to almost half (in Tshwane). See the graph in Figure 1.

Cities need to be able to quantify their crime rate benchmarks and to track their relative and absolute progress over time. This allows for such insights as that Johannesburg’s crime profile is relatively dominated by robbery crimes while Buffalo City has a particular problem with serious assault, or that although eThekweni’s murder rate has declined by 33% over the last decade it has seen a significant increase in the last four years. Such knowledge can help cities better plan and prioritise their crime prevention and other programmes.

More importantly, cities need to know how crime problems are distributed within their boundaries. Most cities have a handful of areas that record crime rates well above the city average and many more areas that are far safer than suggested by overall city crime statistics. In other words, a small number of neighbourhoods generally contribute disproportionately to overall levels of crime. Effective interventions in these areas will disproportionately benefit the city as a whole.

Differences in the severity of crime problems must be interpreted by comparing recorded crime figures – *and taking account of the number of residents in the area*. Ten crimes perpetrated in a population of 100 people represents a much larger problem than ten crimes in a population of 10 million. The following map gives an indication of disparities in murder rates in police stations in Gauteng, once population sizes are accounted for.

02 THE BOUNDARY PROBLEM

There is a critical obstruction to cities' and other interested parties' productive use of the official crime statistics as they are currently provided on an annual basis by the South African Police Service (SAPS). This is that the geographical boundaries of the SAPS police station areas do not correspond with the boundaries of *any other official authority or existing source of other potentially relevant data*.

Municipal structures and boundaries have little or no relevance to the SAPS organisational structure, which acknowledges leadership and tracks performance only at the levels of individual stations, local clusters of stations, provinces and the nation as a whole. The SAPS are not even in a position to provide crime statistics on the city level. Police precinct boundaries are therefore often counterintuitive and cut arbitrarily across municipal boundaries, suburb boundaries and electoral ward boundaries.

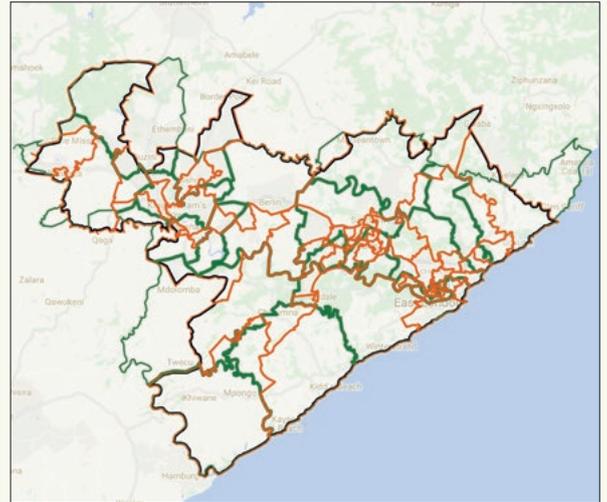
This can be seen as on the following map of a section of Buffalo City (East London), where the **black** line indicates the 2011 municipal boundary, the **orange** lines indicate 2011 electoral ward boundaries, and the **green** lines indicate police station area (or precinct) boundaries. Other municipalities show a similar pattern.

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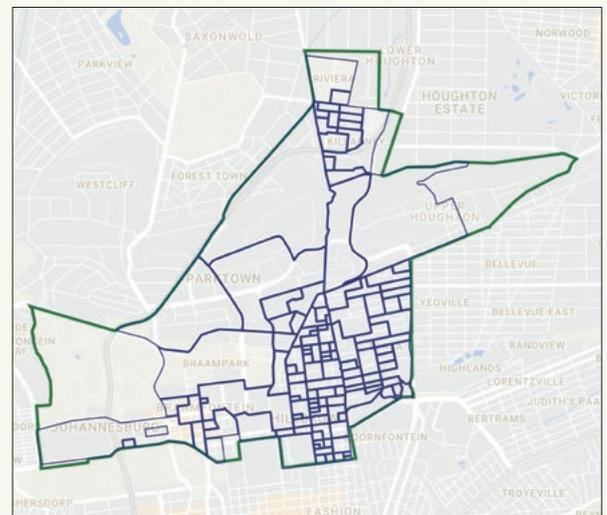
Most crucially, this misalignment makes it very difficult to obtain estimates of the residential population within each police precinct, which in turn makes it impossible to meaningfully compare their crime situations.

In order to express crime figures as rates per 100 000 residents, it is currently necessary to use Geographic Information System technology to digitally overlay the boundaries of each of the over 1 000 national police precincts with the boundaries of the many tens of thousands of small geographic units enumerated by Statistics South Africa during census 2011.

Precinct boundary misalignment in part of Buffalo City



Estimating the population in Hillbrow Precinct



In the map above, for example, in order to estimate the number of people resident within the boundaries of the Johannesburg police station of Hillbrow (shown in **green**), it was necessary to identify, obtain and sum population estimates for each of the 128 areas indicated in **blue**.

Without estimating population, one might observe that the police stations of Jeppe and Springs (in Johannesburg and Ekurhuleni respectively) each recorded 80 murders in 2015/16 and conclude that they have equally serious problems with this crime. However, determining their populations reveals that Jeppe is about half the size of Springs. This means that in 2015/16 the average resident of Jeppe in fact faced about twice the risk of murder as the average resident of Springs.

Accounting for population is an essential first step in making sense of recorded crime statistics. Currently, this is an extremely cumbersome and technical task.

03 BOUNDARIES OF OTHER DATA

The haphazard delineation of police station boundaries also makes it very difficult to link crime statistics to other data that could help the police, city authorities and others properly interpret them and put them to use in reducing crime levels.

There is a wide range of factors that have been demonstrated by international and local research to have an impact on crime. These include rapid population growth, population density, poverty, inequality, unemployment, deprivation of services, housing informality, school conditions, (illegal) possession of firearms, and alcohol and other substance abuse. These and multiple other factors combine to determine the extent and nature of crime within an area. There are a number of sources of these data produced on an ongoing basis, for example from Statistics South Africa or from government or academic research projects.

04 BOUNDARIES OF ACCOUNTABILITY

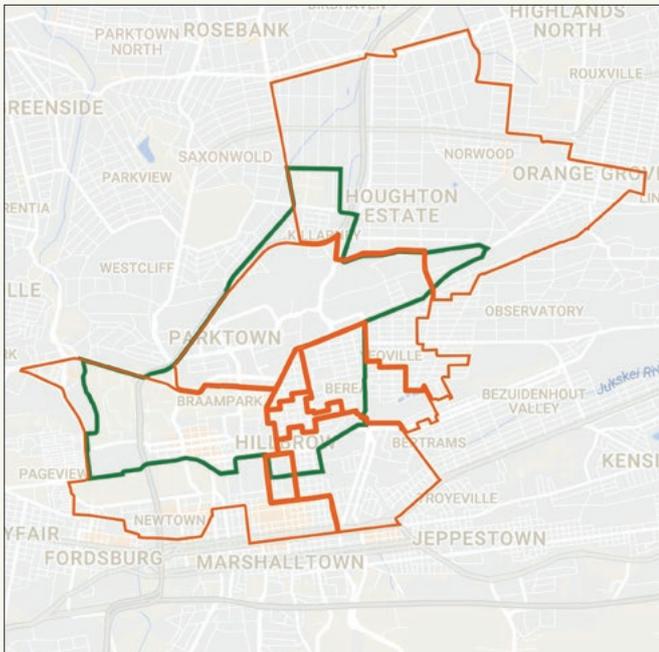
A further challenge posed by the misalignment between police station boundaries and any others is that of accountability. Local political leadership and oversight is constrained by the fact that

For any electoral ward in the country, there is now easy online access to such information as its electoral voting patterns, demographics, average household income, access to municipal services, and educational and employment levels. Other data is also available at the level of the neighbourhood or suburb. However, there is no easy way to link these with crime statistics.

Alignment between crime statistics and other data would make it much easier to determine which factors are likely contributing to crime in each area. For example, comparison between two precincts with different crime rates might reveal that the two were similar in all respects except that the one hosted a higher rate of unemployment among men between the ages of 29 and 35. This might suggest that employment initiatives for this particular group could be a particularly productive approach to crime prevention.

police precincts seldom fall clearly within any area of either official or intuitive community responsibility.

Hillbrow precinct and multiple ward overlaps



In the map above, for example, the police station area (with boundaries shown in **green**) overlaps with at least eight different political wards (shown in **orange**). Many of the wards also extend into other neighbouring police station areas. This means that there is no single formally elected leader who can fully represent her/his community's interests with the leadership of this police station, or vice versa.

Indeed, the communities covered by the map above are vastly different, and may well have very different expectations and needs in terms of their policing. For instance one of the wards within Hillbrow precinct, ward 63, has an average annual household income of R29 400.² Another ward that falls partially within the precinct, ward 73, has an average annual household income of R115 100.³

Although it would not necessarily be feasible or desirable to enact a perfect overlap between policing and formal political boundaries, a full assessment of police boundaries might result in significant gains for efficiency, accountability, legitimacy and trust.

2 Wazimap: <https://wazimap.co.za/profiles/ward-79800063-ward-63-79800063/>

3 Wazimap: <https://wazimap.co.za/profiles/ward-79800073-ward-73-79800073/>

05 BLIND SPOTS IN CRIME STATISTICS

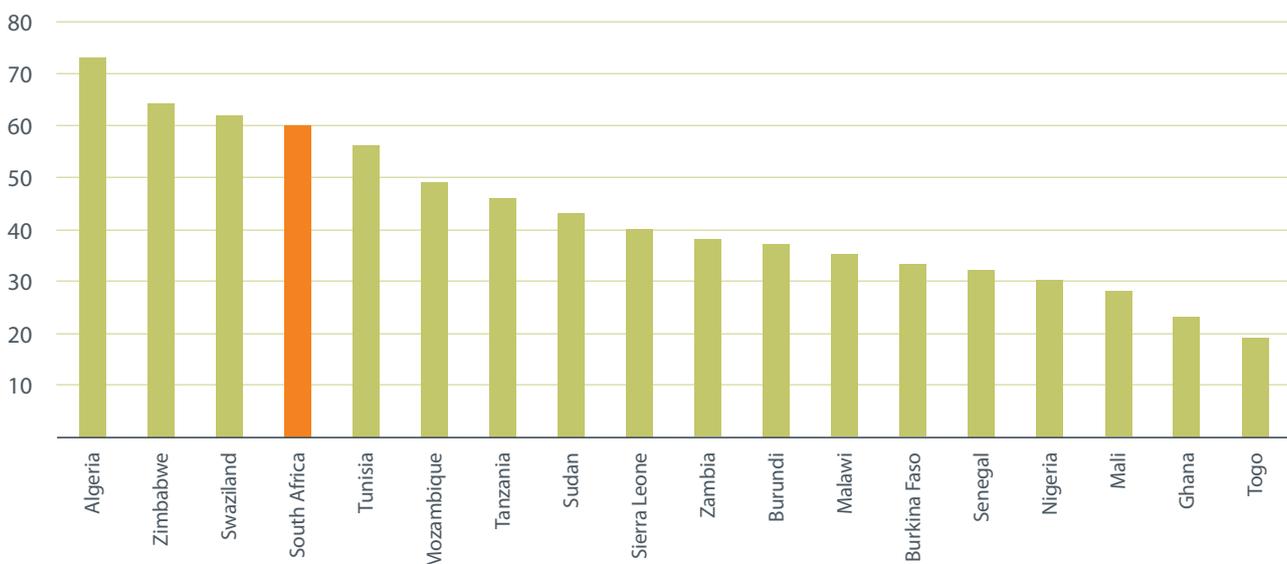
An additional difficulty in making good use of crime statistics is that they only refer to that share of crimes that have been reported to and recorded by the police. A significant proportion of some crimes never make it into the official statistics. For this reason, crime is often likened to an iceberg, with some portion of it visible in the official statistics ('above the water'), but some unknown and potentially much larger and variable proportion of it hidden from official view ('below the water').

The extent of the iceberg effect varies by crime type and by features of the community and the police. Surveys indicate that although a large and fairly steady proportion of murders and car thefts are reported to and recorded in the official statistics, the proportion is small and inconstant for sexual crimes and for theft of smaller personal items.⁴

The iceberg effect is particularly large in communities with poor relations with the police and where victims see little incentive to report. For example, victims who have access to and wish to claim from insurance are more likely to report thefts. Survivors of sexual crimes are more likely to report their experiences to the police if they believe that they are likely to be believed and treated with respect. Communities that trust and have high expectations of the police tend to see higher reporting rates. Developing countries also tend to see lower rates of reporting to the police than wealthier, industrialised countries.

The following graph shows that there is major variation in whether victims reported their recent crimes to the police. South Africa's reporting rate is relatively high among African countries.⁵

FIGURE 2: Percent in African countries who reported recent crime to the police



The problem with variation in crime reporting or recording behaviour is that it introduces unknown distortions into the data, making it unreliable. This means, for example, that when the recorded crime rate is higher in one place or time than in another, one can't be sure whether this is indeed the result of a difference in the real incidence of crime, or instead whether victims and/or the police in those places and times may be facing different incentives to report or to record.

The effect of improving relations between communities and the police can 'penalise' certain stations or areas, by making it seem as if their crime rates are increasing. In fact, this was possibly seen in SA in the decade after 1994, when there was a major recorded increase in some crimes. However, much of this can be ascribed to increases in crime victims' faith in the police and inclination to turn to them for justice.⁶

⁴ Statistics South Africa, Victims of Crime Survey 2014/2015, 2015, <http://www.saferspaces.org.za/resources/entry/victims-of-crime-survey-2014-15>

⁵ Pauline M Wambua, *Call the Police? Across Africa, Citizens Point to Police and Government Performance Issues on Crime*, Afrobarometer dispatch no, 57, 2015.

⁶ Anine Krieger and Mark Shaw, *A Citizen's Guide to Crime Trends in South Africa* (Cape Town: Jonathan Ball, 2016), p. 152.

Regular, representative surveys are required, in which people are asked about whether they have recently fallen victim to crime, whether they reported those crimes to the police, and why. This is such an important counterpoint to the police's recorded crime statistics that in some countries (including the United Kingdom), the crime statistics are released together with the results of their national victimisation survey results. Statistics South Africa already conducts an annual Victims of Crime Survey on a national level. Unfortunately this data reports only down to the provincial level, so city-level data is not available on an ongoing basis.

Another way to improve the accuracy of crime statistics is by working to reduce it (rather than just reveal its size and the reasons for it) by focusing on the crime victim side of the equation. This would involve measures to encourage reporting of crimes to the police.

A third method to improve crime statistics would involve working to reduce it by focusing on the police side. This requires a holistic approach involving improved oversight and monitoring of police practices and reporting as well as encouraging the police and all of society to reconceptualise the use of crime statistics. They must be understood much less as a form of assessment of police success or failure (which only encourages data manipulation), and instead as a vital public resource. In order to be truly useful, crime statistics should be made publicly and quickly available, should contain the maximum amount of detail that still affords appropriate anonymity, and should reflect case progress.

The following extract from the monthly release of the Cambridgeshire Constabulary may serve as an example.

TABLE 1: Example extract of crime statistics release from Cambridgeshire, UK

CRIME ID	LONGITUDE	LATITUDE	LOCATION	CRIME TYPE	LAST OUTCOME CATEGORY
000ee...	-0.278696	52.556687	On or near Oundle Road	Criminal damage and arson	Under investigation
001fb...	-0.245074	52.572655	On or near Church Street	Shoplifting	Investigation complete; no suspect identified
00295...	-0.136844	52.123831	On or near Whittlesford Road	Burglary	Under investigation
0054a...	-0.282634	52.433082	On or near Sapcote Way	Violence and sexual offences	Awaiting court outcome
00779...	-0.285824	52.223966	On or near Linclare Place	Bicycle theft	Investigation complete; no suspect identified



CONCLUSION

As indicated in this brief, the management structures of South African cities do not have access to regular, reliable, context-specific and real-time crime data. Such a state of affairs has resulted in city authorities having to make decisions relating to the safety and security of their residents without accurate data. This has often undermined the effectiveness of policy decisions and interventions relating to crime reduction and prevention. Furthermore, it has made it almost impossible for such policies and interventions to be regularly monitored and evaluated.

It is possible for the SAPS crime data to be reconfigured and recalculated into a format that coincides with municipal boundaries of South African cities; however, this requires the support of the Minister of Police and the Statistician-General (StatsSA). Currently, StatsSA is working with the SAPS to convert the SAPS crime statistics into official statistics (in terms of the Statistics Act), and the SAPS

have recently moved towards releasing crime data on a quarterly basis. These developments provide the opportunity for the relevant city authorities to advocate for regular, city-specific crime data from the SAPS and StatsSA.

However, as indicated above, the SAPS crime statistics only indicate that proportion of crimes that were reported to, and officially recorded by the police. Consequently there is a fairly large and unknown proportion of unreported crime. Hence, in order to generate a more comprehensive picture of crime and safety at the city-level, city authorities need to implement their own data-gathering process that generates representative and reliable data on crime victimisation, perpetration and perception. Such data will also allow for robust predictive statistical models relating to crime prevention to be developed, which in turn will be highly beneficial with respect to crime and safety policies and interventions.

★ RECOMMENDATIONS



Relevant city authorities (preferably mayors) should write to the Minister of Police and the Statistician-General and request that city-level crime data is provided for each city (as well as for each ward within each city) on a quarterly basis.



Relevant city authorities, in consultation with StatsSA and appropriate universities in South Africa, should develop data collection techniques and templates that will generate more detailed, regular and reliable ward-level data on crime and safety that complements the SAPS crime data.



In order to generate such data, city authorities, including the Metro Police, should establish partnerships with reputable community organisations, non-governmental, hospitals/clinics and private security companies that either collect, or have the capacity to collect, crime-related data.



Relevant city authorities should investigate the suitability of existing technology and software that may easily facilitate such data gathering, as well as the analysis thereof.



City authorities should establish partnerships with appropriate academic departments at South African universities to develop predictive statistical models on crime and safety in South African cities based on the data gathered. Such model will facilitate more effective decision-making, as well as monitoring and evaluation in this regard.

This brief was compiled by the SA Cities Urban Safety Reference Group with support from the UCT Centre of Criminology.

The Urban Safety Reference Group is a platform for peer-to-peer learning and knowledge sharing amongst practitioners from the SACN member cities as well as other key government role-players on urban safety and violence prevention. It is convened by the South African Cities Network (SACN) with the support of the GIZ-Inclusive Violence and Crime Prevention (VCP) Programme.

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