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Provision, Utilisation and Management of Fleet Services

A Spending Review of the South African Police Service

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NATIONAL TREASURY

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GOVERNMENT SPENDING REVIEWS

Table of Contents

Definitions and Abbreviations

Effectiveness: refers to the extent to which the police department is accomplishing its purpose.

Efficiency: reflects the relative unit costs at which the police department is undertaking its activities.

DEA: stands for Data Envelopment Analysis. This is a framework used to calculate efficiency levels in organisations.

OCPO: Office of the Chief Procurement Officer

SAPS: South African Police Service

Technical efficiency: reflects the ability of a firm to obtain maximum output from a given set of inputs (Coelli 1996, p.4; Ngobeni et al. 2020)

Scale efficiency: is defined as the ability of each company to operate as close to its most productive scale size as possible, and is calculated using data envelopment analysis (Chang and Majumdar 1996, p.303).

1. Executive Summary

As no previous spending review has been done to assess the efficiency and effectiveness of spending in vehicle fleet in SAPS, this spending review aimed to evaluate the processes and principles followed in the acquisition, utilisation, maintenance, and disposal of fleet in the department with the goal of identifying possible efficiency savings. After detailed analysis of evidence from various sources, the spending review has identified the following key findings.

Provision

1. The spending review has found that the most expensive vehicles procured by SAPS are at Head Office. The cost per vehicle at Head Office far exceeds the national average and is above the RT57 pricing for certain vehicle models.

2. The allocation of new vehicles per year to SAPS Head Office exceeds all provinces except Gauteng. Given the shortage of vehicles at certain police stations, the department must review its vehicle allocation criteria to save costs and enhance service delivery.

3. Cost per litre for fuel in SAPS is higher than market rates published by the South African Petroleum Industry Association. This increases spending on fleet services in the department.

Utilisation

4. There is scope for reprioritising the allocation of vehicles based on efficiency, demand analysis and best performing areas. Efficiency modelling presented in the report reflects under and/or over utilisation of vehicles in certain divisions and provinces.

Management

5. The department needs to improve its vehicle preventative maintenance function that is performed at the garages/workshops. In some provinces, there is efficiency in carrying out this function whilst others reflect poor performance.

6. The management of fuel needs to be strengthened in the department as certain vehicle models consume significantly more fuel than others. In particular, utilisation of petrol vehicles such as 4x4 bakkies needs to be changed in certain areas. This can be done by deploying fuel efficient vehicles when conducting visible policing operations.

2. Introduction

This report provides findings from the spending review conducted on the provision, utilisation and management of fleet services in the South African Police Service (SAPS). Given the size of the department in terms of its personnel establishment and geographic footprint across South Africa, SAPS requires adequate and reliable fleet services that meet the department's operational and service delivery capabilities. The optimal use and functioning of fleet at police station level or service centres is central to the department being able to effectively render services to the public.

Fleet services in the context of the review encompasses the acquisition, utilisation, maintenance and disposal of fleet services in the department. Studies have shown that there are a range of considerations to be made in terms of police vehicle fleet management (Ruegg 1978, p.ix; Lowe 2012). These considerations span from acquisition, utilisation, maintenance, and disposal of police departments' fleet. Each of these choices have costs and financial implications attached to them. The provision and utilisation of fleet services is therefore a complex operational area which requires proper management, budgeting, monitoring and evaluation. Research also shows that during economic downturns, governments require collaborative solutions to identify savings and promote sound fleet management processes (Christensen and Thorpe 2009).

The department had until 31 March 2020 contracted out the maintenance of its vehicles through an RT46 Transversal contract with Transit Solutions (PTY) LTD. Transit Solutions was also appointed to provide magnetic or smart cards to facilitate transactions for fuel. Some of the vehicles are maintained at the department's garages. During 2019/20, the department had 96 garages and the total expenditure incurred in the garages was R740.4 million (including personnel costs). In the same year, vehicle maintenance costs at vote level was R853.7 million. As demonstrated in the findings of this report, cost variations of new vehicles purchased and maintained per province, above market rates spending on fuel, mismatch between allocation of vehicles with performance, excess vehicles in the department, and service delivery performance gaps are some of the factors that influence the effective and efficient provision, utilisation and management of fleet services.

To unpack the provision, utilisation and management of fleet services in SAPS, the structure of this report is as follows: section 3 provides the context for the spending review on vehicle fleet in SAPS, specifically outlining why such a spending review is necessary. Section 4 outlines a methodological framework adopted in the spending review. The selection of the framework was informed by the nature of the study and alignment with set objectives. Section 5 and 6 outline institutional and stakeholder analysis in an effort to show key pieces of legislation, policy decision making rights and powers in relation to the vehicle fleet programme. Section 7 reflects programme chain of delivery and key processes. Section 8 provides top vehicle brands and makes in the department.

Section 8 provides a detailed expenditure analysis of vehicle fleet in SAPS. The analysis focuses on key spending drivers, lower level spending analysis in SAPS and benchmarking of vehicle fleet costs within the Justice, Crime Prevention and Security (JCPS) cluster and other spheres of government. Flowing from the expenditure analysis, section 9 provides performance analysis through making a link between expenditure on vehicles and

performance outcomes in the department. Section 10 provides options of identifying savings and achieving efficiency. Section 11 is the last part of the report which provides concluding recommendations and necessary actions to implement the proposed options.

3. Context for the Spending Review on Fleet Services in SAPS

The department's fleet at the end of the 2019/20 financial year comprised of over 50 000 vehicles. These include over 48 000 cars, 37 aircraft, over 1000 motorcycles, 133 boats and the remainder include other assets such as trailers. Over the past five financial years, vehicle allocation per province in percentage terms was as follows: a) Gauteng (18.6%), b) KwaZulu Natal (14.4%), c) Head Office (13%), d) Western Cape (12.8%), e) Eastern Cape (11.5%), f) Free State (7.3%), g) Limpopo (6.7%), h) North West (5.9%), i) Mpumalanga (5.5%), and j) Northern Cape (4.3%). The distribution of vehicles in the department is centralised and the allocation per station is informed by a resource allocation model which takes into account resource requirements per station, clustering and sector-based arrangement of communities; crime trends; police to population factors amongst others.

3.1 Problem Statement

Fleet services is the biggest cost driver in SAPS under goods and services. It constitutes approximately 26 per cent of the total goods and services budget. Overall, the provision, utilisation and management of fleet in the department takes up approximately 29 per cent of the total non-CoE budget of the department.

Between 2015/16 and 2019/20, the department recorded total average spending of R5.5 billion on fleet services. The breakdown of the spending is as follows:

- 43.6 per cent (R2.4 billion) for fuel, oil, and grease
- 27.3 per cent (R1.5 billion) for the acquisition of new fleet (transport equipment)
- 22 per cent (R1.2 billion) for fleet maintenance
- 7.1 per cent (R400 000) for spare parts, tires, and tubes

Although spending on fleet services in the department is among the highest in government, no previous review has been done to assess the efficiency and effectiveness of spending in this regard. This spending review therefore seeks to evaluate the processes and principles followed in the acquisition, utilisation, maintenance, and disposal of fleet in the department with the goal of identifying possible efficiency savings.

3.2 Objective of the study

The objectives of this spending review are to:

- Assess the extent to which police vehicles are effectively deployed and efficiently utilised in accordance with the department's service delivery needs, using efficiency modelling
- Benchmark the department's costs for the acquisition, utilisation, maintenance, and disposal of fleet across provinces and in accordance with industry best practice
- Develop and propose options for SAPS for effectively and efficiently managing its fleet

- Evaluate the processes and principles followed in the acquisition, utilisation, maintenance and disposal of fleet in the department with the goal of identifying possible efficiency savings.

4. Methodology

The study adopted selected techniques of the Data Envelopment Analysis (DEA) model. This is a framework used to calculate efficiency levels in organisations with the aim of determining areas with high performance and efficiencies (Coelli et. al 2005; Akdogan 2012; Rahimi 2017; Barros 2007). The model is also used to identify areas which are inefficient and those with operational weaknesses. This allows for the shifting of resources to address those areas that are not performing well.

In the context of policing, the DEA model is useful as police departments have unique functions in comparison with other public institutions. To promote a fair comparison, the model provides a methodology which pairs Decision Making Units (DMUs) which can refer to police stations or divisional units within police organisations. As police stations have similar operations and tend to be classified in terms of their size, level of crime etc, it is justifiable to adopt the DEA model to map out efficiencies in the manner in which the provision, utilisation and management of fleet resources is undertaken in the department.

Table 1. Outline of the DEA Framework

DEA MODEL	Decision Making Units (DMUs)	VARIABLE DESCRIPTION	Measurement of results[1,2]
Input-minimisation orientation (linked to study objectives of looking for savings) **Variance Return to scale (VRS) method** • Considers size variation in between DMUs • Used in the study to	9 provinces Selected police stations	**Output 1:** Number of crimes detected through police action **Output 2:** Number of vehicles maintained per province **Input 1:** Number of crime prevention and crime investigation officers per province/police station **Input 2:** Number of vehicles per province **Input 3:** Expenditure on crime prevention and crime	100% VRS efficiency scale 100% scale efficiency Less input and radial slacks

[1] Technical and scale efficiency scores were calculated using the DEAP software 2.0 available at: https://economics.uq.edu.au/files/3918/DEAP-xp1.zip

[2] In terms of the DEA model, efficiency scores of 1 represent efficient results whilst scores of less than 1 represent inefficiencies. The scores may also be converted into percentages.

calculate technical and scale efficiencies • Expenditure and performance data used to model technical efficiency frontiers in provinces and police stations		investigation/maintenance of vehicles	

Source: Ngobeni 2020; Breitenbach, et al. (2020) with author's addition

Data Sources

Expenditure data was obtained from the Basic Accounting System (BAS) and Vulindlela System as well as audited financial statements. International studies previously conducted using the DEA model were also assessed. Publications such as annual reports and crime statistics reports were also consulted.

In terms of this report, the application of the DEA model is twofold. Firstly, it has been applied under the expenditure analysis section to analyse efficiency scores in vehicle maintenance and used to analyse underutilisation of resources in crime prevention and crime investigations at provincial level. Secondly, the model has been used to develop and identify options of efficiency savings in the second last section. To do so, three models have been outlined which are vehicle maintenance, crime prevention and investigations and selected group of police stations. As vehicle data is unavailable at police station level, expenditure analysis per police stations has not been done.

5. Policy and Legislative Framework for Fleet Management in SAPS

This section focuses on the policy frameworks that govern vehicle fleet management in the department. The acquisition, utilisation, maintenance and disposal of fleet services in the department is governed by a set of policy frameworks and legislation. These are outlined in table 2 below. The important ones include the Public Finance Management Act (PFMA) (1999), Treasury Regulations, Transversal Contracts, and the Preferential Procurement Policy Framework Act (No. 5 of 2000). These set out the processes to be followed when managing government resources. All fleet management processes in SAPS need to comply with principles of fairness (equity), as well as effective and efficient resource utilisation. SAPS also needs to ensure that proper supply chain processes are followed when issuing tenders for auctioning and disposing its vehicles. This also applies to transversal arrangements for vehicles, fuel/diesel and tyres and tubes.

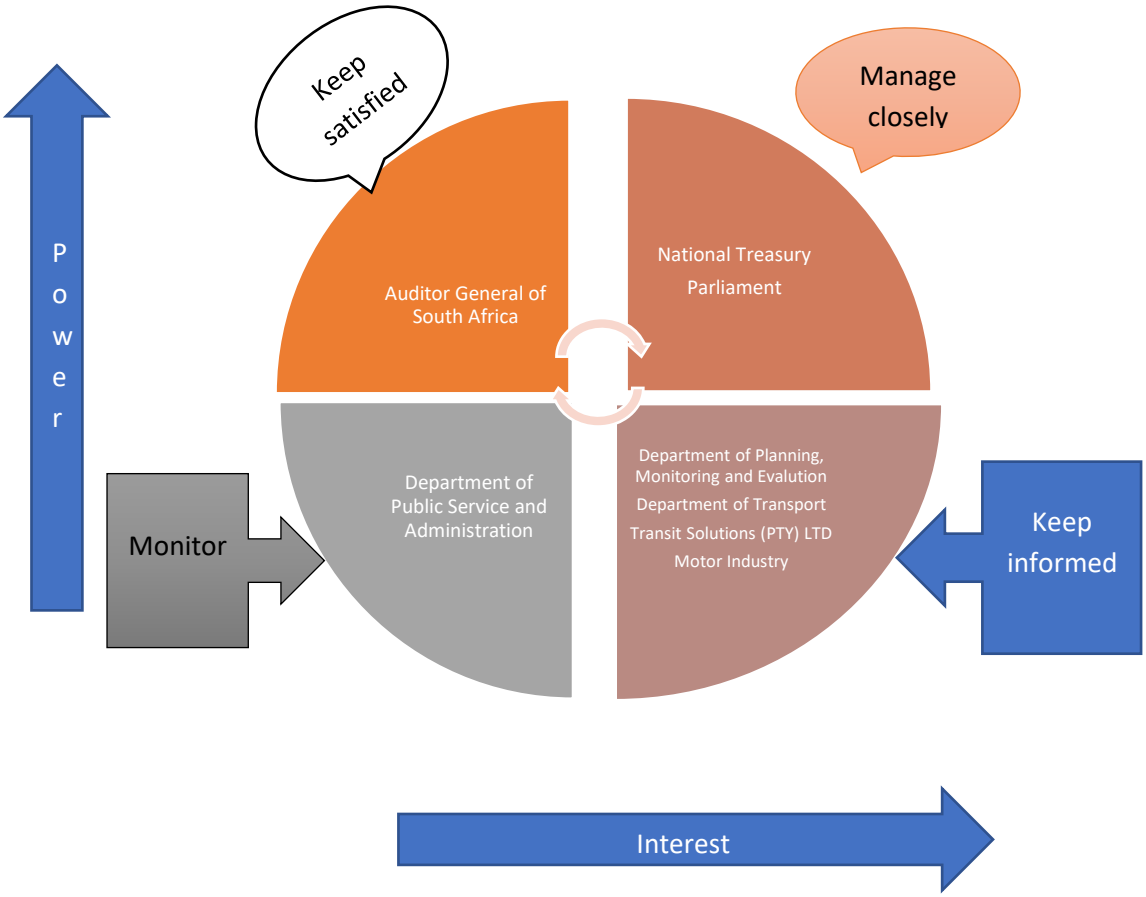
Table 2. Fleet Management processes and policy framework

Vehicle Acquisition	Vehicle preparation	Vehicle Utilisation	Vehicle maintenance	Vehicle Disposal
Public Finance Management Act (PFMA) (1999) **Treasury Regulations, 2005** **Preferential Procurement Policy Framework Act (No. 5 of 2000)** **RT57 Transversal Contract guidelines** **National Transport Circular 4 of 2000** **Vehicle Fleet Management policies** **Supply Chain Management regulations of SAPS** **Office of the Chief Procurement Officer (OCPO) procurement Guidelines, Circulars and Instruction Notes**	PFMA (1999) and Treasury Regulations (2005) National Road Traffic Act, 1996 and Regulations (use of identification lights) SAPS Vehicle Fleet Management policies, guidelines and internal circulars/directives	RT70 Transversal Contract (petrol and diesel), RT69 (Tyres and tubes) guidelines National Transport Circular 4 of 2000 Public Service Act (1994) Public Service Regulations (2001) SAPS Vehicle Fleet Management policies, guidelines and internal circulars	RT46 Transversal Contract (Fleet vehicle maintenance) guidelines PFMA (1999) and Treasury Regulations (2005) Preferential Procurement Framework Act (2000) National Transport Circular 4 of 2000 SAPS Vehicle Fleet Management policies, guidelines and internal circulars	SAPS Asset Management policies PFMA (1999) and Treasury Regulations (2005) Preferential Procurement Framework Act (2000) National Transport Circular 4 of 2000

6. Stakeholder and institutional analysis

As reflected in figure 1 below, the vehicle fleet program in SAPS has a range of stakeholders that have a direct and indirect impact on the provision, utilisation and management of the department's vehicles. These stakeholders also have significant influence and interests on the department's vehicle fleet processes.

Figure 1. SAPS vehicle fleet stakeholders



- **Institutions and stakeholders with high power and high interest**: include the National Treasury and Parliament. The National Treasury plays an oversight and monitoring role over the SAPS budget and expenditure. It also influences resource allocation towards the department. All transversal contracts of SAPS which include fleet are facilitated through consultations with the Office of the Chief Procurement Officer (OCPO) in the National Treasury. The National Treasury has legislative and compliance related expectations which SAPS needs to fulfil. This makes the National Treasury a powerful stakeholder for SAPS which must be managed closely. In addition, the National Treasury has specific interests of seeing resource allocated to the department being spent effectively and efficiently. Parliament has high power in terms of enforcing accountability and exercising oversight and an interest of ensuring service delivery improves in the department. This institution also needs to be managed closely by the department given its powers. The annual budget vote of the department is tabled

in parliament and this often results in rigorous debates and review of allocation of resources in the department. Parliament also has high interest of monitoring service delivery improvement in the department.

- **Institutions and stakeholders with high power and low interest**: The Auditor General (AG) of South Africa is a key stakeholder that SAPS needs to keep satisfied as it audits the department's financial statements. AG findings carry significant implications for allocation of resources to the department. The AG also scrutinises internal processes in the department which may affect the manner in which vehicles are acquired, utilised and managed by SAPS. The AG audit findings are also considered by powerful parliamentary committees such as the Standing Committee on Public Accounts (SCOPA).

- **Institutions and stakeholders with low power and high interest:** the Department of Planning, Monitoring and Evaluation (DPME) is among key stakeholders for SAPS. In the main, the DPME oversees implementation of government priorities and outcomes thereof. SAPS vehicle fleet processes need to align to strategic priorities of government and there are expectations of reporting to DPME through quarterly reports. Notwithstanding this, the DPME has no major powers that affect the provision, utilisation, and management of the department's fleet. It mainly focuses on key strategic aspects of the department's programmes and outputs. SAPS therefore needs to keep DPME informed regarding its strategic planning frameworks and progress in implementing service delivery.

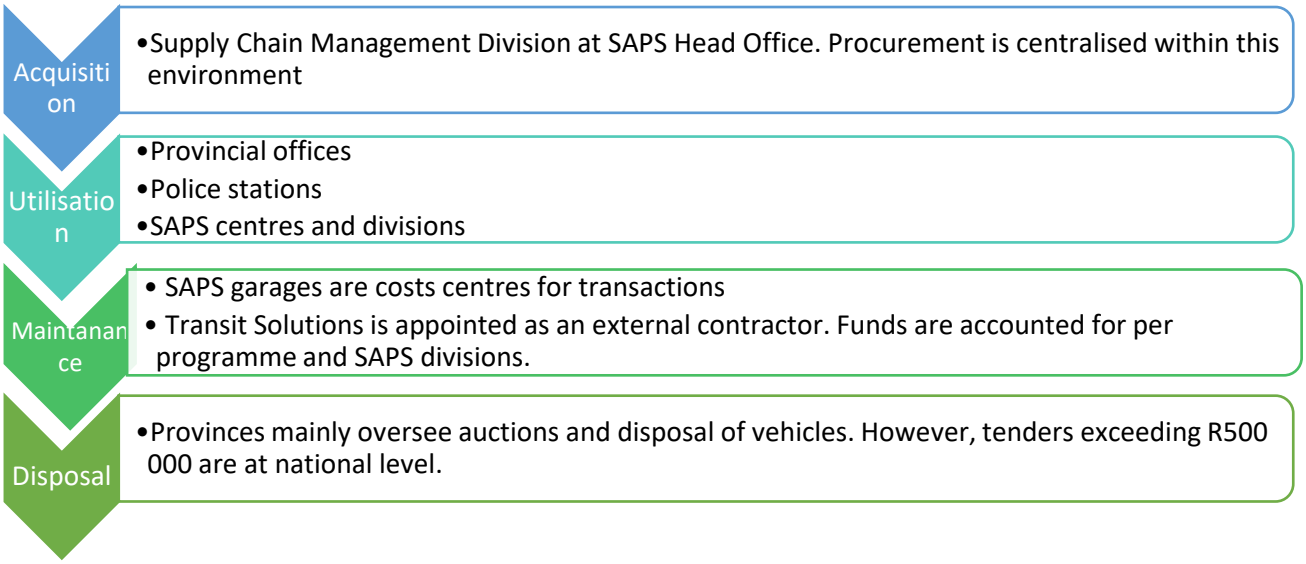
  Other institutions with high interest yet limited powers include the National Department of Transport (DoT). This department primarily focuses on planning, developing, coordinating, promoting and implementing transport policies, regulations and strategies. The DoT has high interests of seeing compliance with the National Transport Circular 4 of 2000 and the National Road Traffic Act (1996) which set rules and regulations that affect SAPS. DoT is also an import signatory department in the RT46 transversal contract as it manages the contract on behalf of the state. Utilisation of Government-owned transport is also managed by DoT. All of the department's vehicles and users need to adhere to safety standards and broader road traffic management regulations set out by DoT. DoT however has no major influence on SAPS' decisions of acquiring, utilising and managing its vehicle fleet. This is also due to the fact that SAPS' vehicles are mainly procured and not leased.

  Other relevant stakeholders in this regard include Transit Solutions (PTY) LTD with financial interests as it is the company appointed to maintain SAPS' Fleet through the RT46 Transversal Contract (Fleet vehicle maintenance). The motor industry also has high interests of providing vehicles to SAPS. Companies such as Ford, Toyota, Volkswagen, BMW compete to provide SAPS with adequate and suitable vehicles which are linked to the department's operational and service delivery responsibilities. They also submit bids of new vehicles to the department. As SAPS holds the final decision in terms of appointing service providers for its new vehicles and the maintenance thereof, this makes Transit Solutions (Pty) LTD and motor companies less powerful stakeholders.

- **Institutions and stakeholders with low interest and low power**: it's mainly the Department Public Service and Administration (DPSA) which issues general guidelines and policies relating to proper use of government assets by public servants. However, it has limited powers to influence SAPS vehicle fleet processes. From SAPS point of view, there needs to be regular monitoring of any new guidelines and circulars which may affect the department's staff and utilisation of vehicles in the department.

7. Programme chain of Delivery

Figure 2. Saps fleet management value chain



Source: SAPS

As per figure 2 above, in terms of the Fleet Services chain of delivery in SAPS, below are key processes:

- Transversal contracts decisions for acquisition of vehicles (RT57), Petrol and Diesel (RT70) and Fleet vehicle maintenance (RT46) are done in consultation with the National Treasury (OCPO). NT appoints service providers in terms of transversal contracts.
- Cost saving decisions are made by SAPS based on demand analysis, needs assessment and service delivery obligations.

Acquisition/Procurement

- SAPS head Office invites needs assessment from provincial departments by the end of March each year
- The vehicle needs assessment register is developed
- Issuing of transversal contracts to departments by National Treasury is done in April.
- SAPS uploads the contract on POLFIN and creates ICN codes
- Assessment of provincial vehicle assessment register is made in line with the RT57 contract and available resources
- Internal workshops and consultations are done to formulate the Information Note

- SAPS checks availability of required vehicles with service providers
- Information Note is issued to finance, acquisition management and the Divisional Commissioner for supply chain management for approval
- Once approved, the information note is forwarded to the provisioning section: vehicle fleet for the placing of orders and the performance measurement of the deliveries.

Utilisation takes place in the following units

- Provincial offices
- Police stations
- SAPS centres and divisions

The distribution of vehicles in the department is centralised and the allocation per station is informed by a resource allocation model which takes into account resource requirements per station, clustering and sector-based arrangement of communities; crime trends; and police to population factors amongst others. This is reflected by the allocation of a high number of vehicles to provinces such as Gauteng and KwaZulu Natal which have significant high crime rates and population numbers (discussed in detail under the performance analysis section). Moreover, to stabilise crime threatening situations, SAPS deploys police officers across provinces and this affects utilisation of vehicles. For instance, the political killings in KwaZulu Natal during 2018/19 were stabilised through deployment of extra police officers from other provinces and a task team was established to oversee the process.

Maintenance

The department repairs and maintains its vehicle fleet in terms of the RT46 transversal contract: Vehicle Management Services. Transit Solutions (Pty) Ltd was appointed by the National Treasury as the service provider for the management of Government's vehicle fleet. The department requires a maintenance solution for its entire fleet. Transit Solutions is the appointed service provider responsible to oversee that the department's entire fleet is managed, maintained, repaired and ensures accidents repairs are conducted. The department also utilises its own workshops to repair vehicles. At the end of the 2019/20 financial year, the department had 96 garages responsible for the maintenance of vehicles. Analysis of information provided by the department and Transit Solutions (Pty) LTD suggests that the bulk of vehicles are maintained by the department and repair and maintenance costs are higher in SAPS than Transit Solutions.

Disposal

Disposal of vehicles in SAPS is informed by key polices such as the National Instruction 2 of 2016 which regulates the processing of all second-hand goods registration applications and all related administrative procedures. This National Instruction further regulates the way the Second-Hand Goods Act, 2009 (Act No 6 of 2009), must be interpreted, implemented and enforced. Provinces mainly oversee auctions and disposal of vehicles. However, disposals exceeding R500 000 are only processed at national level. Between 2015/16 and 2019/20, the department disposed an average of 3 758 vehicles per year. The bulk of disposed vehicles were in Gauteng (890 vehicles), North West (606 vehicles) and KwaZulu Natal (573 vehicles), respectively.

As reflected in table 3 below, the average age of vehicles disposed by the department is 6.5 years whilst most vehicles are disposed when they reach an average of 232 580 kilometres. The average repair and maintenance as well as accident value of vehicles disposed by the department is R348.7 million and R95.2 million, respectively.

Table 3. Age and mileage of vehicles disposed (2016/17-2018/19)

SAPS	2016/17	2017/18	2018/19	Average
Average age	7.8	5.1	2.9	6.5
Mileage per vehicle on average (kms)	232 569	232 591	206 199	232 580
Repairs & Maintenance Value (R'000)	348 685	348 685	336 615	348 685
Accidents Value (R'000)	95 226	95 226	74 751	95 226

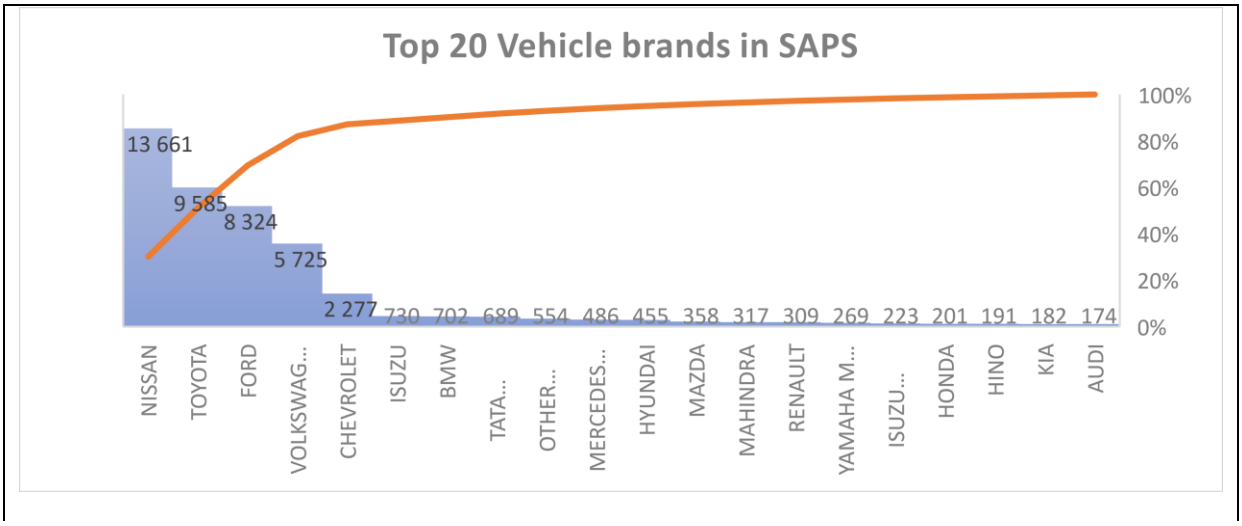
Source: Transit Solutions

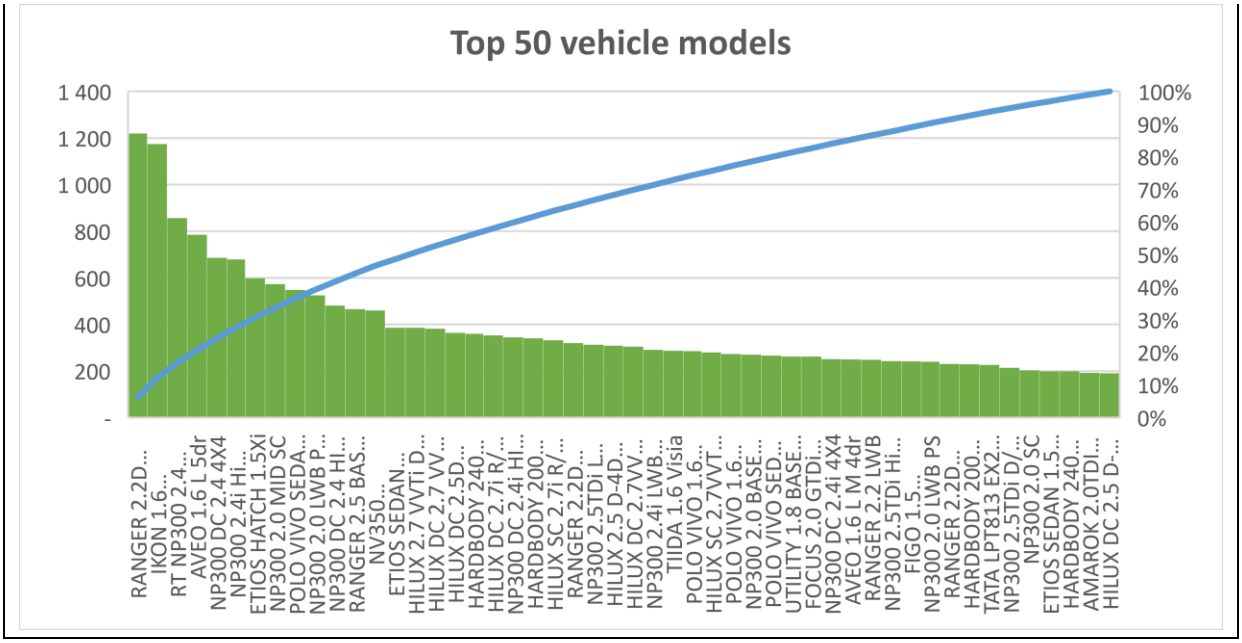
8. Top Brands and vehicle models in SAPS

An analysis of the top brands and vehicle models used by SAPs suggests that the department is purchasing the optimal mix of vehicles and is not overspending on luxury brands

The following graph outlines top vehicle models and brands used in the department.

Figure 3. Top Brands and models in SAPS





Source: Transit solutions

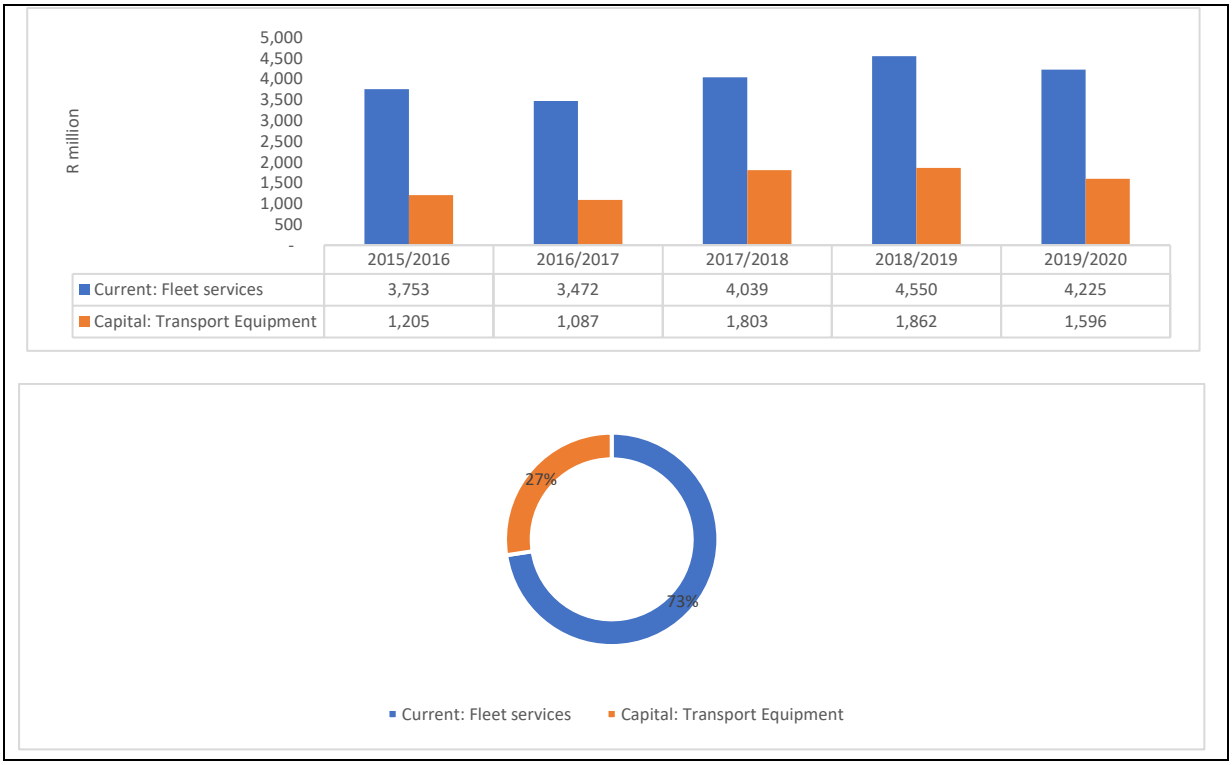
Vehicle durability and longer life span is among key factors considered by SAPS in acquiring its vehicles. This is reflected in figure 3 above where most models acquired are Ford, Nissan and Toyota. These vehicles also have a longer life span in terms of the data obtained from Transit Solutions. As the department prioritises the safety of the rural and farming communities in line with its rural safety strategy, availability of suitable vehicles for rural areas is critical. These include Nissan NP300s, Toyota Hiluxes, Ford Rangers etc. Moreover, in terms of the National Treasury RT57 pricing list, the cost per vehicle for these models is relatively cheaper than luxurious car models such as BMW, Mercedes Benz, Volvo and Audi.

9. Expenditure Analysis

This section provides an analysis of the key components of expenditure on fleet services in the department. Fleet Services in SAPS comprises of two components: *fleet services* under operating expenditure and *transport equipment* under capital expenditure. As reflected in figure 4 below, 73 per cent of fleet spending in the department is incurred under current payments (operating expenditure) whilst the remaining 27 per cent is incurred under capital expenditure.

Emerging issue 1: SAPS vehicle fleet spending is among the highest in government

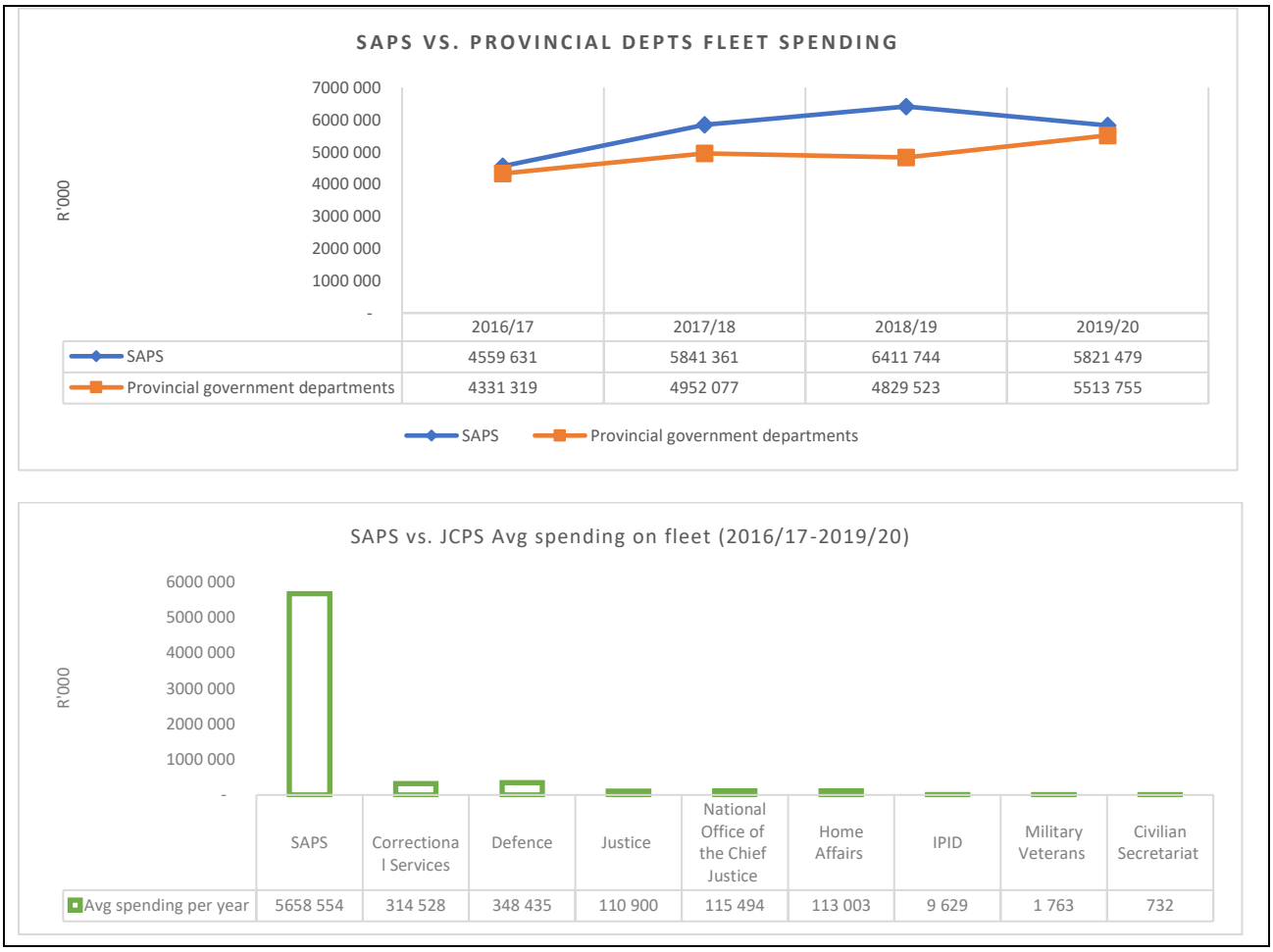
Figure 4. SAPS spending on fleet services components (2015/16-2019/20)



Source: Vulindlela management information system

In terms of current payments, the *fleet services* item is provided for under goods and services while in terms of payments for capital assets, the *transport equipment* item is accounted for under machinery and equipment. In monetary terms, the department spent an average of R4 billion on fleet services and an average of R1.5 billion on transport equipment over the past five financial years. SAPS spending on its entire vehicle fleet is far greater than that of all departments in the Justice, Crime Prevention and Security (JCPS) Cluster. It is also comparable or almost the same size as that of all provincial government departments combined. This is demonstrated in figure 5 below.

Figure 5. Fleet spending (SAPS vs. Provincial and JCPS departments)



Source: BAS and Vulindlela information management system (fleet services and transport equipment items)

In figure 5 above, SAPS spending on fleet services and transport equipment is compared with provincial and JCPS departments. It is interesting to note that as at the end of the 2019/20 financial year, SAPS spent R5.8 billion on its vehicle fleet whilst provincial departments spent a total of R5.5 billion which is less by R308 million when compared with SAPS. Similarly, within the JCPS Cluster, no department comes close to SAPS in terms of vehicle fleet spending. Between 2016/17 and 2019/20, SAPS spent an average of R5.7 billion per year on its vehicle fleet whilst departments such as Defence, Correctional Services and Justice and Constitutional Development spent R348.4 million, R314.5 million and R110.9 million, respectively.

Service delivery operating model, personnel establishment and the size of vehicle fleet predominantly influence the magnitude of spending on vehicle fleet across all departments. Most provincial government departments and those in the JCPS cluster have different operating models to that of SAPS. For instance, the number of vehicles allocated to a police station may differ to that of a court, correctional facility or hospital as operations differ. SAPS utilisation of vehicles is also driven by policing operations conducted in communities whereas a hospital mainly requires ambulances for emergency services. A police station on the other hand requires trucks, sedans for detectives and bakkies/vans for visible policing officers. If for

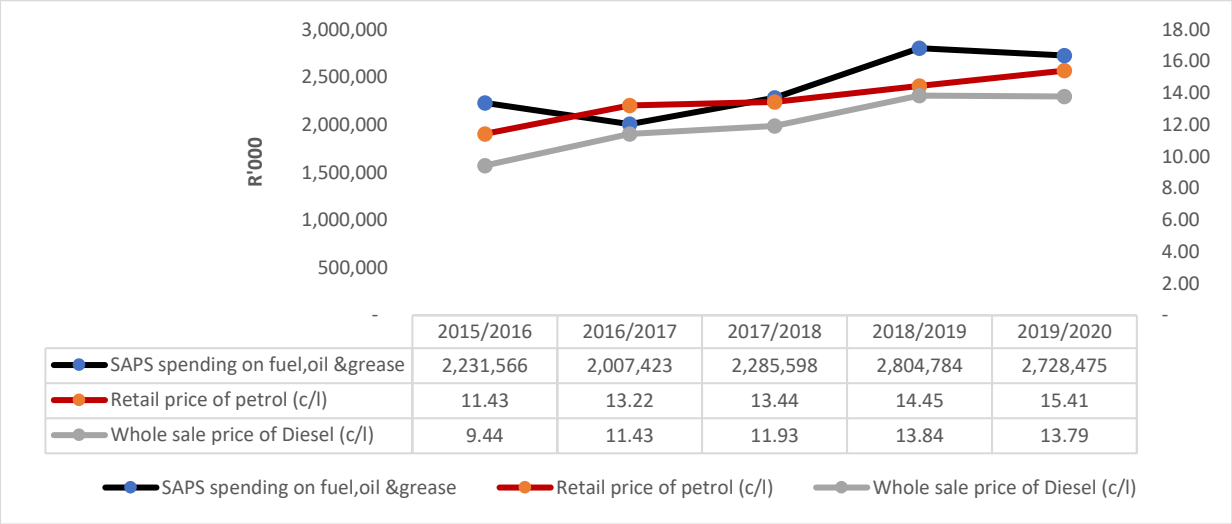
instance, a vehicle is required for the transportation of detainees, a van or truck must be acquired. Should a vehicle be required for the transportation of passengers, a minibus must be acquired. This explains differences between SAPS vehicle fleet spending in comparison with other departments. Fleet services is the department's main cost component at vote level under goods and services. As at the end of 2019/20, 26 per cent of spending under goods and services was recorded on the *fleet services* item. The spending increases on this item are partly attributed to increases in international oil prices which affect local fuel and diesel prices.

The increases in spending on fleet services are also linked to the size of the department's fleet which was at 54 413 vehicles at the end of the 2019/20 financial year. This represents an increase of 1 342 from 53 071 vehicles in 2018/19. Spending on motor vehicles makes up 58 per cent of the department's total spending on transport equipment whilst trucks and motorcycles are 39 per cent and 0.2 per cent, respectively.

Emerging issue 2: Spending increases on fleet services are partly affected by international oil prices and exchange rate fluctuations

In Figure 6 below, annual fuel price trends are presented together with SAPS spending on fuel, oil and grease. Fuel prices reflect significant growth over the past five financial years owing to global volatility in commodity prices.

Figure 6. Retail price trends for fuel and SAPS spending on fuel, oil and grease (2015/16-2019/20)



	2015/2016	2016/2017	2017/2018	2018/2019	2019/2020
SAPS spending on fuel,oil &grease	2,231,566	2,007,423	2,285,598	2,804,784	2,728,475
Retail price of petrol (c/l)	11.43	13.22	13.44	14.45	15.41
Whole sale price of Diesel (c/l)	9.44	11.43	11.93	13.84	13.79

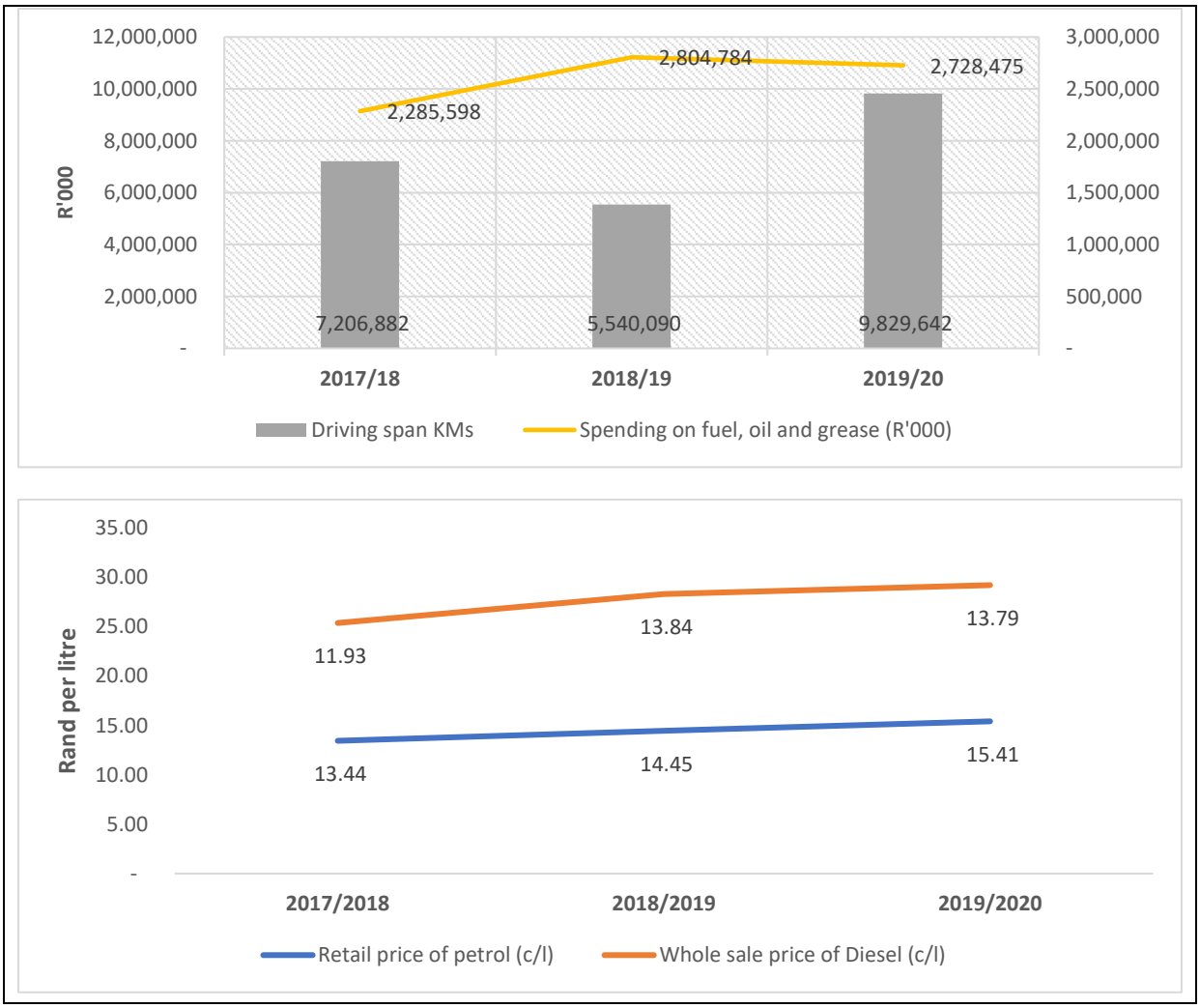
Source: South African Petroleum Industry Association and Vulindlela management information system

The retail price of petrol increased from R11.43 per litre in 2015/16 to R15.41 in 2019/20 which represents an average annual growth rate of 7.8 per cent. Similarly, the wholesale price of diesel increased from R9.44 per litre in 2015/16 to R13.79 in 2019/20 which represents an annual average growth rate of 10 per cent. Over the same period, spending on *fuel, oil and grease* by SAPS increased from R2.2 billion to R2.7 billion which represents an annual average growth rate of 5.2 per cent. Although there was a spending increase in SAPS between 2017/18 and 2018/19, the oil price per barrel over the same period decreased from USD216

to USD66.14 (National Treasury 2019, p.15). Exchange rate fluctuations contribute to the spending increases in local spending on fuel.

It is also interesting to note that the annual rate of increases in spending on fuel, oil and gas is less than the rate of increases on retail fuel prices which also affects the kilometres driven. This is further elaborated in figure 7 below.

Figure 7. Spending on fuel, oil and grease vs. kilometre driving span of vehicles



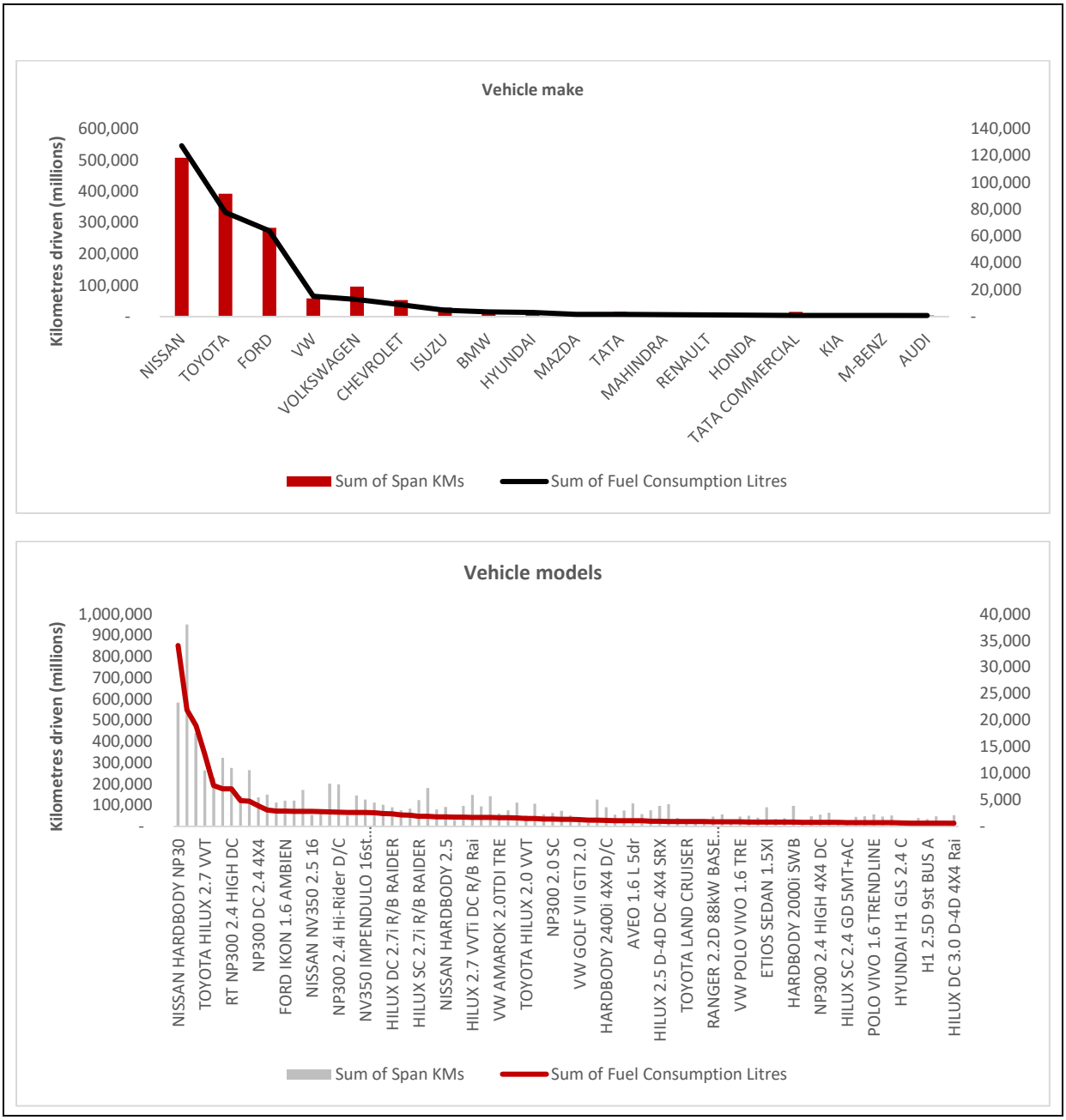
Source: Transit solutions and Vulindlela management information system

In figure 7 above, spending on fuel, oil and grease reflects a decrease from R2.8 billion in 2018/19 to R2.7 billion in 2019/20 which represents a decrease of 2.7 per cent or R76 million. However, over the same period, the kilometre driving span increased from 5.5 million kilometres in 2018/19 to 9.8 million kilometres in 2019/20. This might be as a result of the slight decreases in the price of petrol in 2019/20. However, some invoices for fleet services are not finalised at the end of the financial year which may also contribute to spending fluctuations.

Emerging issue 3: patrol vehicle models consume significant fuel

There is a direct relationship between kilometres driven and fuel consumption. Fuel consumption is particularly linked to vehicle model, engine capacity and kilometres driven amongst other factors. An analysis of three-year data on fuel consumption and driving span in kilometres reflects that SAPS vehicles consumed more than 100 million litres of fuel. This was accompanied by over 400 million in kilometres driven (figure 8).

Figure 8. Fuel consumption by vehicle make, model and kilometres driven



Source: Transit solutions

The top five driven vehicles in the department are Nissan Hardbodies, Toyota Hiluxes, Nissan NP300s, Nissan mini buses and Ford Ikons. The driving span in kilomoters for these models is above 100 million. In terms of fuel consumption, the Toyota Hilux 2.7 VVT consumes more

fuel than other vehicle models in the department. This vehicle model is primarily utilised in policing operations.

Given the significant amount of fuel consumption by vehicle modes such as Nissan NP300s, Toyota Hiluxes, and Ford Rangers, the department needs to review its allocation of patrol vehicles. There is scope for using models such as Hyundai, KIA and Volkswagen particularly for patrolling in cities and urban areas where bakkies and vans are less required.

Emerging issues 4: There is over and underutilisation of vehicles in some programmes

Fleet services per programme

Spending on the provision and utilisation of the SAPS vehicle fleet is spread across the department's budget programmes as shown in table 4 below.

Table 4. Total spending on transport equipment per programme

Programme	Personnel (2019/20)	Personnel to vehicles ratio	Transport equipment spending (5 year Avg) (R'000)	Percentage of total spending	Number of vehicles
Administration	35 508	10.73	91 902	6.1%	3 310
Visible Policing	97 111	2.52	1 068 353	70.7%	38 478
Detective Services	38 568	4.14	258 452	17.1%	9 308
Crime Intelligence	8 615	6.12	39 107	2.6%	1 408
Protection and Security Services	6 552	3.43	52 997	3.5%	1 909
Total	**186 354**	**3.42**	**1 510 811**	**100.0%**	**54 413**

Items: Transport equipment

Source: Vulindlela management information system and SAPS

The two main core service delivery programmes in the department are *Visible Policing* and *Detective Services.* These two programmes make up more than 80 per cent of spending on *transport equipment*, respectively.

Administration: this programme takes up 6.1 per cent or an average of R92 million of the department's total spending on transport equipment. This programme is significantly large due to national functions such as supply chain management (SCM), corporate services and human resource management (HRM) which are located at head office. At the end of the 2019/20 financial year, the *Administration* programme had 35 508 filled posts. As the number of personnel affects the provision and utilisation of vehicles in the department, the ratio of personnel to vehicles in this programme was 10.73:1 which is significantly higher than the department's current norm of 4.5:1. This implies that in the *Administration* programme, the demand for vehicles exceeds the supply as there is more personnel requiring vehicles than there are vehicles hence the high ration.

Visible Policing: this programme takes up 71 per cent or an average of R1.1 billion of the department's total spending on transport equipment. This represents the bulk of spending as this is the core frontline service delivery programme of the department. Within the programme, the main cost centre is the *Crime Prevention* subprogramme which predominantly includes fleet services and transport equipment spending per police station. Crime prevention also

provides for basic crime prevention and visible policing services at police stations and community service centres.

The utilisation of vehicles is central to crime prevention operations which are aimed at creating high police visibility through actions such as roadblocks, patrols, cordon-and search operations, major public events, compliance inspections and searches of premises, persons and vehicles. For example, during 2018/19, to enhance the national security and territorial integrity at ports of entry, 3 783 planned crime prevention and combating actions were undertaken, comprising of 140 roadblocks, 48 877 vehicle patrols and 1 177 vessel patrol inspections.

At the end of the 2019/20 financial year, the *Visible Policing* programme had 97 111 filled posts. As the number of personnel affects the provision and utilisation of vehicles in the department, the ratio of personnel to vehicles in this programme was 2.52:1 which translates to approximately 3 police officers per vehicle. This is significantly less than the department's current norm of 4.5:1. This analysis reflects underutilisation of vehicles in the visible policing environment. It is also striking to see this ratio in a frontline service delivery function as media reports often highlight shortage of vehicles in police stations (Sibembe 2019; Moatshe 2019). During parliamentary hearings at the National Council of Provinces (NCOP) forum in 2019, SAPS cited shortage of vehicles to be among key challenges affecting service delivery in some police stations (Parliamentary Monitoring Group 2019), yet the analysis presented demonstrates inefficiencies in the allocation of vehicles. As the allocation of vehicle differs per province and police station, SAPS needs to review its allocation model of vehicles and properly align it with the department's Efficiency Index System (EIS) which is used to determine the percentage of surpluses/shortages of resources at police stations and in different units. This is also discussed under the performance analysis section where some provinces are shown to be receiving new vehicles yearly yet serious crimes reported are declining.

Detective Services: this programme takes up 17.1 per cent or an average of R258.5 million of the department's total spending on transport equipment. Within the programme, the main cost centre is the *Crime Investigations* subprogramme which provides for detectives at police stations who investigate crimes, including crimes against women and children.

Investigation of serious and priority crimes affects the utilisation of vehicles in the *Detective Services* environment. As such, the distribution of vehicle fleet resources in this environment is primarily centred on *crime investigations* and *specialised investigations.* Specialised investigations provide for the prevention, combating and investigation of national priority offences, including the investigation of organised crime syndicates, serious and violent crime, commercial crime, and corruption.

Against this background, the table below demonstrates spending on vehicle fleet and relevant performance under crime and specialised investigations between 2015/16-2019/20.

Table 5. Performance and spending on vehicle fleet under crime and specialised investigations

Subprogramme	2015/2016	2016/2017	2017/2018	2018/2019	2019/2020	Spending vs. Programme
Specialised investigations: DPCI						
Spending on vehicle fleet (R'000)	142 387	105 688	114 873	129 079	127 121	8.4%
Detection rate for serious commercial crime-related charges	*96.75%*	*95.37%*	*89.67%*	*98.93%*	*98.15%*	
Percentage of trial-ready case dockets for serious commercial crime-related charges	*58.59%*	*66.43%*	*70.04%*	*74.37%*	*63.79%*	
Crime investigations						
Spending on vehicle fleet (R'000)	1 240 309	1 051 682	1 259 933	1 333 701	1 293 690	85.6%
Detection rate for serious crimes	*36.90%*	*36.22%*	*35.97%*	*36.37%*	*36.17%*	
Percentage of trial-ready case dockets for serious crimes	*69.63%*	*84.21%*	*84.41%*	*89.82%*	*93.26%*	

Source: SAPS Annual reports and Vulindlela management information system

Items: fleet services and transport equipment

As reflected in table 5 above, the crime investigations subprogramme receives the bulk of the vehicle fleet budget in the *Detective Services* programme. At the end of the 2019/20 financial year, spending incurred on vehicle fleet was R1.3 billion under this subprogramme which represents 86 per cent of programme fleet spending. Over the same period, R127.1 million was spent under specialised investigations representing 8.4 per cent of programme spending. Although there is a significant difference between spending between crime and specialised investigations, performance seems to be higher under specialised investigations. For instance, the detection rate for serious commercial-related charges at the end of the 2019/20 financial year was 98.15 per cent which is far higher than the 36.17 per cent detection rate for serious crimes. This suggests internal efficiencies in the investigation of serious priority crimes compared to normal investigations.

Low achievement of performance targets is also explained by underutilisation of vehicles in the *Detective Services* programme. At the end of the 2019/20 financial year, there were 38 568 filled posts in this programme. Over the same period, the ratio of personnel to vehicles was 4.1:1 which translates to approximately 4.1 investigation officers per vehicle. This is slightly below the department's norm ratio of 4.51 officer per vehicle.

Crime Intelligence: this programme takes up 2.6 per cent or an average of R39.1 million of the department's total spending on transport equipment. Within the programme, the main cost centre is the *Intelligence and Information Management* subprogramme which provides for the analysis of crime intelligence patterns that will facilitate crime detection in support of crime prevention and crime investigation. At the end of the 2019/20 financial year, the *Crime Intelligence* programme had 8 615 filled posts. Over the same period, the ratio of personnel to vehicles was 6.12:1 which is above the department's norm of 4.51. This outcome suggests there is an element of shortage of vehicles in this environment. The department needs to ensure allocation of vehicles in the *Crime Intelligence* programme is properly aligned with the department's Efficiency Index System (EIS) which is used to determine the percentage of surpluses/shortages of resources at police stations and in different units.

Protection and Security Services: this programme takes up 3.5 per cent or an average of R53 million of the department's total spending on transport equipment. Within the programme, the main cost centre is the *VIP Protection Services* subprogramme provides for the protection of the president, deputy president, former presidents, their spouses, and other identified dignitaries while in transit. At the end of the 2019/20 financial year, the *Protection and Security*

Services programme had 6 552 filled posts. Over the same period, the ratio of personnel to vehicles was 3.4:1.

Emerging issue 5: Improving spending and operational efficiency in SAPS using the DEA model

To assess technical efficiency and performance in organisations, the DEA model is utilised as it is a framework that compares how each decision-making unit (DMU) within the organisation uses a range of inputs to produce an output. This model has been adopted given its relevance to SAPS vehicle fleet operations, allowing comparison per province and police station. In terms of the model, results of efficiency scores differ per DMU. An efficient DMU is represented by 1 whilst an inefficient DMU is represented by a score of less than 1. Scale efficiency relates to the ability of a DMU to perform at or close to its optimal level given available resources. The following section discusses relative efficiency of the maintenance and repairing of SAPS vehicles at provincial level. Preventative maintenance is an important function which assists police departments to effectively manage their vehicle fleet. It is also crucial as maintenance of vehicles is cheaper than purchasing new ones. From the average total of R5.5 billion spent on vehicle fleet per year, SAPS spends 27.3 per cent (R1.5 billion) on the acquisition of new fleet (transport equipment) and 22 per cent (R1.2 billion) on fleet maintenance. This shows maintenance is cheaper than purchasing new vehicles.

As the department also has an internal function of vehicle maintenance through its garages, it was deemed necessary to model efficiency scores at provincial level. As output, the number of vehicles maintained and repaired per province is used. Inputs mainly include the number of garages, personnel employed at the garages and expenditure on vehicle maintenance per province.

Table. 6 Efficiency scores[1] of SAPS Garages in terms of vehicle maintenance as at the end of 2019/20[2]

Province (DMUs)	VRS Efficiency Score	Scale Efficiency	Number of Vehicles maintained /repaied	Number of Garages	Personnel	Expenditure
Eastern Cape	0.665	0.897	17 457	16	282	102 580
Free State	0.794	0.864	10 414	10	207	53 242
Gauteng	1.000	0.915	35 659	16	431	156 774
Kwa-Zulu Natal	0.937	0.815	29 684	16	396	136 201
Limpopo	0.871	0.952	14 059	7	155	59 450
Mpumalanga	1.000	1.000	12 183	5	102	42 692
North West	1.000	0.714	8 519	9	146	41 794
Northern Cape	1.000	1.000	10 669	5	79	50 012
Western Cape	1.000	0.845	23 543	12	241	97 649
Total/Mean	**0.919**	**0.889**	**162 187**	**96**	**2 039**	**740 393**

Source: SAPS

As reflected in table 6 above, at the end of the 2019/20 financial year, the mean technical efficiency score of the 9 provinces was 0.919 or 92 per cent[2]. Five provinces (56%) recorded efficiency scores of 1 or 100 per cent. The results per province are represented as follows:

- **100 per cent cohort:** Gauteng, Mpumalanga, North West, Northern Cape and Western Cape
- **90-99 per cent cohort:** KwaZulu-Natal
- **80-89 per cent cohort:** Free State and Limpopo
- **60-69 per cent cohort:** Eastern Cape

Relative to other provinces, Mpumalanga and Northern Cape were technically and scale efficient in the maintenance and repairing of vehicles. In Mpumalanga, the number of garages as at the end of 2019/20 was 5 with 102 personnel employed. The province achieved relatively high production levels of 12 183 in comparison with provinces such as North West which recorded 8 519. Northern Cape also achieved technical and scale efficient scores of 100 per cent, respectively. Although the province had the least number of personnel (79) compared to all other provinces and only 5 garages, the utilisation of resources was done in a cost-effective and scale efficient manner. This provides key lessons for other provinces that need to improve their scale efficiency through increasing the number of vehicles maintained or making the personnel establishment at the garages leaner.

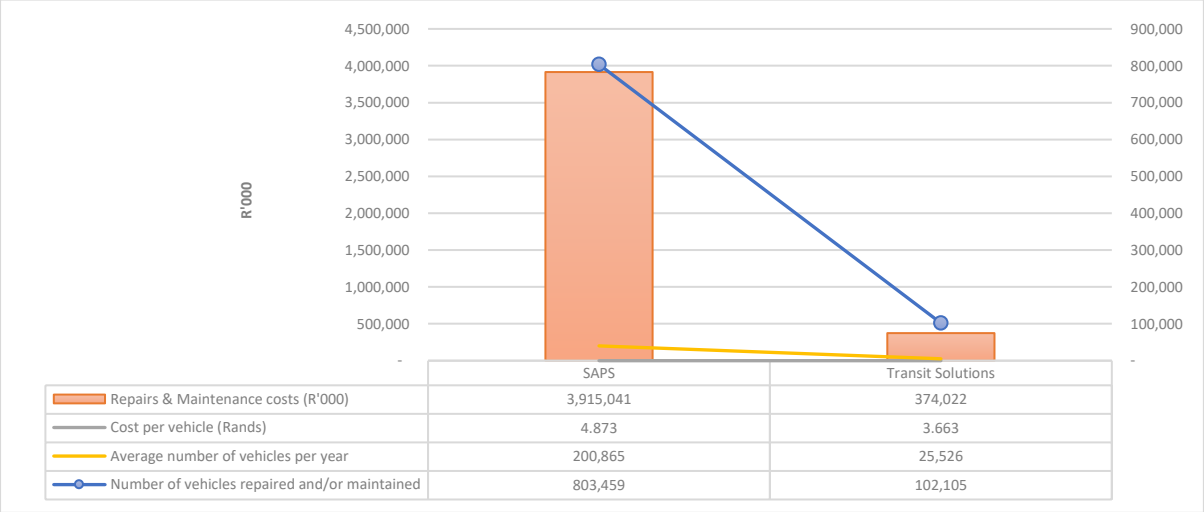
To improve efficiency and service delivery in the SAPS garages, the department needs to strengthen and improve operational and spending efficiencies in its garages. As such, provinces with least production levels such as the Eastern Cape (67%), Free State (79%) and Limpopo (88%) need to be monitored such that should production levels not improve, decisions of reprioritising and reducing personnel numbers may be implemented.

Moreover, there is scope for strengthening the maintenance of vehicles internally at SAPS. This is demonstrated by the relative efficiency of most provinces in maintaining and repairing vehicles. At the end of 2019/20, total spending on fleet maintenance through the department's garages amounted to R740.4 million for a total of 162 187 vehicles. Figure 9 below provides a comparison of the number of vehicles repaired and/or maintained by SAPS and Transit Solutions and the relevant costs over a four-year period.

[1]Technical and scale efficiency scores were calculated using the DEAP software 2.0 available at: https://economics.uq.edu.au/files/3918/DEAP-xp1.zip

[2]In terms of the DEA model, efficiency scores of 1 represent efficient results whilst scores of less than 1 represent inefficiencies. The scores may also be converted into percentages.

Figure 9. Number of vehicles repaired and maintained vs. costs (2016/17-2019/20)



Source: SAPS and Transit Solutions

From figure 9 above, it is reflected that SAPS repairs and maintains an average of 200 865 vehicles per year at an average cost of R4 873 per vehicle. Transit Solutions maintains an average of 25 526 vehicles per year at an average cost of R3 663 per vehicle. Although it is cheaper to maintain vehicles externally, from the data presented, there is a need to improve operational efficiencies in SAPS garages.

It is also important for the department to better utilise Transit Solutions or another service provider for fleet management services to enhance vehicle management solutions. This can be done by increasing the number of vehicles maintained and repaired externally. It is still cheaper for SAPS to maintain vehicles externally. Potential savings that can be achieved through increasing vehicles repaired and maintained externally are reflected in table 7 below:

Table 7. Potential savings from increasing volume of vehicle maintained externally

	Average number of vehicles repaired/maintained	Sharing vehicles equally	Average cost per vehicle (Rands)	Total costs
SAPS	200 865	113 195	R4 873	113 195x R4 873= R551.6 million
Transit Solutions	25 525	113 195	R3 663	113 195XR3 663=R414.6 million
Total	**226 390**	**226 390**		**Saving: R551.6 million-R414.6 million= R101. per year**

Emerging issue 6: Improving underutilisation of resources under crime prevention and investigations

Flowing from the previous discussion, the DEA model has also been applied to map out efficiency scores under the crime prevention and investigation functions. These two functions perform a critical frontline service in SAPS and also receive a significant budget allocation as demonstrated in the expenditure analysis section. However, underutilisation of resources and technical inefficiencies are among key challenges facing the department. This is demonstrated in table 8 below.

Table 8. Efficiency [3]scores for crime prevention and crime investigations (2019/20)[2]

Province (DMUs)	VRS Efficiency Score	Scale Efficiency	Number of crimes detected through police action	Number of crime prevention and crime investigation officers	Expenditure on crime prevention and crime investigation (R'000)	Number of vehicles
Eastern Cape	0.660	0.821	20 869	18 556	5 799 069	6 173
Free State	0.914	0.594	8 313	9 831	3 230 242	4 179
Gauteng	**1.000**	0.922	83 090	32 295	10 220 227	10 137
Kwa-Zulu Natal	0.722	0.935	54 199	23 771	7 336 844	7 676
Limpopo	0.831	0.661	16 920	11 127	3 420 214	3 629
Mpumalanga	0.973	0.667	13 267	9 470	3 020 384	3 114
North West	**1.000**	0.647	12 028	9 119	2 774 088	2 970
Northern Cape	**1.000**	0.905	3 316	6 853	2 112 063	2 105
Western Cape	**1.000**	**1.000**	78 174	19 525	6 119 646	6 983
Mean/Total	**0.900**	0.795	**290 176**	**140 545**	**44 032 777**	**46 966**

Source: 2019/20 Crime Statistics and Vulindlela management information system

As reflected in table 8 above, at the end of the 2019/20 financial year, the mean technical efficiency score of the 9 provinces was 0.900 or 90 per cent. Four provinces (44%) recorded efficiency scores of 1 or 100 per cent. The results per province are represented as follows:

- **100 per cent cohort:** Gauteng, North West, Northern Cape, and Western Cape
- **90-99 per cent cohort:** Free State and Mpumalanga
- **80-89 per cent cohort:** Limpopo
- **70-79 per cent cohort:** KwaZulu-Natal
- **60-69 per cent cohort:** Eastern Cape

Relative to other provinces, Gauteng, North West, Northern Cape and Western Cape were technically efficient in the manner in which crime prevention and crime investigation resources were utilised. Only the Western Cape province was both technically and scale efficient represented by 1 or 100 per cent in both. This implies the province utilises its resources to performance close to optimal level. This is also reflected by the highest number of crimes detected through police action in that province which at the end of 2019/20 was 78 174. This performance outcome far exceeds all provinces even though the Western Cape has less police numbers and vehicles in comparison with Gauteng and KwaZulu Natal.

The results show underutilisation of resources such as vehicles linking to the issues raised in previous sections. For a DMU to be scale and technically efficient, it needs to adopt certain practices from other DMUs. In this case, the Western Cape is the leading example. Lower scale efficiency scores highlight minimal utilisation of resources. Provinces such as the Eastern Cape have a significant budget allocation and more vehicles in comparison to provinces like Free State, Mpumalanga, North West, and Northern Cape yet the province was the least performer on technical efficiency. Even in terms of scale efficiency, the Eastern Cape recorded 82 per cent which is less than the 91 per cent recorded in Northern Cape.

Inadequate expertise on crime prevention and crime investigations as well as proper supervision may contribute to lower performance and technical inefficiencies in some of the provinces. Moreover, the allocation of resources needs to be properly aligned with the

[3] 1Technical and scale efficiency scores were calculated using the DEAP software 2.0 available at: https://economics.uq.edu.au/files/3918/DEAP-xp1.zip

[2]In terms of the DEA model, efficiency scores of 1 represent efficient results whilst scores of less than 1 represent inefficiencies. The scores may also be converted into percentages.

department's Efficiency Index System (EIS) which is used to determine the percentage of surpluses/shortages of resources at police stations and in different units. Table 2 above also suggests that there are provinces with excess vehicles which are not utilised such as Free State, Mpumalanga, Limpopo, and North West where the scale efficiency scores were 0.594 (59%), 0.661 (66%), 0.667 (67%), and 0.647 (65%), respectively.

Emerging issue 7: Discrepancies between cost per litre in SAPS and market prices

Analysis of data provided by Transit Solutions (Pty) LTD reflects discrepancies between the costs incurred by the department on fuel in comparison with market prices. Figure 10 below shows the transversal contract for fuel vs Transit Solutions costs the department incurs across all provinces.

Figure 10. Comparison of SAPS spending on fuel with market prices (2019/20)

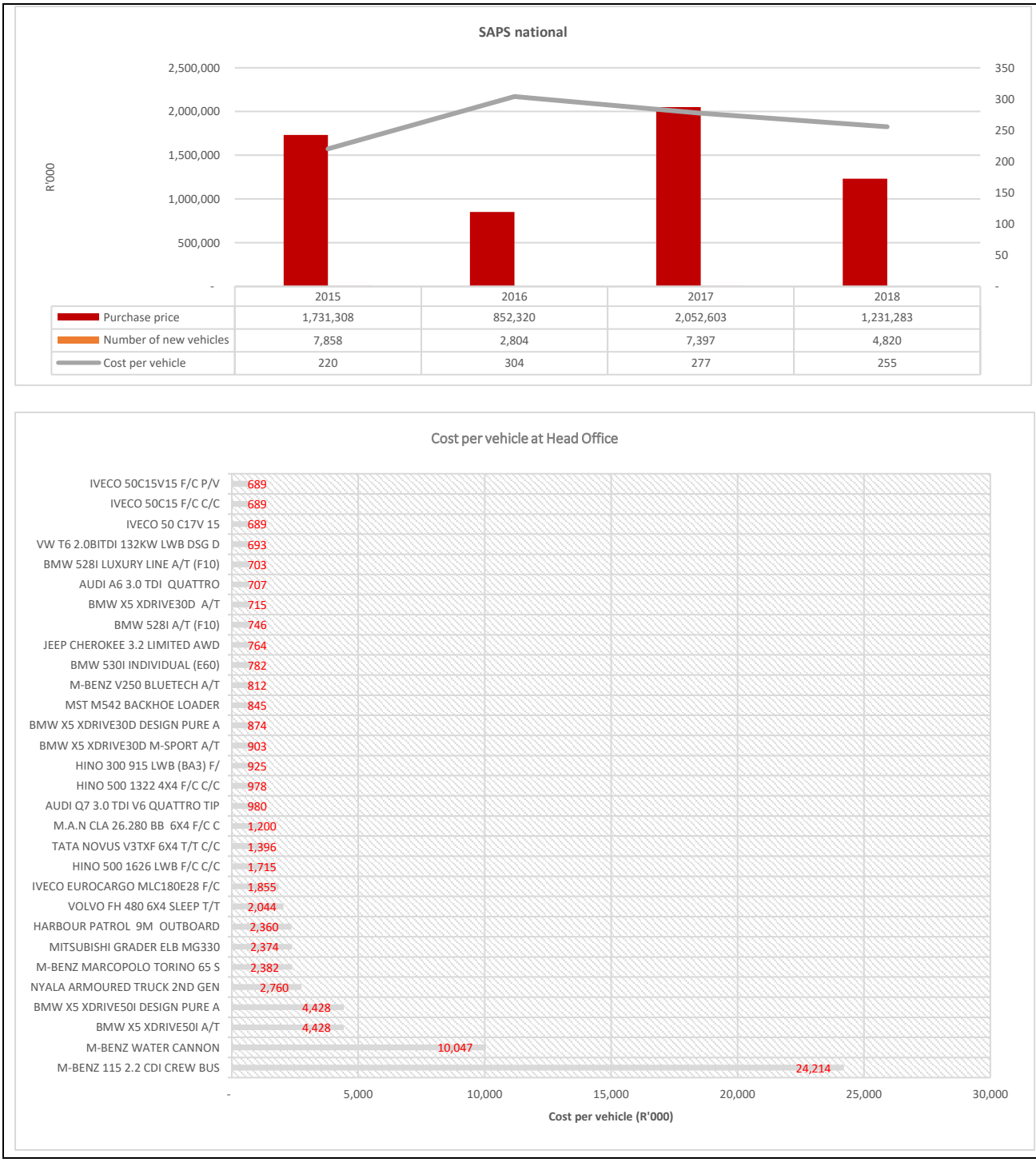
	Head office	EC	FS	GP	KZN	LIM	MP	NW	NC	WC
Fuel value	158,814,007	302,867,308	175,592,077	464,219,701	421,827,429	213,275,727	209,379,128	185,152,773	127,892,967	303,676,538
Cost per litre	16.0	15.8	16.2	16.1	15.8	16.5	16.3	16.2	16.3	15.4
Market price	15.0	15.0	15.0	15.0	14.4	15.0	15.0	15.0	15.0	14.4

Source: Transit Solutions and South African Petroleum Industry Association

As at the end of the 2019/20 financial year, the department incurred higher costs per litre for fuel, recording an average of R16.1 per litre, against the market average price of R14.9 per litre. This translated into excess spending of R1.20 per litre or 8 per cent. The department is paying more than the market rates for fuel. The bulk of deviation from market rates is in the following provinces: KwaZulu Natal (10.2%), Limpopo (10%), Mpumalanga (8.7%) and Northern Cape (8.5%). At the end of the 2019/20 financial year, the average cost per litre incurred by SAPS of R16.1 translated to a fuel value of R2.6 billion as per the Transit Solutions data. The excess spending amounted to R205.1 million.

Emerging issue 8: Excessive high costs per vehicle at Head Office

Figure 11. Cost per new vehicle national vs. Head Office



Source: Transit Solutions

The cost per vehicle at Head Office is significantly higher than the national average. In the 2018/19, the national average cost per vehicle in the department was R255 000. However, as presented in figure 11 above, most vehicles purchased at head office exceed the national average price. This is due to the type of vehicle purchased which are mainly luxurious such

as Mercedes Benz, BMWs, Volvos, and Audis. It is also striking to see the cost per vehicle for certain models such as the M-Benz 115 2.2 CDI crew bus and BMW X5 XDRIVE50I A/T which in 2018 amounted to R24.2 million and R4.4 million each.

In terms of the data received from the department, between 2015/16 and 2019/20, the total number of new vehicles purchased and allocated to SAPS Head Office was 4 483. This represents 18.4 per cent of total vehicles (24 375) purchased by the department over the same period. The allocation of new vehicles needs to be reviewed by the department to save costs and enhance service delivery.

10. Performance Analysis

This section discusses performance trends and the relevant indicators for the department's vehicle fleet. The main intent is to assess the extent to which the department's strategy in relation to increasing its vehicle fleet to respond to policing challenges is being effectively implemented. Table 9 below presents the number of new vehicles purchased by the department over the past five financial years.

Emerging issue 1: Mismatch between allocation of new vehicles in some provinces with crime rates

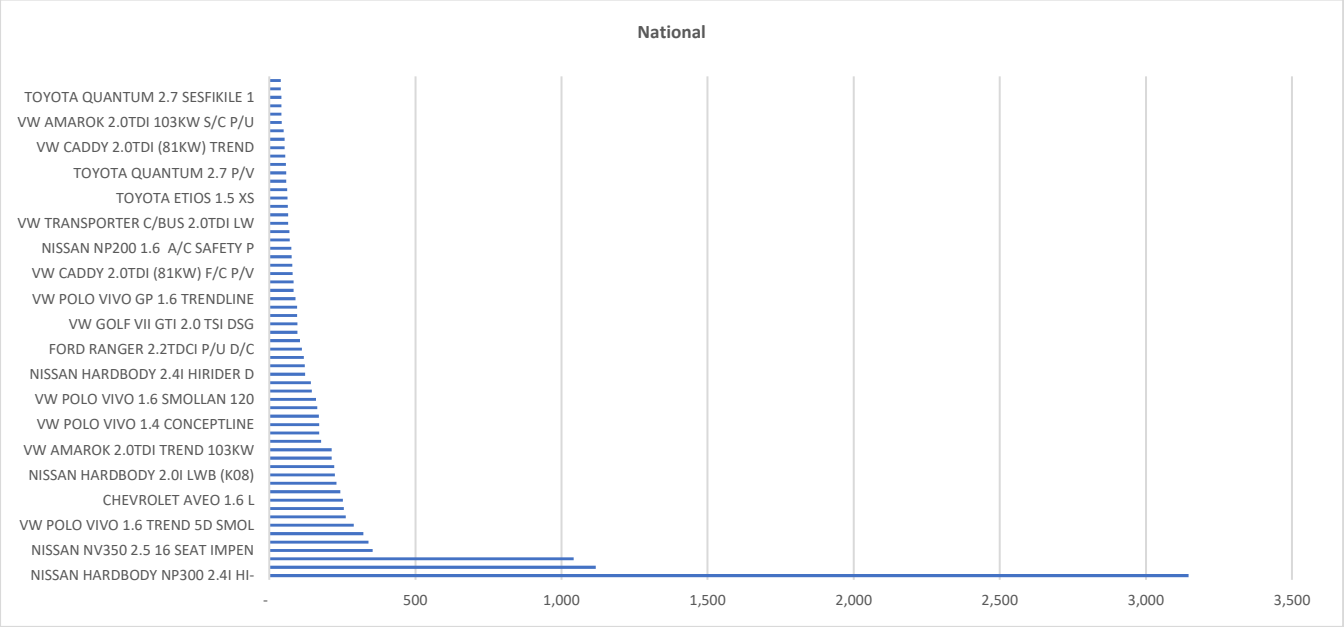
Table 9. Number of new vehicles purchased per annum (2015/16-2019/20)

Province	2015/16	2016/17	2017/18	2018/19	2019/20	5 Year Average	Percentage of total
Head Office	783	873	1 331	826	670	897	18%
Eastern Cape	474	399	523	546	519	492	10%
Free State	343	291	327	304	315	316	6%
Gauteng	1 175	805	984	1 073	872	982	20%
KwaZulu Natal	684	570	746	700	654	671	14%
Limpopo	264	229	266	407	399	313	6%
Mpumalanga	252	222	252	269	263	252	5%
North West	300	256	308	328	293	297	6%
Northern Cape	163	137	168	117	96	136	3%
Western Cape	430	419	565	604	581	520	11%
TOTAL	**4 868**	**4 201**	**5 470**	**5 174**	**4 662**	**4 875**	**100%**

Source: SAPS

As reflected in table 9 above, over the past five financial years, the bulk procurement of new vehicles represented in average terms is as follows: Gauteng 20 per cent (982), Head Office 18 per cent (897), KwaZulu Natal 14 per cent (671), and Western Cape 11 per cent (520). The Free State, Limpopo and North West provinces share the same average percentage of 6 per cent although with slight variations in the number of new vehicles. The Northern Cape province received the least average number of new vehicles represented by 3 per cent (136). In total, the number of new vehicles purchased by the department decreased by 206 from 4 668 in 2015/16 to 4 662 in 2019/20.

Figure 12. Top models purchased by SAPS between 2015/16-2018/19



Source: Transit Solutions

To assess whether the criteria of purchasing and allocating new vehicles (figure 12) is linked with crime patterns, the following table presents the total number of serious crimes reported per province between 2015/16 and 2019/20.

Table 10. Total number of serious crimes reported per province (2015/16-2019/20)

Province	2015/16	2016/17	2017/18	2018/19	2019/20	5 Year Average	Percentage of total
Eastern Cape	166 077	167 892	163 189	169 300	168 322	166 956	10.0%
Free State	103 040	97 660	90 845	93 779	90 997	95 264	5.7%
Gauteng	507 517	503 224	478 659	474 005	463 509	485 383	29.0%
KwaZulu Natal	268 405	260 638	252 301	256 928	254 206	258 496	15.4%
Limpopo	108 144	103 880	95 420	95 976	93 952	99 474	5.9%
Mpumalanga	101 503	102 941	99 627	101 159	99 224	100 891	6.0%
North West	95 920	96 817	95 023	98 998	92 731	95 898	5.7%
Northern Cape	45 068	44 234	42 540	44 640	44 105	44 117	2.6%
Western Cape	374 952	361 694	345 211	339 205	322 273	348 667	20.8%
TOTAL	**1 770 626**	**1 738 980**	**1 662 815**	**1 673 990**	**1 629 319**	**1 676 276**	**100.0%**
Population (million)	**55 620**	**56 522**	**57 457**	**57 726**	**58 774**	**57 620**	

Source: SAPS and StatsSA

As reflected in table 10 above, between 2015/16 and 2019/20, the highest average number of serious crimes reported in South Africa is mainly in the following provinces: Gauteng 485 383 (29%), Western Cape 348 667 (21%), KwaZulu Natal 258 496 (15.4%) and Eastern Cape 166 956 (10%). The least average number of serious crimes reported is recorded in the Northern Cape province 44 117 (2.6%). It is interesting to note that the total number of serious crimes reported has declined from 1.770 million in 2015/16 to 1.676 million in 2019/20 which

represents a decrease of 141 307 or 8 per cent. Over the same period, the population of South Africa increased from 55.6 million to 57.6 million or by 3.2 million (5.7%).

At national level, there is a direct link between total new vehicles purchased (refer to table 1), and the total number of serious crimes reported (refer to table 2). Both reflect a declining trend over the past financial years. New vehicles purchased decreased from 4 868 in 2015/16 to 4 662 in 2019/20 which represents a decrease of 206 (4.2%) and crimes reported declined by 141 307 (8%). However, there are some provinces that have received additional vehicles although the number of serious crimes reported has declined. These provinces include Limpopo (135 increase in vehicles) and Western Cape (151 increase in vehicles). The number of serious crimes reported in these provinces declined by 14 192 and 52 679, respectively.

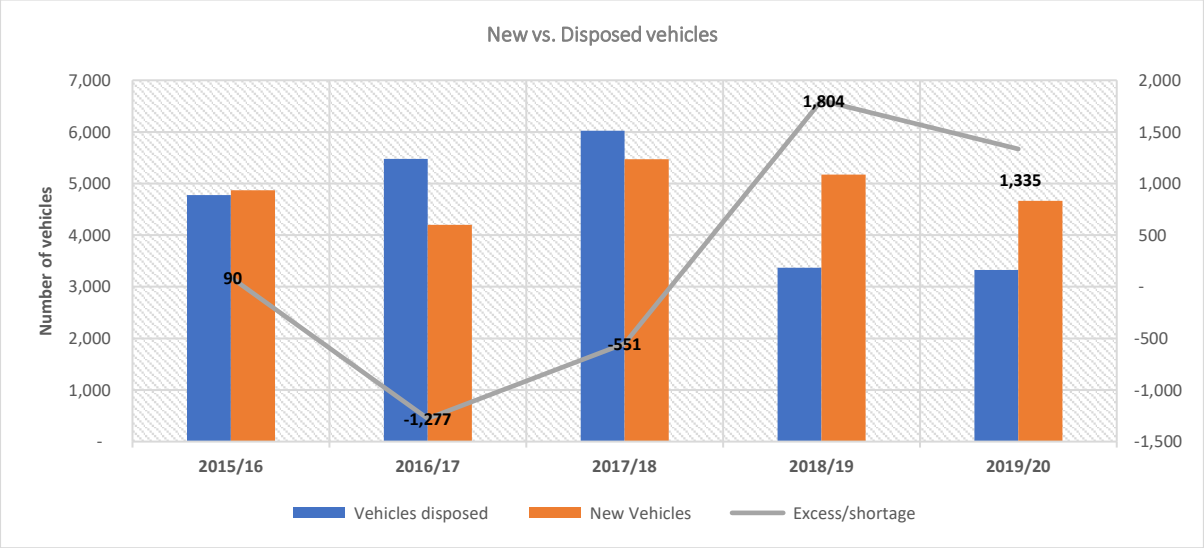
Discussion

Flowing from the above, the availability of vehicles is crucial towards the achievement of the department's service delivery objectives. It is also clear that the provision and allocation of vehicles in SAPS is largely influenced by crime patterns, population, and service delivery dynamics in different provinces. Police stations are the key implementing agents of SAPS service delivery as they interface directly with citizens. As such, accessibility to police services is facilitated by adequate provision, utilisation and management of vehicles at provincial and police station level. Among the challenges faced by police stations is the ability to cope with increasing demand for policing services and balancing this with reducing costs, limited resources and enhancing police capabilities.

Notwithstanding these issues, there is a mismatch between crime trends and allocation of vehicles as discussed and presented in some provinces such as Limpopo and Western Cape. This suggests the need for the department to align the allocation of vehicles with performance. As such, the allocation of vehicles should be based on optimal performance to promote effective and efficient management of resources.

Emerging issue 2: Excess vehicles reflect scope for efficiency savings

Figure 13. New vs. Disposed vehicles in SAPS (2015/16-2019/20)



Source: SAPS

As reflected in figure 13 above, between 2015/16 and 2019/20, SAPS had an average of 280 excess vehicles which is measured by the number of new vehicles less the number of disposed vehicles per year. The highest number of excess vehicles was recorded in 2019/20 where the department had 1 335 excess vehicles. Working on the average price of R342 000 per vehicle in 2019/20, the excess vehicles translate to a total amount of R456.6 million. Over the same period, the ratio of personnel to vehicles was 3.8:1 which is less than the norm of 4.5:1 suggesting that vehicles may be underutilised. It is also concerning that SAPS has recorded excess vehicles particularly between 2018/19 and 2019/20 given the service delivery challenges in communities. A positive is that, the expenditure analysis section has also demonstrated that the ratio of personnel to vehicles is also less in critical functions such as Visible Policing and Detective Services.

11. Options

This last section presents options for identifying efficiency savings on fleet services in SAPS. The DEA model has been utilised to analyse areas with high spending on the department's vehicle fleet. These include crime prevention and crime investigation functions at provincial and police station level. It is important to note that data on vehicles is not available per police station. The running costs which include personnel, fleet services and transport equipment have been used as inputs.

In terms of the DEA model, input-minimisation orientation was adopted as it is linked to the study objectives of identifying efficiency savings. In addition, the Variance Return to scale (VRS) method of DEA was adopted as it considers size variation in between Decision Making Units (DMUs). This approach allows for a fair comparison of results and links DMUs with similar outcomes. The method was specifically used to calculate technical and scale efficiency frontiers in provinces and police stations. The results show that there is a direct relationship between the expenditure incurred on the department's vehicle fleet items and the number of vehicles within the department. The achievement of outputs such as crimes detected through police action has also been proven to be dependent on the number of vehicles and personnel. Proposals on reducing expenditure in this regard will have implications on personnel and transport equipment, which are critical for the department in delivering against its mandate.

Option 1: Reduce the number of garages and personnel to improve technical efficiency

Table 11. Efficiency[1,2] of SAPS garages/workshops per province

Provinces	1. Eastern Cape	2. Free State	3. Gauteng	4. Kwa-Zulu Natal	5. Limpopo	6. Mpumalanga	7. North West	8. Northern Cape	9. Western Cape	Total
Model: SAPS Garages/Workshops										
1. Number of garages										
Original input	16	10	16	16	7	5	9	5	12	96
Input radial movement	- 5	- 2	-	- 1	- 1	-	-	-	-	- 9
Input slack movement	- 2	- 1	-	- 1	-	-	-	-	-	- 4
Input target	8	7	16	14	6	5	9	5	12	82
2. Personnel										
Original input	282	207	431	396	155	102	146	79	241	2 039
Input radial movement	- 94	- 43	-	- 25	- 20	-	-	-	-	- 182
Input slack movement	- 21	- 41	-	- 34	- 9	-	-	-	-	- 105
Input target	167	123	431	337	126	102	146	79	241	1 752
3. Expenditure										
Original input	102 580	53 242	156 774	136 201	59 450	42 692	41 794	50 012	97 649	740 394
Input radial movement	- 34 374	- 10 984	-	- 8 584	- 7 674	-	-	-	-	- 61 615
Input slack movement	-	-	-	-	-	-	-	-	-	-
Input target	68 206	42 258	156 774	127 617	51 776	42 692	41 794	50 012	97 649	678 779
Output: Number of Vehicles maintained/repaied										
Original output	17 457	10 414	35 659	29 684	14 059	12 183	8 519	10 669	23 543	162 187
Output radial movement	-	-	-	-	-	-	-	-	-	-
Slack movement	-	-	-	-	-	-	-	-	-	-
Output target	17 457	10 414	35 659	29 684	14 059	12 183	8 519	10 669	23 543	162 187
DMU peers	**6**	**6**	**3**	**3**	**9**	**6**	**7**	**8**	**9**	

- **Eastern Cape**: as presented in table 11 above, the DEA model shows at the current production level, the province can reduce the number of garages by 8 (radial and slack movements[4]). Moreover, it is possible to reduce personnel by 115 (radial and slack movements) and still maintain the current productivity position. Expenditure is reduced by R34.4 million per year which translates to a total saving of **R103.2 million** over the MTEF.
- **Free State:** The DEA model shows at the current production level, the province can reduce the number of garages by 3 (radial and slack movements). Moreover, it is possible to reduce personnel by 84 (radial and slack movements) and still maintain the current productivity position. Expenditure is reduced by R11 million per year which translates to a total saving of **R33 million** over the MTEF.
- **KwaZulu Natal**: The DEA model shows that at the current production level, the province can reduce the number of garages by 2 (radial and slack movements). Moreover, it is possible to reduce personnel by 59 (radial and slack movements) and still maintain the current productivity position. Expenditure is reduced by R8.6 million per year which translates to a total saving of **R25.8 million** over the MTEF.
- **Limpopo:** the DEA model shows that at the current production level, the province can reduce the number of garages by 1 (radial movement). Moreover, it is possible to reduce personnel by 29 (radial and slack movements) and still maintain the current productivity position. Expenditure is reduced by R7.8 million per year which translates into a total saving of **R23.4 million** over the MTEF.

[1] Technical and scale efficiency scores were calculated using the DEAP software 2.0 available at: https://economics.uq.edu.au/files/3918/DEAP-xp1.zip

[2] In terms of the DEA model, efficiency scores of 1 represent efficient results whilst scores of less than 1 represent inefficiencies. The scores may also be converted into percentages.

Total potential savings: **R185 million** over the MTEF.

Option 2: Reduce personnel and vehicles in inefficient provinces or re-allocate to efficient ones

Table 12. Efficiency[5,6] of crime prevention and crime investigations per province

Provinces	1. Eastern Cape	2. Free State	3. Gauteng	4. Kwa-Zulu Natal	5. Limpopo	6. Mpumalanga	7. North West	8. Northern Cape	9. Western Cape	Total
Model: Crime Prevention and Crime Investigations										
Input 1: Personnel										
Original input	18 556	9 831	32 295	23 771	11 127	9 470	9 119	6 853	19 525	140 547
Input radial movement	- 6 314	- 850	-	- 6 619	- 1 886	- 255	-	-	-	- 15 923
Input slack movement	- 278	-	-	- 1 379	- 85	-	-	-	-	- 1 742
Input target	11 964	8 981	32 295	15 773	9 156	9 215	9 119	6 853	19 525	122 882
Input 2: Expenditure										
Original input	5 799 069	3 230 242	10 220 227	7 336 844	3 420 214	3 020 384	2 774 088	2 112 063	6 119 646	44 032 777
Input radial movement	- 1 973 227	- 279 223	-	- 2 042 851	- 579 708	- 81 234	-	-	-	- 4 956 243
Input slack movement	- 97 324	- 165 900	-	- 360 918	-	- 79 997	-	-	-	- 704 139
Input target	3 728 518	2 785 119	10 220 227	4 933 076	2 840 506	2 859 153	2 774 088	2 112 063	6 119 646	38 372 395
3. Number of Vehicles										
Original input	6 173	4 179	10 137	7 676	3 629	3 114	2 970	2 105	6 983	46 966
Input radial movement	- 2 100	- 361	-	- 2 137	- 615	- 84	-	-	-	- 5 298
Input slack movement	-	- 893.5	-	-	- 22	- 16	-	-	-	- 932
Input target	4 073	2 924	10 137	5 539	2 992	3 014	2 970	2 105	6 983	40 737
Output 1: Number of Crimes Detected through police action										
Original output	20 869	8 313	83 090	54 199	16 920	13 267	12 028	3 316	78 174	290 176
Output radial movement	-	-	-	-	-	-	-	-	-	-
Slack movement	12 641	7 575	-	1 811	-	4 004	-	-	-	26 031
Output target	33 510	15 888	83 090	56 010	16 920	17 271	12 028	3 316	78 174	316 207
DMU peers	**8**	**8**	**3**	**9**	**8**	**8**	**7**	**8**	**9**	

- **Eastern Cape:** as presented in table 12 above, the DEA model shows at the current production level, the province can reduce personnel by 6 592 (radial and slack movements), vehicles by 2 100 (radial and slack movements) and still maintain the current productivity position. Expenditure is reduced by R2.1 billion per year which translates to a total saving of **R6.3 billion** over the MTEF.
- **Free State:** The DEA model shows at the current production level, the province can reduce personnel by 850 (radial and slack movements), vehicles by 1 255 (radial and slack movements) and still maintain the current productivity position. Expenditure is reduced by R445.1 million per year which translates to a total saving of **R1.3 billion** over the MTEF.
- **KwaZulu Natal:** The DEA model shows at the current production level, the province can reduce personnel by 7 998 (radial and slack movements), vehicles by 2 137 (radial and slack movements) and still maintain the current productivity position. Expenditure is reduced by R2.4 billion per year which translates to a total saving of **R7.2 billion** over the MTEF.
- **Limpopo:** The DEA model shows at the current production level, the province can reduce personnel by 850 (radial and slack movements), vehicles by 637 (radial and slack movements) and still maintain the current productivity position. Expenditure is reduced by R580 million per year which translates to a total saving of **R1.7 billion** over the MTEF.
- **Mpumalanga:** The DEA model shows at the current production level, the province can reduce personnel by 850 (radial and slack movements), vehicles by 637 (radial and

[5] Technical and scale efficiency scores were calculated using the DEAP software 2.0 available at: https://economics.uq.edu.au/files/3918/DEAP-xp1.zip

[6] In terms of the DEA model, efficiency scores of 1 represent efficient results whilst scores of less than 1 represent inefficiencies. The scores may also be converted into percentages.

slack movements) and still maintain the current productivity position. Expenditure is reduced by R580 million per year which translates to a total saving of **R1.7 billion** over the MTEF.

Total potential savings: R17.1 billion over the MTEF of which **R2.1 billion** is from vehicles (6 229xR342 000 average cost of a new SAPS vehicle in 2019/20).

Option 3: Reduce or reprioritise personnel at inefficient stations

Table 13. Efficiency[6,7] of selected top police stations

DMU	Original input 1: Personnel	Input Radial and slack Movement	Input Target	Original input 2: Expenditure (R'000)	Input Radial and slack Movement (R'000)	Input Target (R'000)	Original output: Crimes Detected through police action	Input Radial and slack Movement	Input Target
East London	1 223	- 559	664	143 563	- 39 654	103 909	722	0	722
Mount Road	1 168	- 474	694	142 184	- 38 444	103 740	655	0	655
Jhb Central	1 466	- 1 096	370	221 437	- 112 176	109 261	1 885	0	1 885
Pretoria Central	956	- 588	368	184 062	- 75 073	108 989	1 850	0	1 850
Vanderbijlpark	392	- 69	323	137 826	- 24 338	113 488	1 137	0	1 137
Roodepoort	420	- 62	358	119 421	- 12 474	106 947	1 587	0	1 587
Pietermaritzburg	635	- 276	359	149 249	- 42 194	107 055	1 601	0	1 601
Port Shepstone	674	- 313	361	137 928	- 30 415	107 513	1 660	0	1 660
Phoenix	436	- 65	371	127 333	- 17 894	109 439	1 908	0	1 908
Cape Town Central	776	- 382	394	193 528	- 79 484	114 044	2 501	0	2 501
Worcester	500	- 105	395	143 464	- 29 071	114 393	2 546	0	2 546
Oudtshoorn	473	- 105	368	128 685	- 19 743	108 942	1 844	0	1 844
Bellville	487	- 129	358	120 074	- 13 221	106 853	1 575	0	1 575
Total	**9 606**	**- 4 223**	**5 383**	**1 948 754**	**- 534 181**	**1 414 573**	**21 471**	**0**	**21 471**

As reflected in table 13 above, out of the 55 top police stations in terms of budget and volume of serious crimes, the DEA model identified 13 (24%) stations with significant input and radial slacks. Radial and slacks present the weights of improvement or revision required for each DMU to be technically efficient.

The results show that the 13 DMUs may still maintain their respective production frontiers after reducing the number of police officers and expenditure. In other words, the output of 19 896 crimes detected through police action can still be achieved with a revised personnel establishment of 5 383 instead of 9 606 and with a revised budget of R1.4 billion instead of R1.9 billion.

The bulk of reductions will be effected in the following police stations: Johannesburg Central (1096 officials or R112.2 million), Pretoria Central (588 officials or R75.1 million), Pietermaritzburg (276 officials or R42.2 million) and East London (559 officials or R39.7 million).

Total potential savings per year is R534.2 million which translates into **R1.6 billion** over the MTEF period.

[6] 1 Technical and scale efficiency scores were calculated using the DEAP software 2.0 available at: https://economics.uq.edu.au/files/3918/DEAP-xp1.zip

[8]In terms of the DEA model, efficiency scores of 1 represent efficient results whilst scores of less than 1 represent inefficiencies. The scores may also be converted into percentages.

Option 4: The Department should purchase fuel at market related prices

Table 14. Cost per litre of fuel

	Current rate	Fuel value
Cost per litre incurred by SAPS	R16.1	R2.57 billion
Market price	R14.9	R2.33 billion
Potential saving per year		**R223.5 million**

Purchasing fuel in line with market prices can save government R223.5 million per year.

Option 5: The Department should purchase the following vehicle models through the RT57 contract to ensure alignment in prices

Table 15. Vehicle prices (SAPS vs. OCPO)

Vehicle model	SAPS cost per vehicle (Rands)	RT57 (OCPO)[1] (Rands)	Difference (Rands)
BMW X5 XDRIVE50I A/T	4 428 022	940 500	- 3 487 522
VOLVO FH 480 6X4 SLEEP T/T	2 044 215	1 962 732	- 81 483
Total	**6 472 237**	**2 903 232**	**- 3 569 005**

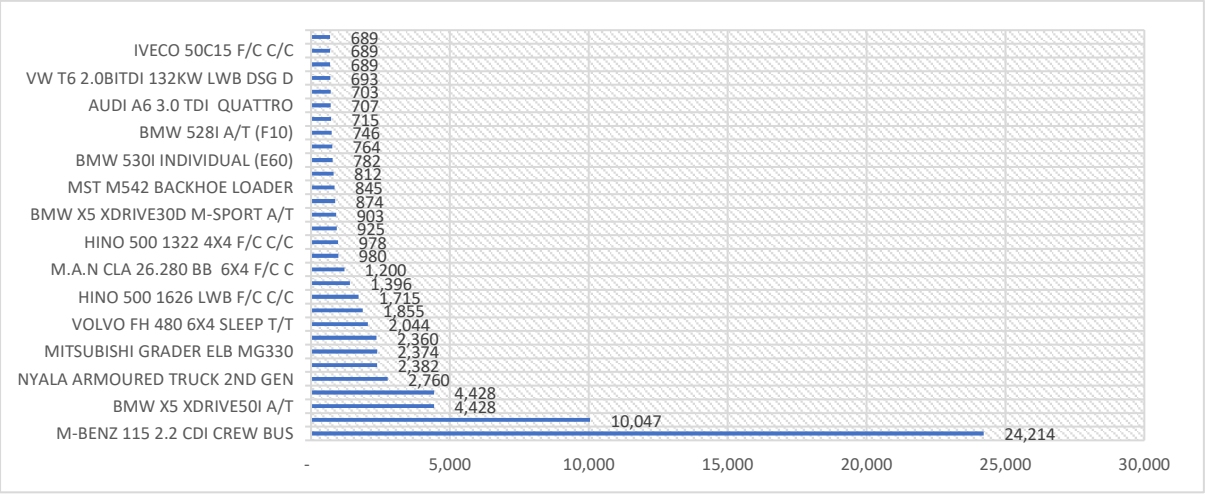
[1]*Amendment 2- RT57-2019 Price Adjustment Update 29 January 2020 issued by OCPO*

There is scope for aligning procurement of certain vehicle models in the department with RT57 pricing. This will generate savings of R3.6 million per year.

Option 6: The department must review its vehicle allocation criteria given the high costs of vehicles at Head Office

Given the shortage of vehicles at certain police stations, the department must reduce the procurement of luxurious vehicles at Head Office. The average cost per vehicle at Head Office is higher than all the provinces owing to the high number of vehicle purchased as well as the vehicle models reflected in figure 14 below.

Figure 14. Cost per vehicle model at Head Office



Source: Transit Solutions

Between 2015/16 and 2019/20, a total of 4 483 vehicles were purchased at SAPS head Office. This represents an average of 897 vehicles per year. Reducing the number of vehicles purchased to 442 per year which is the average figure for provinces will translate into a saving of R137 million per year (442 vehicles x R310 000 average price of new vehicle).

Option 7: The department must increase the number of vehicle maintained externally to save costs

As it is cheaper for the department to maintain vehicles externally, it is proposed that the number of vehicles repaired and maintained by Transit Solutions or another service provider be increased. Potential savings to be achieved are reflected in table 16 below.

Table 16. Potential savings from increasing volume of vehicle maintained externally

	Average number of vehicles repaired/maintained	Sharing vehicles equally	Average cost per vehicle (Rands)	Total costs
SAPS	200 865	113 195	R4 873	113 195x R4 873= R551.6 million
Transit Solutions	25 525	113 195	R3 663	113 195XR3 663=R414.6 million
Total	**226 390**	**226 390**		**Saving: R551.6 million-R414.6 million= R101. per year**

Table 17. Summary of Savings

Item		Savings per year	Over the MTEF
i)	Reducing the number of garages and personnel	R7.8 million	R185 million
ii)	Reducing vehicles from inefficient provinces	R710.1 million	R2.1 billion
iii)	Reducing personnel from inefficient police stations	R534.2 million	R1.6 billion
iv)	Purchasing fuel at market related prices	R223.5 million	R670.5 million
v)	Purchasing vehicles in line with OCPO RT57 pricing	R3.6 million	R10.8 million
vi)	Reducing the number of vehicles procured at Head Office	R137 million	R411 million
vii)	Increasing the number of vehicles maintained and repaired externally	R101 million	R303 million
Total		**R1.2 billion**	**R3.5 billion**

12. Recommendations and Actions

Table 18. Summary of recommendations and actions

Recommendation		Required actions	Responsible person/department
i)	The department must review its vehicle allocation criteria to save costs and enhance service delivery.	Performance review of all divisions utilising vehicles Scrutinise vehicle needs assessments and only allocate vehicles based on efficiency and improved performance	SAPS main divisions
ii)	Operational efficiencies need to be improved in the department's garages.	Consultation with stakeholders such as Transit Solutions (PTY) LTD to review scope of work in relation to vehicle repairs and maintenance Internal workshops and meetings with provinces and supply chain officials	SAPS main divisions, Transit Solutions (PTY) LTD/relevant service provider
iii)	The department should reduce personnel and vehicles at inefficient provinces or re-allocate to efficient ones.	Performance review of all divisions utilising vehicles Scrutinise vehicle needs assessments and only allocate vehicles based on efficiency and improved performance	SAPS main divisions
iv)	It is recommended that the department review it's spending on fuel as the findings of the study show spending on fuel is above market rates.	Strengthening internal controls on utilisation of fuel The department may explore the Transversal contract arrangements on petrol and diesel	SAPS, National Treasury and Department of Transport
v)	The department must explore the use of cheaper models particularly for patrolling cities and urban areas.	Review of vehicle needs assessment per province Use small cars for patrolling cities	SAPS Visible Policing and Supply Chain Management divisions
vi)	It is recommended that personnel and expenditure	Review of underperforming police stations	SAPS

	should be reprioritised from inefficient police stations towards efficient police stations.	Identification of areas where funds can be reprioritised i.e. compensation of employees and transport equipment	

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