Western Cape Government

Western Cape Mobility Department

Western Cape Truck Stop Study

Final Report

December 2023

TABLE OF CONTENTS

TABLE OF FIGURES

LIST OF TABLES

ACRONYMS AND ABBREVIATIONS

ADTT	Average Daily Truck Traffic
CITP	Comprehensive Integrated Transport Plan
DEA&DP	Department of Environmental Affairs and Development Planning
DEDAT	Department of Economic Development and Tourism
DOA	Department of Agriculture
DOI	Department of Infrastructure
DOSD	Department of Social Development
DM	District Municipality
EDC	Engen Diesel Club
GLA	Gross Leasable Area
IDP	Integrated Development Plan
ITP	Integrated Transport Plan
LM	Local Municipality
NMT	Non-motorized transport
PPP	Public-Private Partnership
PT	Provincial Treasury
RSF	Rest and Service Facility
SANRAL	South African National Roads Agency Limited
SDF	Spatial Development Framework
TIA	Traffic Impact Assessment
VIA	Visual Impact Assessment
WC	Western Cape
WCED	Western Cape Education Department
WCG	Western Cape Government
WCGH&W	Western Cape Government Health and Wellness
WCMD	Western Cape Mobility Department

1 Background

1.1 Introduction

There is an ever-increasing demand for road-based freight transport of goods in South Africa due to the steady decline of the national rail infrastructure since the implementation of the Transport Deregulation Act of 1988. Since then, a significant volume of the goods once transported by rail has shifted to road-based transport with profound impacts on the freight industry. The Western Cape, in particular, faces logistical challenges given its location relative to its domestic trading partners. Truck drivers transporting goods to or from the Western Cape cover extremely long distances on a single trip. According to the Western Cape Freight Demand Model 2022 report, 45.7% of Western Cape road freight travels on the N1 road corridor, with an average travel distance of 1 395 km. The availability of adequate resting facilities for truck drivers is crucial for addressing driver fatigue, a major contributory factor to road crashes. Unfortunately it is common for truck drivers to travel long distances without resting, in part due to drivers not having access to adequate resting stops.

The Western Cape Freight Strategy includes Strategic Action 5A-6, which involves assessing the feasibility of developing more truck stops to reduce incidents involving heavy goods vehicles and to promote driver wellness in the Western Cape.

1.2 Status Quo Assessment

A Status Quo Assessment was completed in April 2023 which assessed the provision of rest facilities for truck drivers in the Western Cape. The purpose of the Status Quo Assessment was to conduct a conceptual level assessment of the adequacy of truck stops in the province and the possible need for additional truck stops in certain areas where these would provide value and support Strategic Action Item 5A-6. The Status Quo Assessment formed the basis for the Western Cape Truck Stop Study, which in turn focused on opportunities for improvements to existing or additional truck stop facilities.

The Status Quo Assessment was primarily a desktop study, focusing on a literature review and secondary data analysis with limited primary data collection and analysis. A high-level summary of the findings and limitations of the Status Quo Assessment is presented in Figure 1-1, which led to the development of the Western Cape Truck Stop Study.

Status Quo Assessment

Findings

The Status Quo Assessment provided a desktop examination of the existing fuel station network in the Western Cape and used the Hop Multiplication Metric to identify possible gaps in the network. The Status Quo Assessment identified possible gaps along the N1 and N7 where truck stops are required.

Fuel stations were not classified according to their service provision, therefore fuel stations was used as an umbrella term capturing all facilities that provide refueling services to vehicles.

However, the study noted that each of the 70 identified fuel stations in the Western Cape need to be classified according to their ability to meet the service provision requirements of a facility that can adequately cater for trucks and truck drivers. This deliverable will be addressed in this Western Cape Truck Stop Study.

Limitations

Truck stop and truck driver interviews

- Limited truck stop operator and truck driver interviews.
- Focused on obtaining preliminary insights.
- Preliminary insights would serve as a basis for determining the need for additional stops/improvement thereof in the Western Cape Truck Stop Study.

Stakeholder engagement

- Stakeholder engagement with the broader community or local/district municipalities was outside the scope of the Status Quo Assessment.
- Local and district municipalities and stakeholder groups would be engaged with during the Western Cape Truck Stop Study .

In person primary investigation

- Data on facilities available at fuel stations in the Western Cape was based on third-party sources and literature research.
- An in-depth review of services available at each fuel station that can accommodate trucks in the Western Cape would form part of the Western Cape Truck Stop Study .

Western Cape Truck Stop Study 2023

Figure 1-1: Roadway to developing the Western Cape Truck Stop Study

1.3 Western Cape Truck Stop Study 2023

Following on the Status Quo Assessment of truck stops in the Western Cape, this report addresses the fieldwork, additional desktop research, comprehensive stakeholder engagements and the way forward in understanding and developing a complete network of appropriately developed truck stops in the Western Cape.

1.4 Purpose of the study

The purpose of the study is to finalise the Status Quo Assessment as described in Section 1.2. The study will build on the information presented in the Status Quo Assessment to provide a comprehensive overview of truck stops in the Western Cape.

The final deliverable at the conclusion of the Western Cape Truck Stop Study will be a broad framework for achieving improvements in the status of truck stops in the Western Cape. It includes suggestions for all relevant stakeholders beyond a level of monitoring and support.

1.5 Study deliverables

The deliverables of the study will be to provide:

- A thorough evaluation, documentation, and presentation of the Western Cape truck stop network, incorporating findings from organized field research and interactions to identify network deficiencies and report on them effectively; and
- A validated comprehensive framework for enhancing truck stops in the Western Cape which incorporates strategic and purposeful engagements with key stakeholders.

1.6 Study methodology

The study methodology can be summarised as follows:

Step 1

Confirm **basic truck stop requirements** (building on the relevant content of the Status Quo Assessment).

Step 2

Record the **location and classification** of truck stops in the Western Cape, including **mapping** the additional network opportunities (through structured fieldwork and strategic **stakeholder engagements**.

Step 3

Systematic **stakeholder engagements**, including presenting the findings of the Status Quo Assessment and ground truthing the data recorded in Steps 1 and 2 of the Western Cape Truck Stop Study.

Step 4

Create a high-level **improvement framework** for existing and future truck stops in the Western Cape.

Figure 1-2: Western Cape Truck Stop Study Methodology

1.7 Limitations

The limitations of the Western Cape Truck Stop Study are listed below:

- **Mandate limitations**: The Western Cape Mobility Department (WCMD) can do research and suggest improvements but is limited in terms of practical implementation. The WCMD is not responsible for the development of truck stops in the Western Cape, but rather for the development of a framework within which sustainable truck stop development can take place.
- **Ensuring a sustainable standard**: Truck stops are generally developed by private sector and are market driven, i.e., revenue is generated by fuel sales and not ancillary facilities such as those required for a formal truck stop. At present, the priorities at truck stops tend to emphasise revenue generation over the well-being of truck drivers.

- **Public sector involvement**: Public sector involvement is currently based on statutory approvals on land use applications or access design review by road authorities. Public sector involvement does not go as far as establishing new truck stops where such facilities are required, or adding to the proposed truck stop service provisions when a new development application is submitted.
- **Stakeholder engagement**: The participation and information sharing during the stakeholder engagement process is voluntary, therefore any non-participation or reluctance to share information will limit the amount of information that can be extracted.
- **Hop Multiplication Metric**: The Hop Multiplication is used to identify potential areas for additional truck stops and does not take the following aspects into account:
    - Capacity of the fuel stations under analysis (irrespective of their classification); and
    a. Direction of travel and truck stop access. Therefore, the assumption is made that the truck driver can utilize the truck stop irrespective of the direction in which he/she is travelling and the side of the road along which the truck stop is located.

2 Defining a basic truck stop

2.1 Introduction

The fundamental requirements and definition of a truck stop, and applicable sub-categories were established in the Status Quo Assessment. This section will benchmark and streamline the requirements and definitions identified during the Status Quo Assessment.

2.2 Status Quo Assessment results

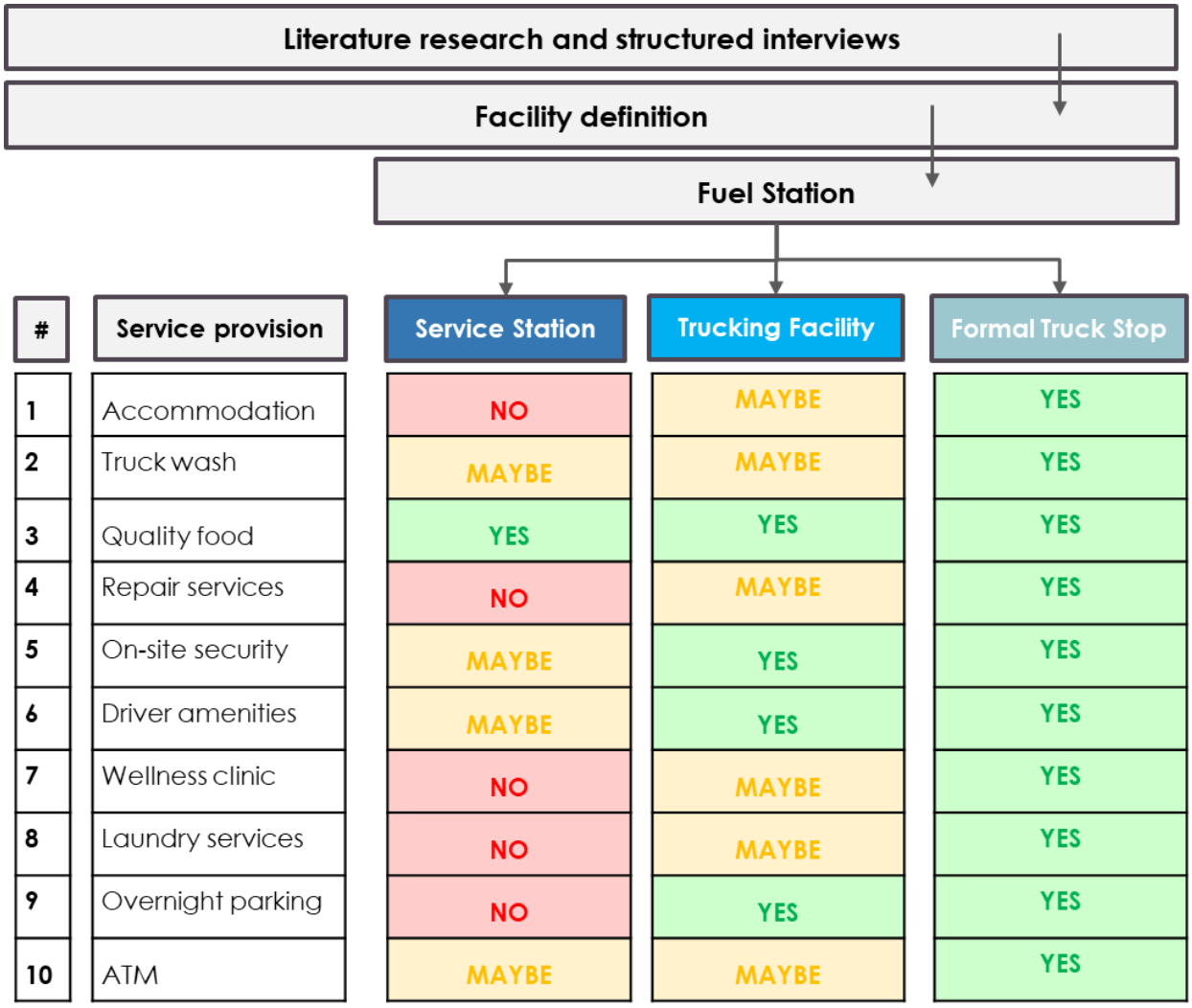
During the Status Quo Assessment, structured interviews with a limited number of trucking companies, truck drivers and truck stop operators provided an understanding of the requirements from both the truck stop users' and providers' perspectives. In combination with literature research, this allowed for the development of different facility definitions and associated service provisions, as illustrated in Figure 2-1.

There are currently no formal requirements for a facility to be called a truck stop in the South African context. Some service stations are called truck stops by their brand or management without offering a full array of facilities and services provided by a conventional truck stop. Fuel stations was used as an umbrella term in the Status Quo Assessment to capture all facilities that provide refuelling services without specific reference to the services offered at these fuel stations.

To address this issue, three categories of fuel stations were developed during the Status Quo Assessment, namely:

- Formal truck stops, such as the Highway Junction Truck Stop in Harrismith adjacent to the N3/N5 junction in the Free State province;
- Trucking facilities, which offer some of the services found at formal truck stops; and
- Service stations such as Engen, Total Energies, Sasol, Astron Energy (previously known as Caltex) and Puma, that provide all drivers with the opportunity to refuel, eat, and rest.

The Status Quo Assessment provided a broad guideline of which services are available at a service station, trucking facility, or formal truck stop. However, the **minimum** requirements of a trucking facility were not established in the Status Quo Assessment as any number of services available at a formal truck stop can qualify a fuel station as a trucking facility.



#	Service provision	Service Station	Trucking Facility	Formal Truck Stop
1	Accommodation	NO	MAYBE	YES
2	Truck wash	MAYBE	MAYBE	YES
3	Quality food	YES	YES	YES
4	Repair services	NO	MAYBE	YES
5	On-site security	MAYBE	YES	YES
6	Driver amenities	MAYBE	YES	YES
7	Wellness clinic	NO	MAYBE	YES
8	Laundry services	NO	MAYBE	YES
9	Overnight parking	NO	YES	YES
10	ATM	MAYBE	MAYBE	YES

Figure 2-1: Status Quo Assessment classifications

2.3 Developing the basic requirements and definitions

The Status Quo Assessment identified three main categories of fuel stations as described in Section 2.2. In this study, a fourth category, namely basic truck stops, is introduced.

The classification of a basic truck stop will be used to determine whether a fuel station can sufficiently accommodate trucks, or not. This classification will be applied to establish the basic truck stop network, as discussed in Section 1.6 (Step 1 of the Methodology).

The classification of a basic truck stop will incorporate the identified requirements highlighted in Section 2.2 and the essential services provided at a truck stop by service provider Engen as a benchmarking exercise. Engen is the service provider with the largest fuel station network in South Africa and therefore a suitable candidate for benchmarking purposes (BusinessTech, 2019). Figure 2-2 illustrates the number of Engen fuel stations in South Africa in comparison to other major service providers. These 6 service providers provide 93% of all fuel stations in South Africa.

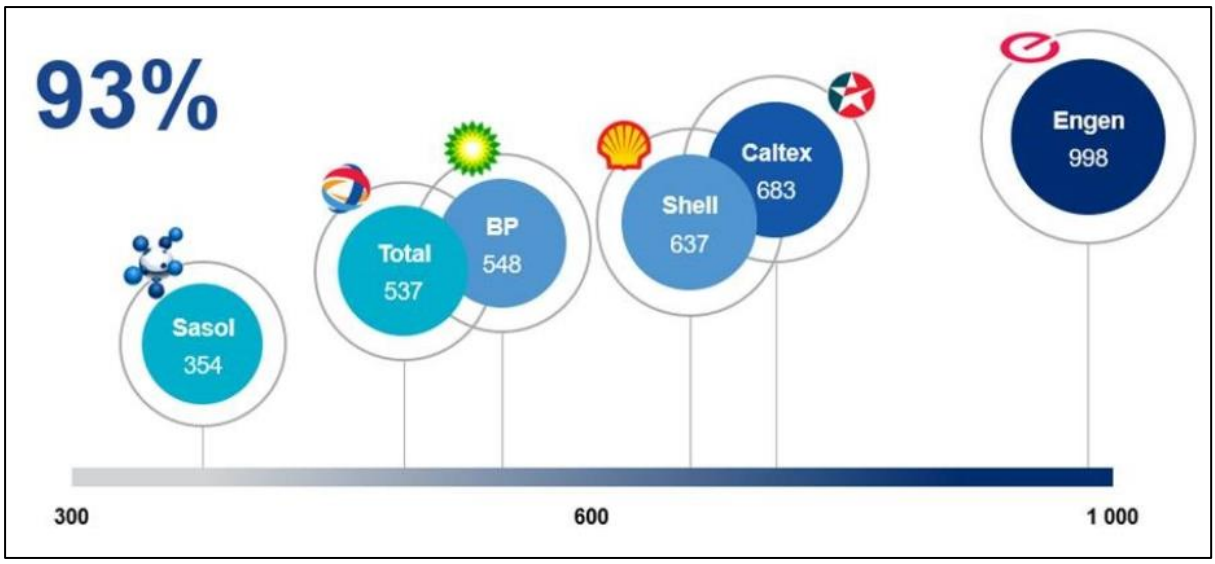


Figure 2-2: Biggest fuel station service providers in South Africa

The service provision at each Engen Truck Stop in South Africa is illustrated in Appendix A - Engen Truck Stops. Incorporation of the Engen truck stop service provisions had two major benefits:

I. It provided a benchmark to compare the requirements identified during the Status Quo Assessment; and

II. It provided a guideline of importance of each requirement identified.

The benchmarking process highlighted that no fundamental requirements identified during the Status Quo Assessment were omitted. This process is illustrated in Figure 2-3.

Figure 2-3: Determining the basic truck stop requirements

The services available at the 13 Engen truck stops, located across 7 provinces in South Africa, is illustrated in Figure 2-4. The information captured in Figure 2-4 is open-source data and therefore freely available.

All services that are present at a minimum of 10 of the 13 truck stops (as indicated **GREEN**) will be included in the minimum set requirements of a basic truck stop in Table 2-1. The following facilities noted at Engen truck stops will not be considered to form part of the basic truck stop requirements (as indicated in **RED**):

- **E-fuel access**: Not deemed as a fundamental requirement;
- **EDC**: Engen Diesel Club is specific to the service provider; and
- **Showers**: Driver toilets are considered to be essential while showers are not a necessity for a fuel station to be able to accommodate trucks.

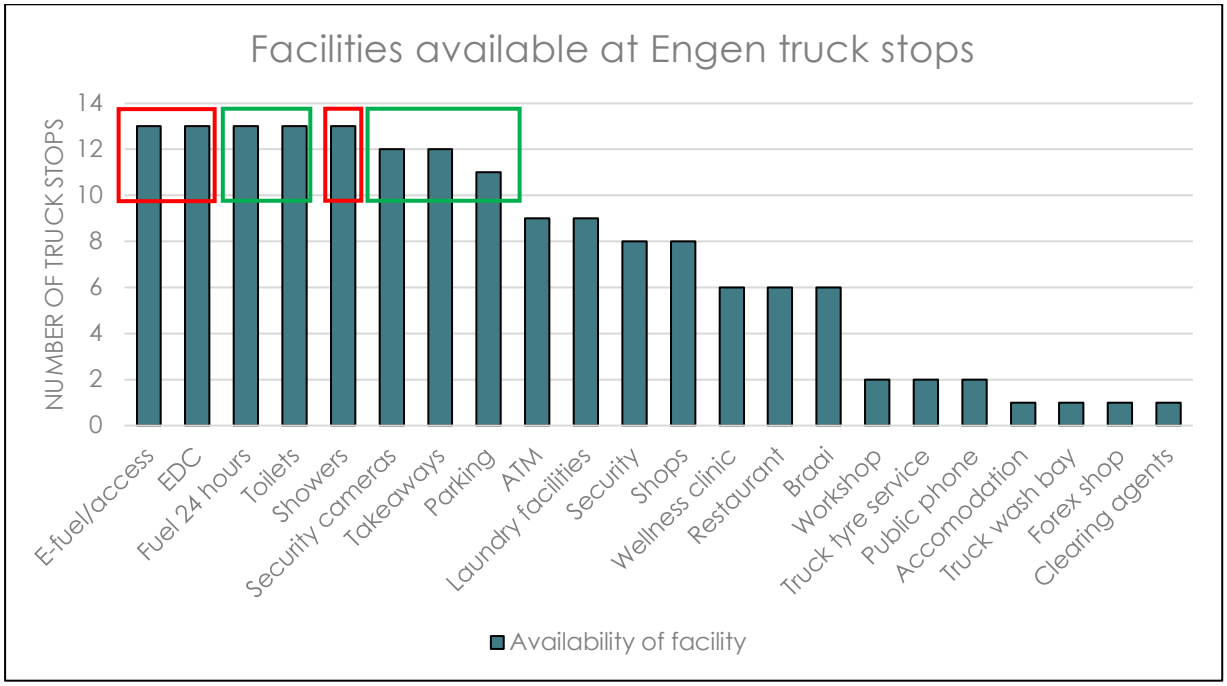


Figure 2-4: Facilities available at Engen truck stops in South Africa

Analysis of Figure 2-1 and Figure 2-4 allows for the benchmarking of a minimum set requirements to establish whether a fuel station can be classified as a basic truck stop, or not. The minimum service provision of a basic truck stop is illustrated in Table 2-1.

Table 2-1: Basic Truck Stop requirements

Service provision	Description	Basic Truck stop
Fuel	Fuel available for trucks	YES
Quality food	E.g., restaurant or takeaways	YES
On-site security	E.g., security cameras or personnel on-site	YES
Driver amenities	Toilets for truck drivers	YES
Parking facilities	Overnight parking facilities for trucks	YES

3 Classification of fuel stations in the Western Cape

3.1 Introduction

To obtain a holistic view of the Western Cape truck stop network, fuel stations were classified into service stations, basic truck stops, trucking facilities, or formal truck stops. The service provision of each fuel station in the Western Cape was established through a questionnaire which allows for the resulting classification of the fuel station. The questionnaire was shared with management of the fuel station and their responses were captured in the fuel station classification database.

3.2 Fuel station classification guideline

The table illustrated in Figure 3-1was used to determine the classification of each fuel station in the Western Cape. The classification criteria were applied as follows:

- **Basic truck stop**: Must meet service provision requirement 1-5;
- **Trucking facility**: Must meet service provision requirement 1-5 and any of the additional requirements;
- **Formal truck stop**: Must meet service provision requirement 1-12; and
- **Service station**: If service provision requirement 1-5 are not met, the fuel station under analysis was automatically classified as a service station.

As illustrated in Figure 3-1, a basic truck stop meets the minimum requirements to serve the trucks and their drivers. The additional services which are found at trucking facilities and formal truck stops are deemed to be not essential. A fuel station must therefore meet the minimum requirements of a basic truck stop before it can be further classified as a trucking facility or formal truck stop.

The classification guideline was also benchmarked with the Safer Stops Association truck stop requirements. The Safer Stops Association is an organisation that has embarked on a mission to form partnerships with existing truck stop owners, government and leaders in the logistics industry. The association does this through health and wellness initiatives, setting industry benchmarks for the standardisation of truck stops, public awareness campaigns and research

and development. All fundamental requirements of a truck stop highlighted by the Safer Stops Association was captured in the 12 service provision requirements listed in Figure 3-1.

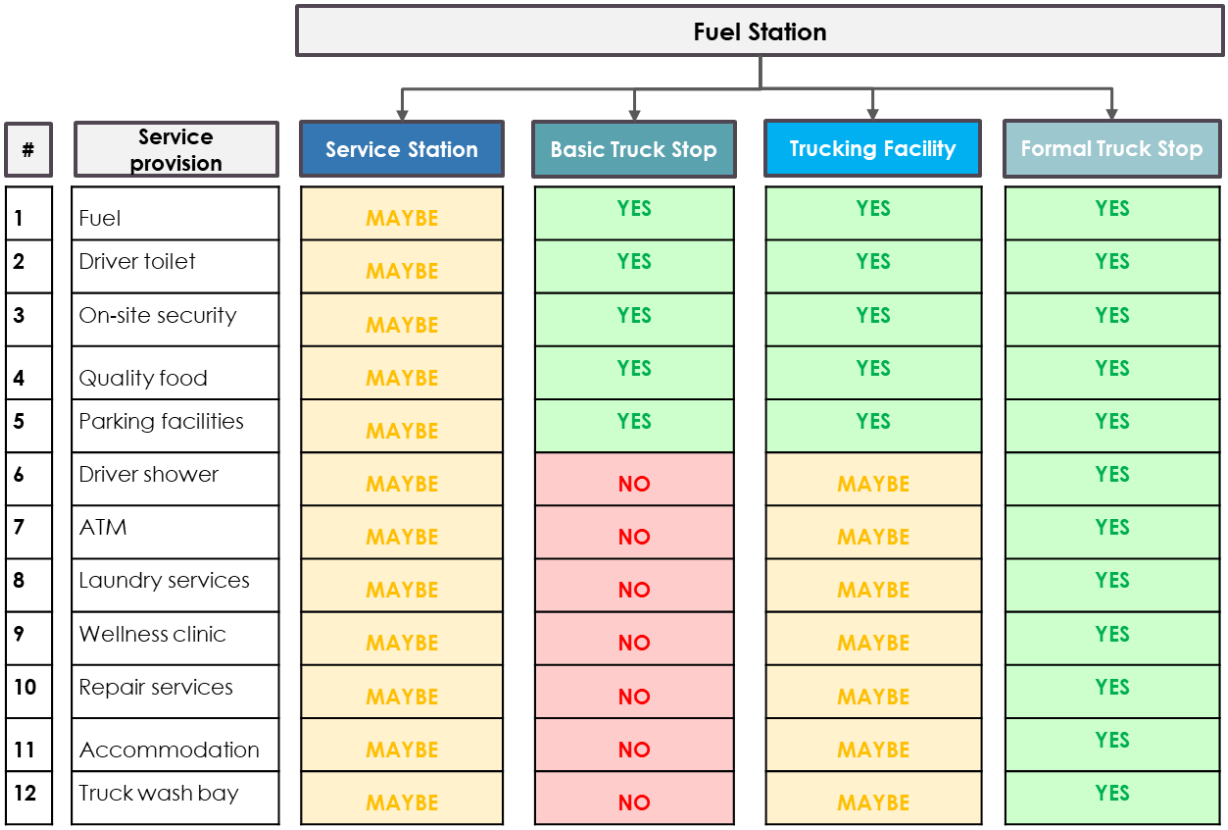


Figure 3-1: Fuel Station classification

3.3 Fuel station classification database

The fuel station classification database was populated using the process illustrated in Figure 3-2. The database identified in the Status Quo Assessment with 70 fuel stations was put through a rigorous desk top data validation process to confirm the status of each facility and capture additional information. One fuel station no longer existed and was therefore removed from the database. Following that process, each fuel station was contacted to obtain information regarding the services provided. A set questionnaire was used to gather the required information of each fuel station and classify it according to the service provision requirements set out in Figure 3-1. The 12-item questionnaire used to classify each fuel station is illustrated in Table 3-1.

The results from the questionnaire were captured in the fuel station classification database. The database contains information such as the fuel station source, name, coordinates, address, contact details, questionnaire results and formal classification of the fuel station. A snapshot of the first 10 fuel stations and overall representation of each classification is depicted

in Figure 3-3. The completed fuel station database is illustrated in Appendix B – Fuel station classification database.

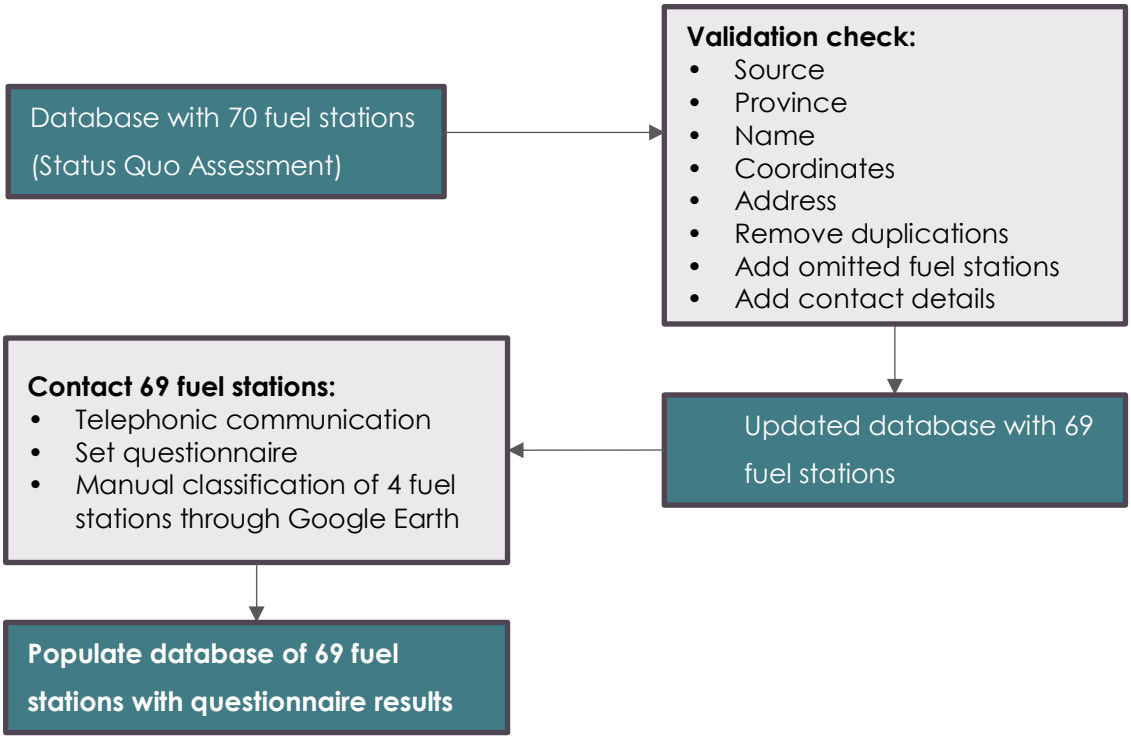


Figure 3-2: Populating the fuel station classification database

Table 3-1: Fuel station questionnaire

No	Question
1	Does the facility have 24/7 truck refuelling services, or do you have certain operating hours?
2	Do you provide toilet facilities to truck drivers?
3	Does the facility have any form of security? Cameras, fences, security personnel etc.
4	Does the facility have food options available to truck drivers?
5	Are trucks allowed to park overnight?
6	Do you provide shower facilities for truck drivers?
7	Is there an ATM on site?
8	Are there laundry facilities on site?
9	Is there a wellness clinic on site?
10	Are there repair services on site?
11	Is there accommodation available for truck drivers on site?
12	Is there a truck wash bay on site?

Fuel Station							Facility provision													Classification of Fuel Station
							Formal Truck Stop													
							Trucking facility													
							Basic Truck Stop													
No.	Source	Name	Latitude	Longitude	Address	Contact details	Truck fuel (12/7)	Truck fuel (24/7)	Driver toilet	On-site security	Quality food	Parking (24 hr)	Driver shower	ATM	Laundry facilities	Wellness clinic	Repair service	Accomm.	Truck wash	
1	Atlantic Oil	Atlantic Oil Depot Caledon	-34.23773828	19.4249702	18 Industrie St, Caledon, 7230	0282123060	1	0	0	1	0	0	0	0	0	0	0	0	0	Service Station
2	Atlantic Oil	Atlantic Oil Moorreesburg	-33.1482253	18.6671954	Moorreesburg, 7310	0224334358	1	0	1	1	0	0	1	0	0	0	0	0	0	Service Station
3	Atlantic Oil	Atlantic Oil Depot Swellendam	-34.05113303	20.42729747	2 Koringland St, Swellendam, 6740	0285141148	1	1	1	1	0	0	0	0	0	0	0	0	0	Service Station
4	Atlantic Oil	Atlantic Oil Depot Worcester	-33.64631188	19.47139537	1 Perkins Street, Worcester, 6850	0230041117	1	1	1	1	1	1	1	0	0	0	1	0	1	Trucking Facility
5	Atlantic Oil	Atlantic Oil - Vredenal	-31.6532437	18.5169383	12 Sirkel Street, Vredendal, Western Cape, 8160	0814601511	1	0	1	1	0	0	1	0	0	0	0	0	0	Service Station
6	Atlantic Oil	Atlantic Oil - Malmesbury	-33.46657392	18.71818673	3 Schoonspruitweg, Malmesbury, Western Cape, 7299	0224821967	1	0	1	1	0	0	0	0	0	0	0	0	0	Service Station
7	Atlantic Oil	Atlantic Oil – Albertinia	-34.2108416	21.5804367	14 Nywerheids Avenue, Albertinia, Western Cape, 6695	0287351543	1	1	1	1	1	1	1	0	0	0	0	0	0	Basic Truck Stop
8	Atlantic Oil	Atlantic Oil – George industria	-33.99196441	22.44497004	1 Saffier Crescent, George, Western Cape, 6529	0835777622	1	1	1	1	1	1	1	0	0	0	0	0	0	Basic Truck Stop
9	Atlantic Oil	Atlantic Oil George	-33.97366866	22.47109715	2 Nelson Mandela Blvd, George Industria, George, 6536	0448759273	1	1	1	1	1	0	0	0	0	0	0	0	0	Service Station
10	Atlantic Oil	Atlantic Oil Truck Inn	-32.36123333	22.55740293	Factory Street, Beaufort West	0234142149	1	1	1	1	1	1	1	0	0	0	0	0	0	Basic Truck Stop

Figure 3-3: Fuel station database snapshot

Classification of fuel station from questionnaire results

3.3.1 Fuel Station classification database results

The results captured in the fuel station classification database provided insightful outcomes. Following the facility definition in Figure 3-1, the facility classification split is illustrated in Figure 3-4.

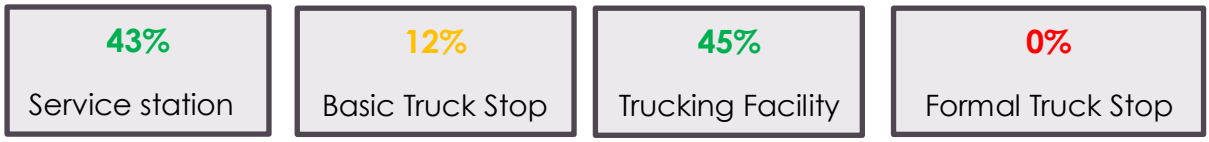


Figure 3-4: Facility classification split

43% (30) of the fuel stations analysed do not meet the minimum requirements to service trucks and their drivers and have subsequently been classified as service stations. The remaining 57% (39) of all fuel stations meet the minimum requirements to service trucks and their drivers.

The basic truck stop requirements have been divided into minor, medium and major limiting factors. If a significant number of fuel stations did not meet a specific basic truck stop requirement, that requirement is considered a major limiting factor. Similarly, if the majority of fuel stations met a specific basic truck stop requirement, that requirement is considered a minor limiting factor.t. The limiting factors that prevent fuel stations to meet the basic truck stop requirements is illustrated in Figure 3-5.

Driver toilets, on-site security and food are minor limiting factors, with the vast majority of fuel stations having these services available. 24/7 operating hours is a medium limiting factor, with 80% (55) of all fuel stations surveyed being open 24/7. A major limiting factor which led to a vast amount of fuel stations not meeting the minimum requirements of a basic truck stop is overnight parking. Only 57% (39)of all fuel stations analysed allow for overnight parking, resulting in a drastic decrease of fuel stations meeting the minimum requirements of a basic truck stop.

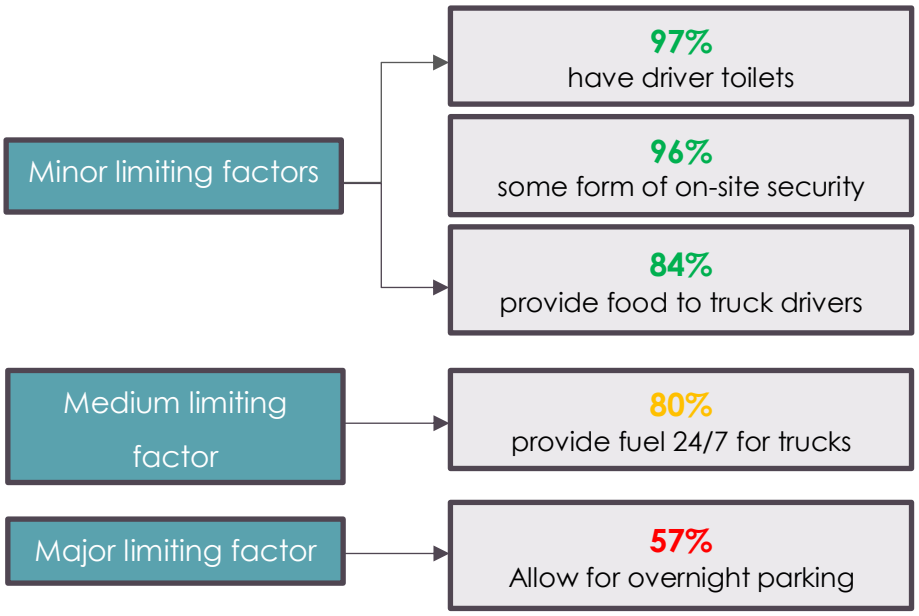


Figure 3-5: Limiting factors

As a major limiting factor, it is important to understand why overnight parking for trucks is not made available at each fuel station in the Western Cape.

Limited space, operating hours, and no specific answer, was put forward by various fuel station management staff and owners as reasons for not allowing trucks to park overnight. A general negative response was observed by most interviewees regarding overnight parking. This negative response was attributed to reasons such as drivers abusing facilities, crime, unsanitary conditions and minimal financial gain for the fuel station. A breakdown of the overnight parking limiting factor is illustrated in Figure 3-6.

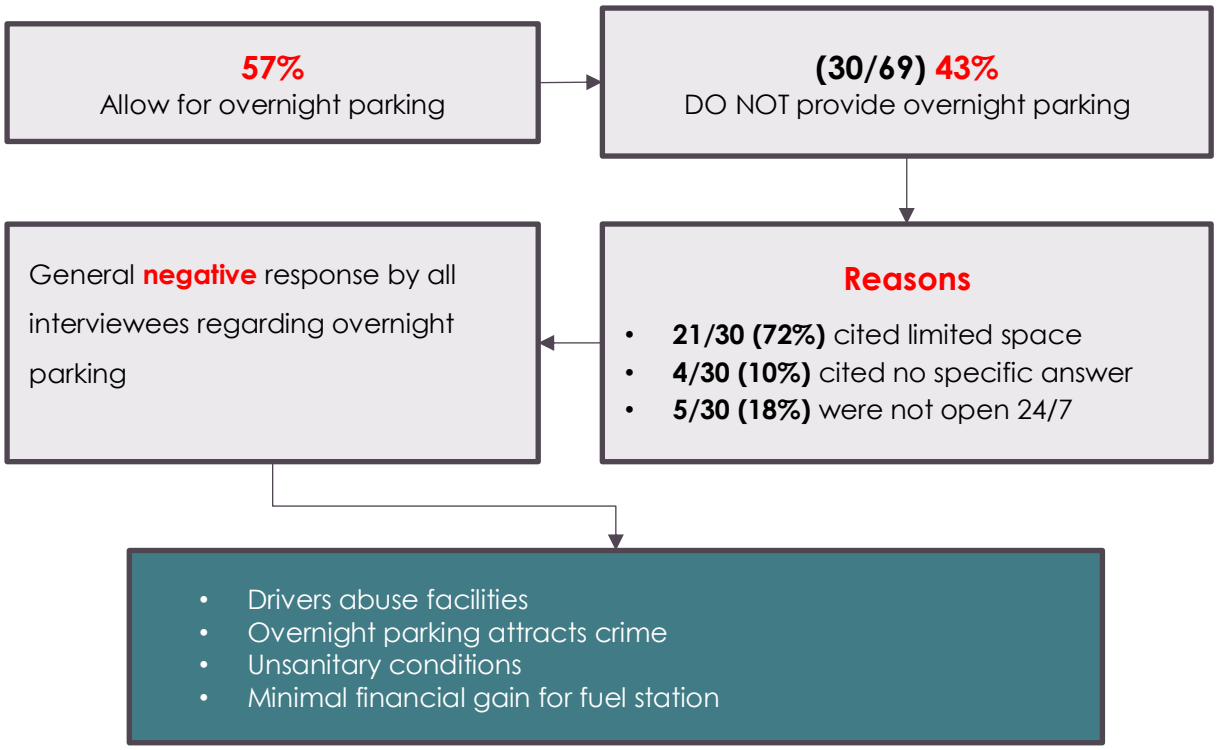


Figure 3-6: Overnight parking analysis

4 Network gap identification

4.1 Introduction

During the Status Quo Assessment, 69 fuel stations were identified and mapped in the Western Cape. The assumption was made that each fuel station could accommodate trucks sufficiently. However, the fuel station database was refined to 39 truck stops during this study. This was done to ensure that the mapping procedure only contains fuel stations that, at a minimum, meet the basic truck stop requirements. Therefore, only basic truck stops, trucking facilities and formal truck stops formed part of the mapping process. This classification and mapping process forms the basis for the identification of network gaps and opportunities in the Western Cape where there is a possible shortage of truck stops.

4.2 Methodology

The updated fuel station database of 39 truck stops in the Western Cape was mapped together with the SANRAL counting stations in the Western Cape. The truck volumes associated with each counting station together with the 39 truck stops formed the input to the Hop Multiplication Metric calculation. The Hop Multiplication calculation used the ADTT (Average Daily Truck Traffic) from each SANRAL counting station in combination with the location of each counting station and 39 truck stop locations to identify possible network gaps in the Western Cape. This metric is described in Section 4.5.

The network gaps identified through the Hop Multiplication Metric was validated through a detailed desktop analysis using aerial view imagery to identify any omitted truck stops. The following areas were subject to the validation process:

- Areas where gaps were identified through the Hop Multiplication Metric calculation; and
- Additional areas of interest identified by truck stop management during telephonic conversations with management of the 69 fuel stations in the Western Cape.

The fuel station classification database was updated to include any omitted/misclassified truck stops identified during the validation process. The Hop Multiplication Metric calculation was then re-applied to the updated database to produce an updated representation of possible network gaps. This iterative process continued until all network gaps have been verified. The methodology is illustrated in Figure 4-1

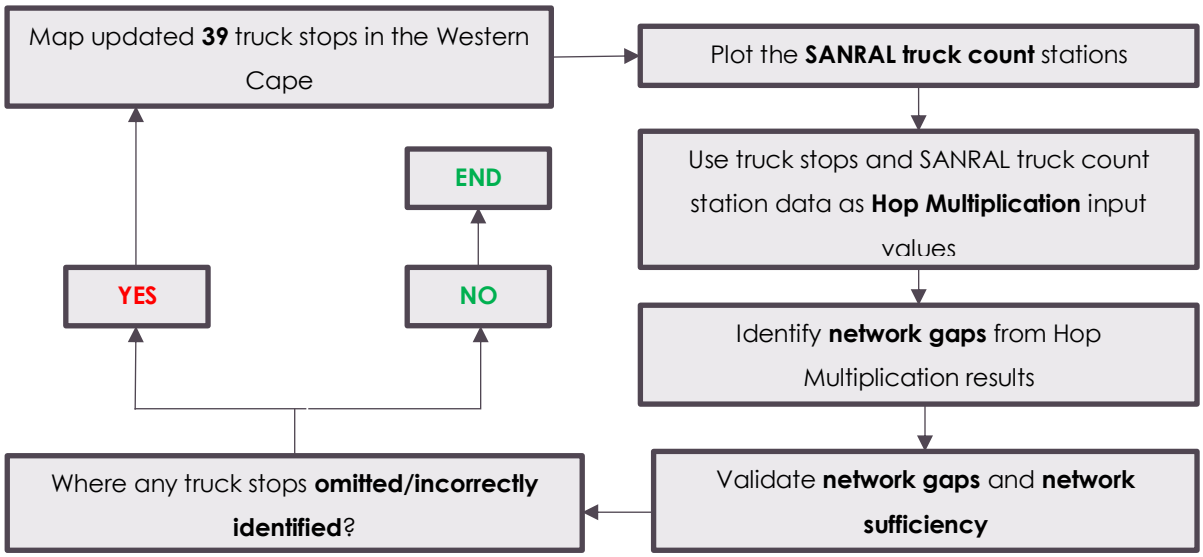


Figure 4-1: Network gap identification methodology

4.3 Truck stop mapping

The map of the 39 truck stops under analysis is illustrated in Figure 4-2. The 39 truck stops are all located in the Western Cape and consist of:

- Fuel stations identified during the Status Quo Assessment that have now been classified according to Figure 3-1 (refer to 'Truck stops analysed' in Figure 4-2); and
- Additional truck stops identified during the Western Cape Truck Stop Study (refer to 'New' in Figure 4-2).

The fuel stations that did not meet, at a minimum, the basic truck stop requirements (refer to 'Excluded' in Figure 4-2) have been excluded from the Hop Multiplication calculation process. The first truck stops outside the Western Cape along the N1, N2 and N7 have been included in the Hop Multiplication calculation process to prevent the identification of possible network gaps close to the border of the province when a truck stop is located just outside the province boundary.

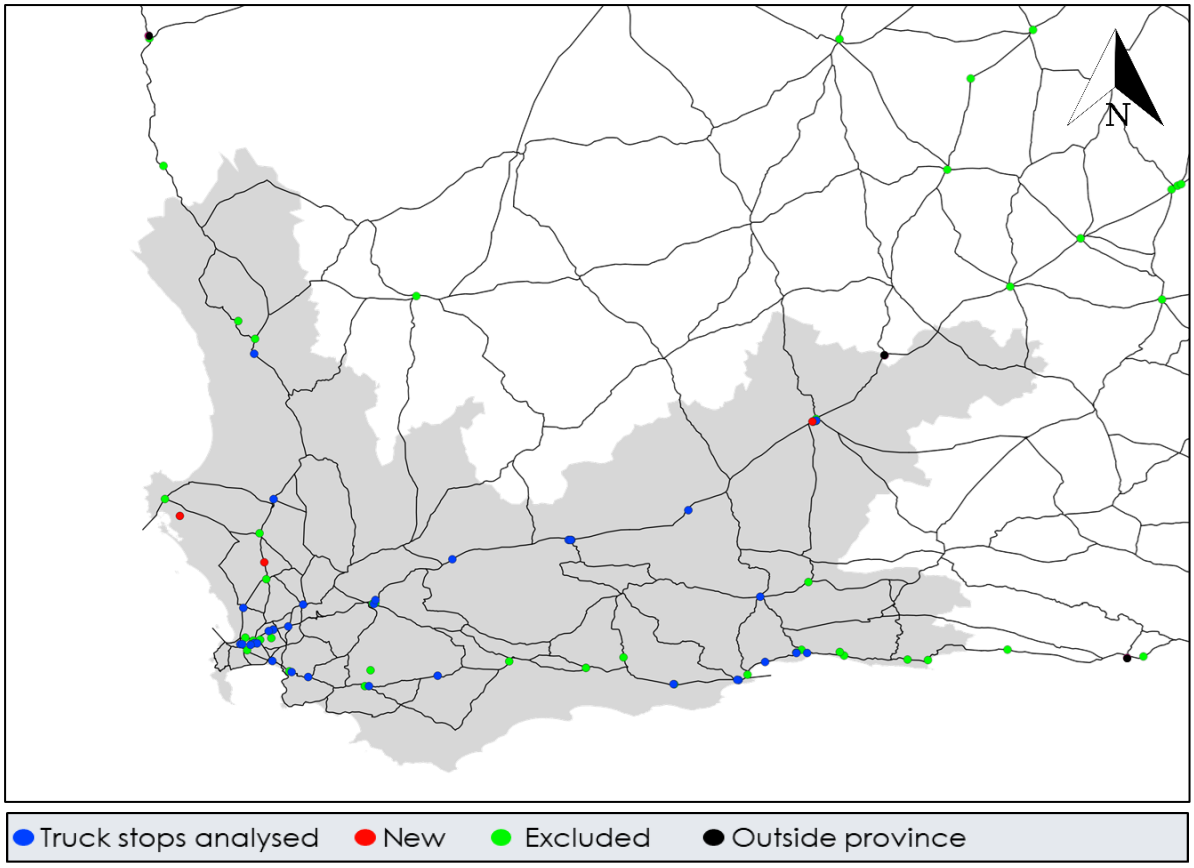


Figure 4-2: Truck stops in the fuel station classification database

4.4 SANRAL truck counts

SANRAL vehicle count data was considered to reflect the truck volumes and potential demand for truck stops in the Western Cape. Figure 4-3 shows the SANRAL vehicle counting stations within the Western Cape and the distribution around the N1, N2, N7 and other major corridors. Each SANRAL vehicle count station in Figure 4-3 was matched with its nearest truck stop in Figure 4-2.

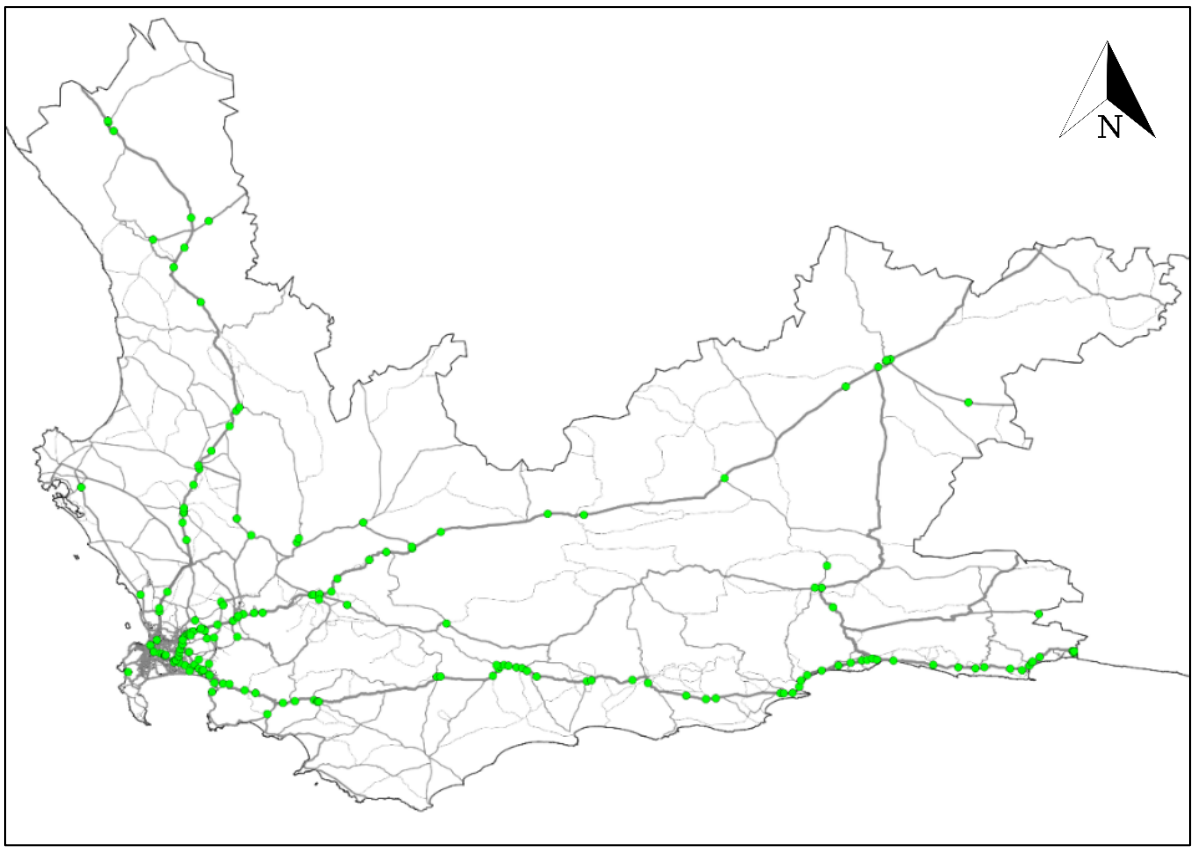


Figure 4-3: SANRAL vehicle counting stations within the Western Cape

4.5 Hop Multiplication Metric for truck stop intensity

The Hop Multiplication Metric is a method used to calculate a truck stop intensity indicator based on truck volumes, the number of truck stops and distance. The metric evaluates truck volumes at a vehicle counting station and the distance to the closest truck stop from that counting station. It then looks at the distance to all other truck stops, from that truck stop. For this study, this process was followed up the third nearest truck stop from the counting station, resulting in a 1, 2 and 3 Hop Multiplication Metric. Using this indicator, a determination was made as to whether there are sufficient truck stops available on a route.

The Hop Multiplication formula is utilised as follows:

$$\left.\begin{aligned} H_n^i &= T_i d_i && \text{for n} = 1 \\ H_n^i &= T_i d_i \prod_{j=1}^{n-1} D_j^{t_i^*} && \text{for n} > 1 \end{aligned}\right\}$$

Where:

- ADTT, T_i, at counting station, i
- Distance, d_i, to the nearest Truck stop, t_i^*
- Distance from t_i^* to next jth closest truck stop, $D_j^{t_i^*}$

It is important to note that the Hop Multiplication Metric only relates to the truck stop density and is direction blind. The metric does thus not take the capacity of the facility or on which side of the road the facility is located into account.

4.5.1 Hop Multiplication calculations

To determine the truck stop intensity in the Western Cape, a 1, 2 and 3 Hop Multiplication metric was calculated.

4.5.1.1 1 Hop Multiplication Metric

Each SANRAL truck count's Average Daily Truck Traffic (ADTT) is multiplied by the distance to its nearest truck stop. This results in SANRAL counting stations with large daily truck traffic and far distances to its nearest truck stop having a large resulting metric. This is illustrated in

Figure 4-4.

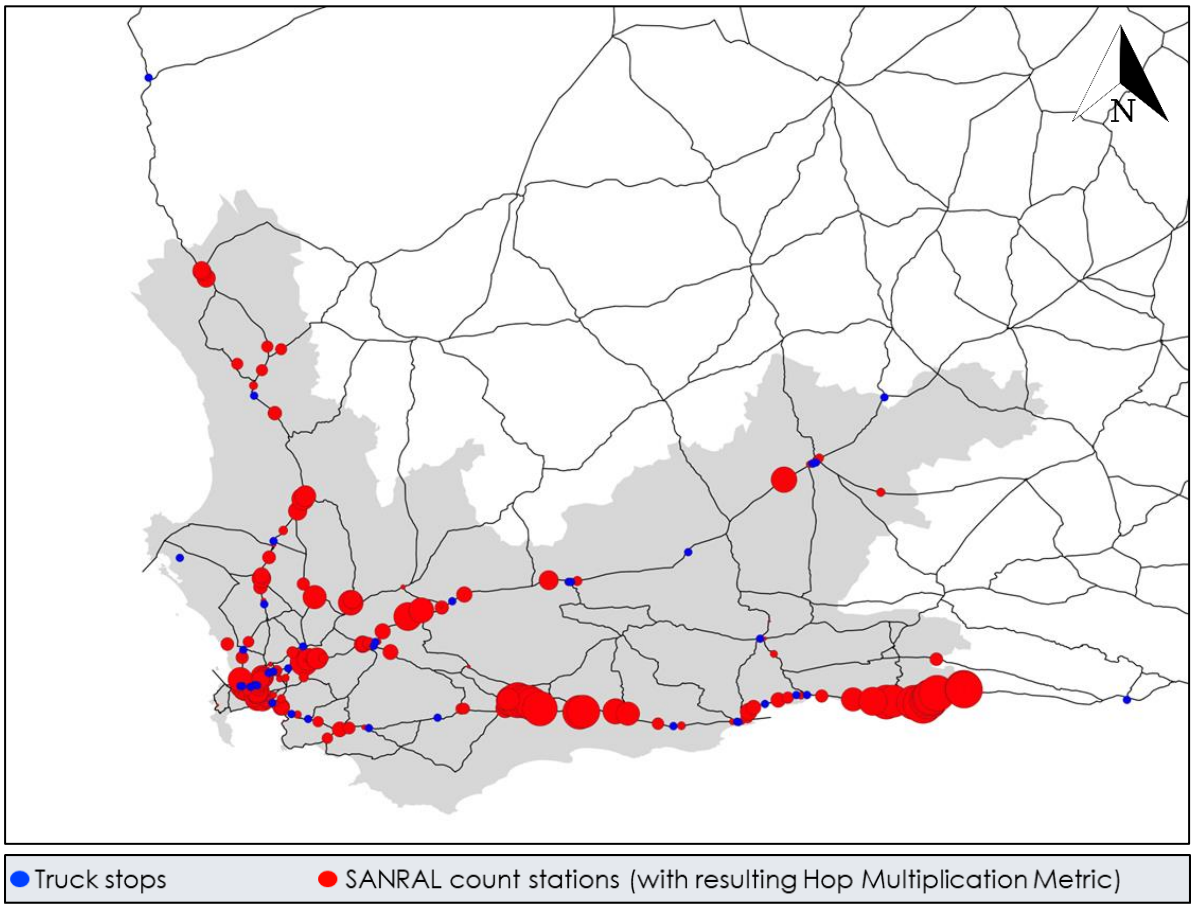


Figure 4-4: Result of the 1 Hop Multiplication Metric

This results in almost every location having a similar metric score, especially with large volumes in the city. This is because the metric of areas close to the city centre is the product of short distances and high ADTT volumes while the metric in remote areas are the product of long distances and lower ADTT volumes. However, locations in the city can utilise multiple truck stops

in the near vicinity and are not comparable to locations in more remote areas with fewer alternative truck stops available. Therefore a 2 Hop Multiplication Metric was also considered.

4.5.1.2 2 Hop Multiplication Metric

This is the result of the 1 Hop Multiplication Metric multiplied by the distance to the second nearest truck stop, measured from the counting station location. This is to try to account for a truck missing a truck stop, or not being able to utilise a truck stop, and having to consider the next alternative. The 2 Hop Multiplication Metric results are depicted in

Figure 4-5.

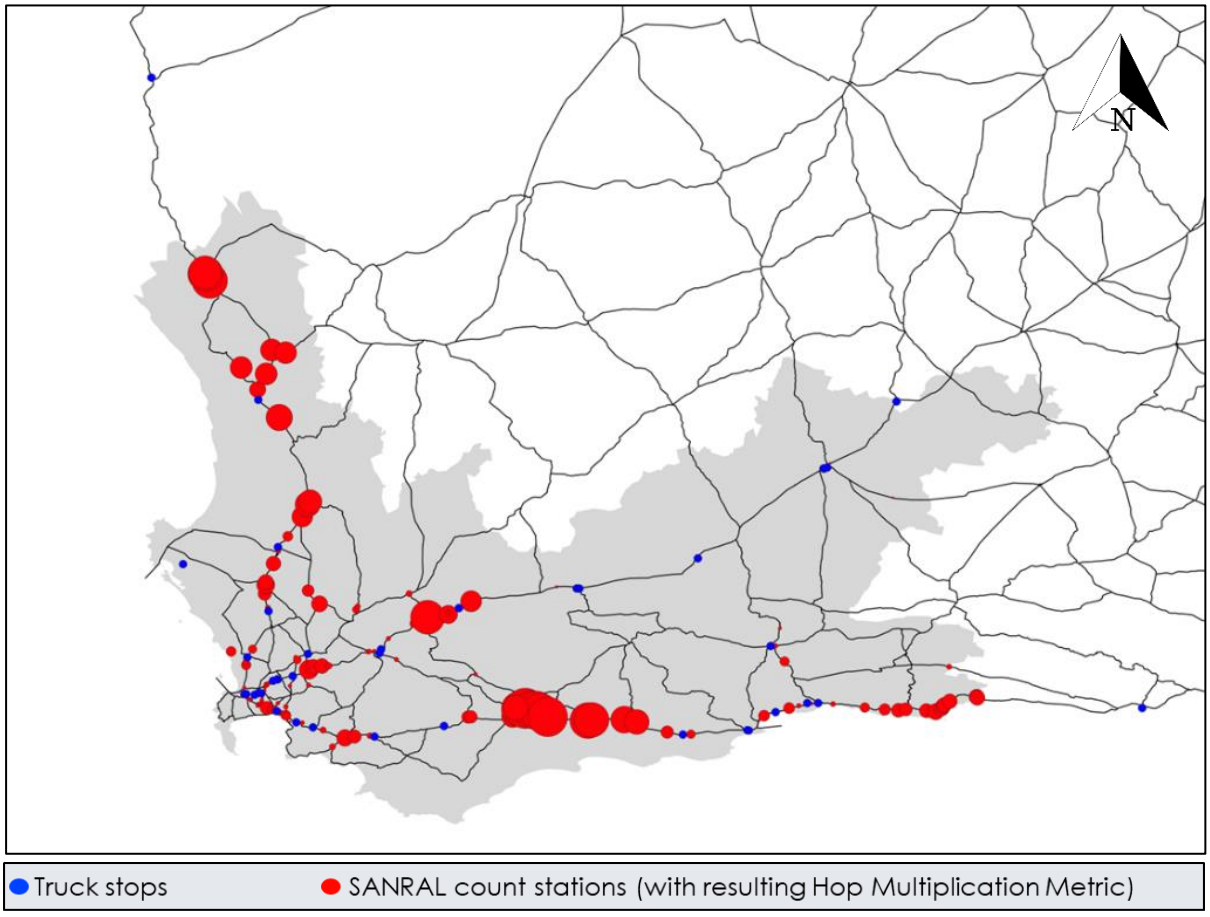


Figure 4-5: Result of the 2 Hop Multiplication Metric

4.5.1.3 3 Hop Multiplication Metric

A final 3 Hop Multiplication Metric was considered and is illustrated in

Figure 4-6. It is important to note that multiple Hop Multiplication Metric markers are not so important, as they are linked to the SANRAL count station locations. However, the size of the metric (diameter) is directly correlated to the Hop Multiplication Metric value which indicates possible demand for a truck stop in that location.

Unfortunately, without detailed information available on the facility capacity of the various truck stops, considering many alternatives might not be necessary as the Hop Multiplication methodology treats all truck stops as equal. Some truck stops can handle considerably more trucks and might be equivalent to 2 or 3 smaller truck stops, and thus the Hop Multiplication Metric beyond 3 was not considered until additional data on truck stops is available.

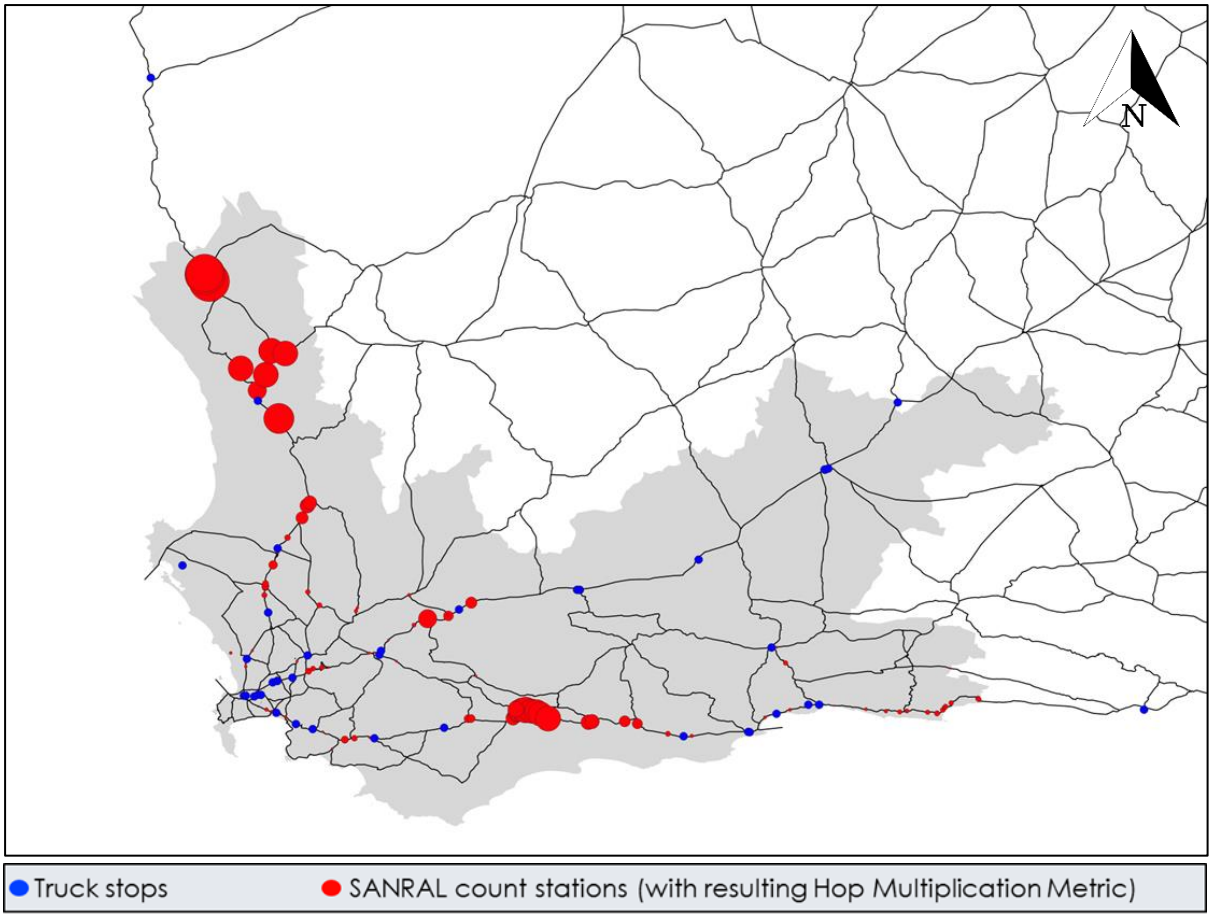


Figure 4-6: Result of the 3 Hop Multiplication Metric

4.5.2 Summary of findings

The Hop Multiplication metric provides a fundamental understanding of potential gaps in the truck stop network through analysis of the truck stop locations and ADTT on the Western Cape road network.

The results of the analysis identified the possible need for additional truck stops in two areas, circled in red, as shown in Figure 4-7. A third area of interest is circled in green. The Hop Multiplication Metric identified the area in green as an area of network sufficiency (no need for additional truck stops). However, telephonic conversations with truck stop management along that section of the N2 indicated that there might be a need for additional truck stops.

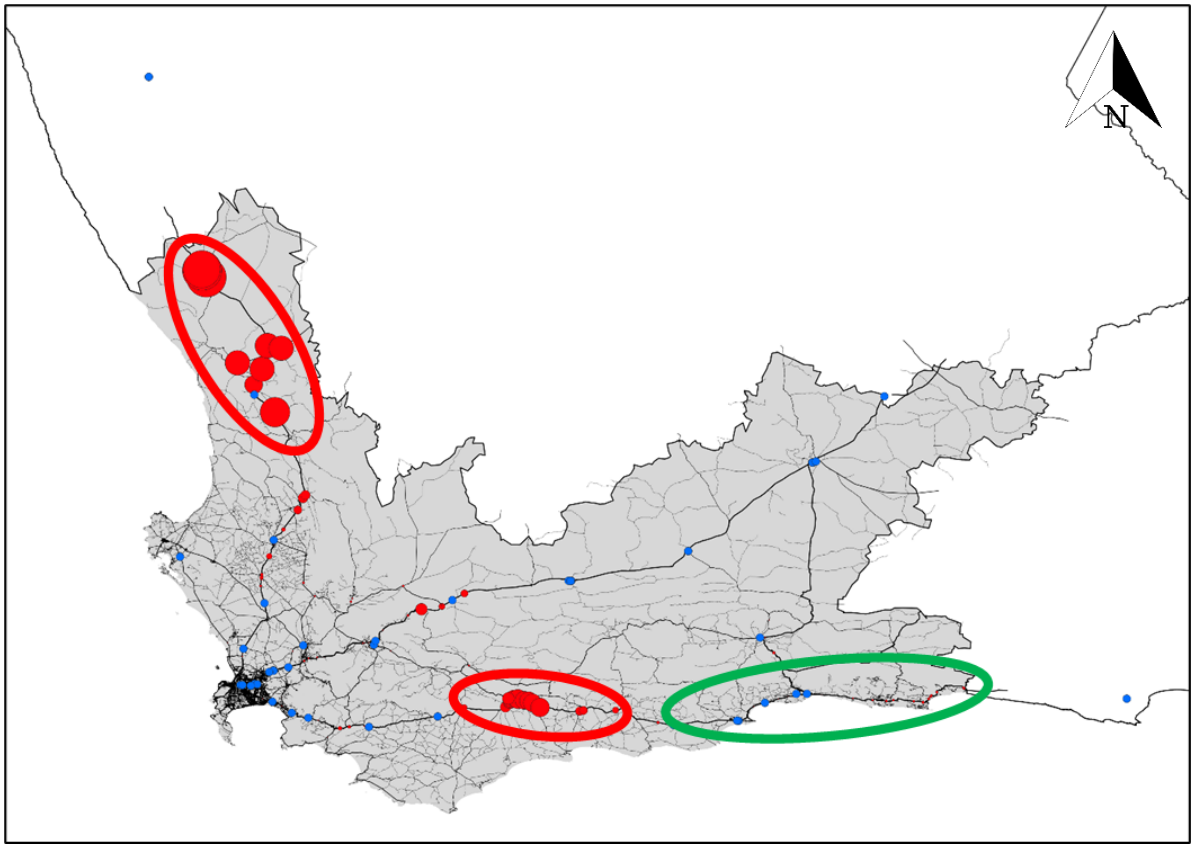


Figure 4-7: Potential areas for truck stops in the Western Cape

The results of each circled area (red and green) was validated through a screening process to ensure no truck stops were omitted/misclassified. The fuel station classification database was then updated after the validation process of all three areas of interest and the Hop Multiplication Metric was recalculated. This process is discussed in Section 4.6.

4.6 Final Hop Multiplication metric for truck stop intensity

During this phase of the study the results obtained from the 3 Hop Multiplication Metric was validated and updated. After a manual check of all truck stops in the areas of interest, the fuel station classification database and Hop Multiplication Metric results were updated.

4.6.1 Validation of network gaps and areas of interest

After the three areas of interest were identified through the Hop Multiplication results, the truck stops in each area were validated. The validation process consisted of the following 2 elements:

- Review of the current truck stops in the area of interest to ensure no truck stops have been incorrectly identified; and
- Manual aerial review of the area of interest to ensure no truck stops were omitted.

The process for validation of network gaps and areas of interest process followed is illustrated in Figure 4-8.

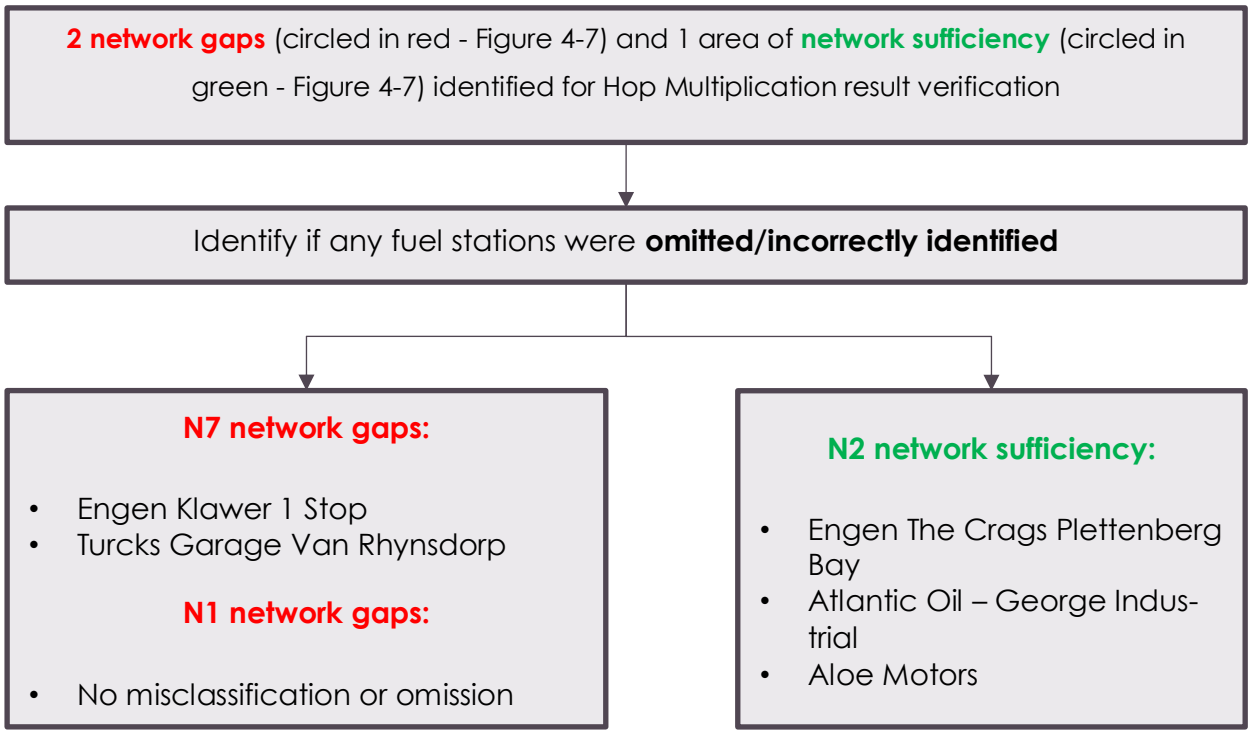


Figure 4-8: Validation of network gaps and areas of interest

The changes identified through the process is illustrated in Table 4-1.

Table 4-1: Network validation results

Road	Fuel station	Reason	Action	Comment
N7	**Engen 1 Stop - Klawer**	Misclassified	Change classification from fuel station to trucking facility.	Manager allows for overnight parking.
	Turcks Garage - Van Rhynsdorp	Omitted	Add trucking facility to database.	Facility was omitted from the original database.
N1	**No misclassification or omission**			
N2	**Engen - The Crags**	Omitted	Add trucking facility to database.	Facility was omitted from the original database.
	Atlantic Oil – George Industrial	Misclassified	Change classification from basic truck stop to fuel station.	Manager only allows for overnight parking of Atlantic Oil vehicles.
	Aloe Motors - Albertinia	Omitted	Add trucking facility to database.	Facility was omitted from the original database.

4.6.2 Updated fuel station database

The network validation process resulted in additional fuel stations added to the fuel station classification database. This resulted in a total of 72 fuel stations included in the updated fuel station database. The fuel station database updates listed in Table 4-1 were incorporated in the final Western Cape fuel station database in Appendix B – Fuel station classification database.

A total of 7 fuel stations met the basic truck stop requirements; 35 met the trucking facility requirements; and 30 fuel stations were classified as service stations. The Highway Junction in Harrismith (adjacent to the N3/N5 junction in the Free State province) is the only truck stop in South Africa that meets the formal truck stop requirements as defined in this study. A summary of results from the final Western Cape fuel station database is illustrated in Figure 4-9.

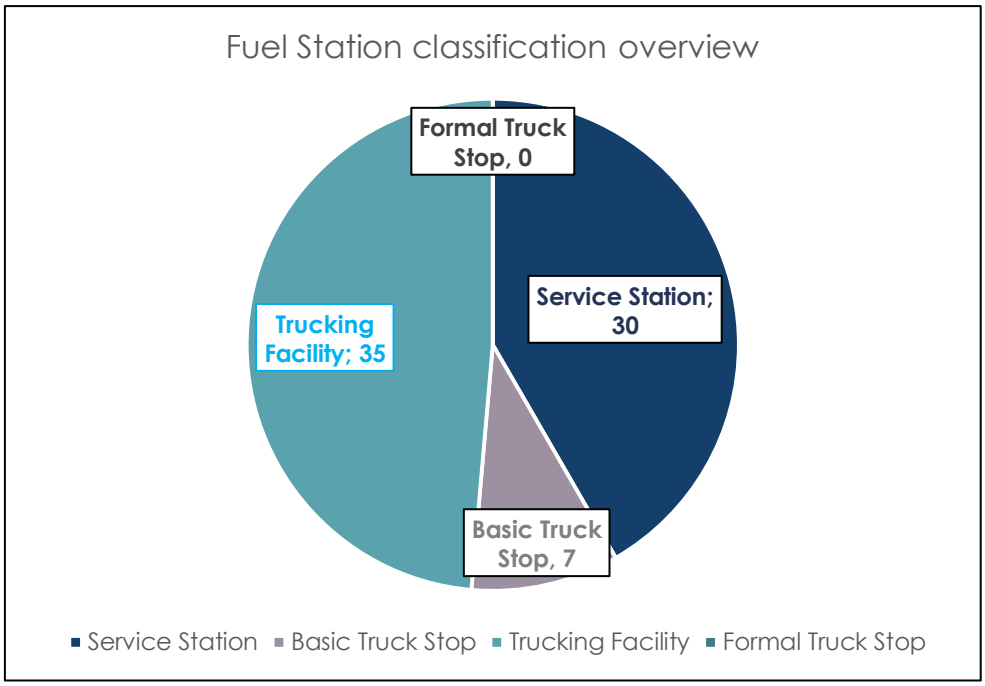


Figure 4-9: Fuel station classification overview

4.6.3 Summary of final findings

The final iteration of the Hop Multiplication process produced an updated network gap analysis with a validated truck stop network. The summary of the final findings consists of the following elements:

- Updated truck stop map for the Western Cape;
- 1, 2 and 3 Hop Multiplication Metric results; and
- Updated network gaps from the 3 Hop Multiplication results.

The updated truck stop map for the Western Cape is illustrated in Figure 4-10. This map represents all fuel stations in the Western Cape that can be classified as either a basic truck stop, trucking facility or formal truck stop. The map correlates with the basic truck stops, trucking facilities and formal truck stops in the updated fuel station classification database presented in Appendix B – Fuel station classification database.

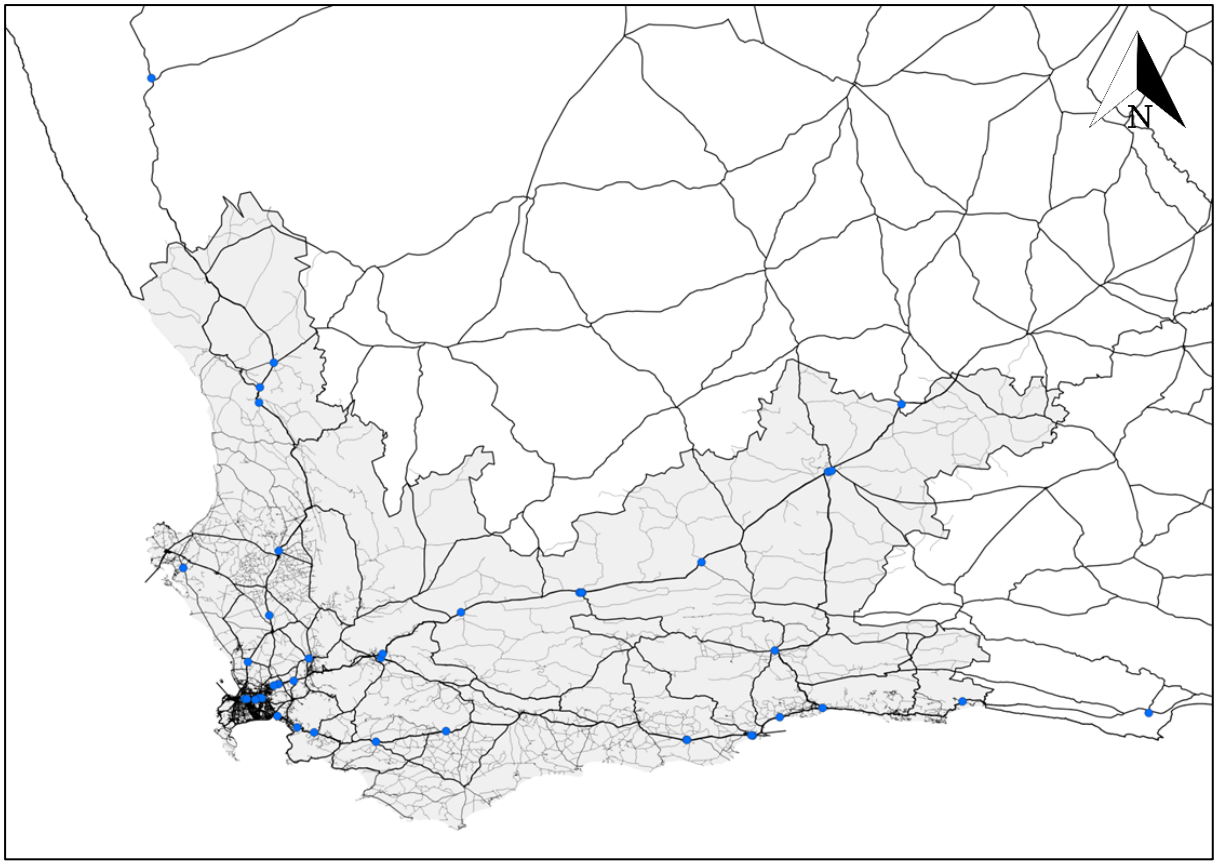


Figure 4-10: Updated truck stop map for the Western Cape

The Hop Multiplication Metric was applied to the updated fuel station classification database following the same iterative steps discussed in Section 4.5 to produce the 1, 2 and 3 Hop Multiplication Metric results for the Western Cape. The results for the 1, 2 and 3 Hop Multiplication Metric are illustrated in Figure 4-11.

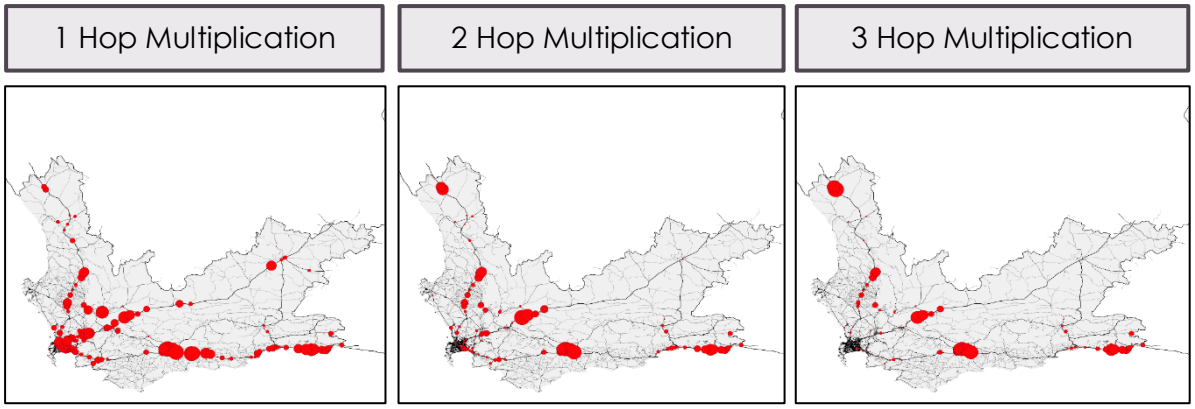


Figure 4-11: Updated Hop Multiplication results

The updated Hop Multiplication Metric results in Figure 4-11 can be misread as indicating an increase in areas with potential demand for truck stops following the network gap validation. However, each subsequent iteration of the Hop Multiplication Metric has a scale relative to itself and should not be compared with other iterations. This is due to the fact that the Hop Multiplication Metric results are relative to the comparative value of the highest Hop Multiplication Metric value of the given iteration (scenario). The largest metric (circle size) is therefore scenario (iteration) specific. The results should therefore be viewed as a comparative need for truck stops per scenario (iteration) rather than a definite indication of a need to construct truck stops in the relevant area.

The final 3 Hop Multiplication Metric results for the top 20 counting stations is included in Appendix C – Hop Multiplication results. The final 3 Hop Multiplication Metric for the Western Cape indicating possible demand for additional truck stops is illustrated in Figure 4-12. Possible demand for additional truck stops have been circled in red along the N1, N2 and N7. An enlarged map of the 5 areas of interest is attached in Appendix D – Areas of interest. These areas have been ranked according to importance in Table 4-2 based on the highest resultant Hop Multiplication Metric values. The rank (priority), associated highway, town, local and district municipality of each area is illustrated in Table 4-2.

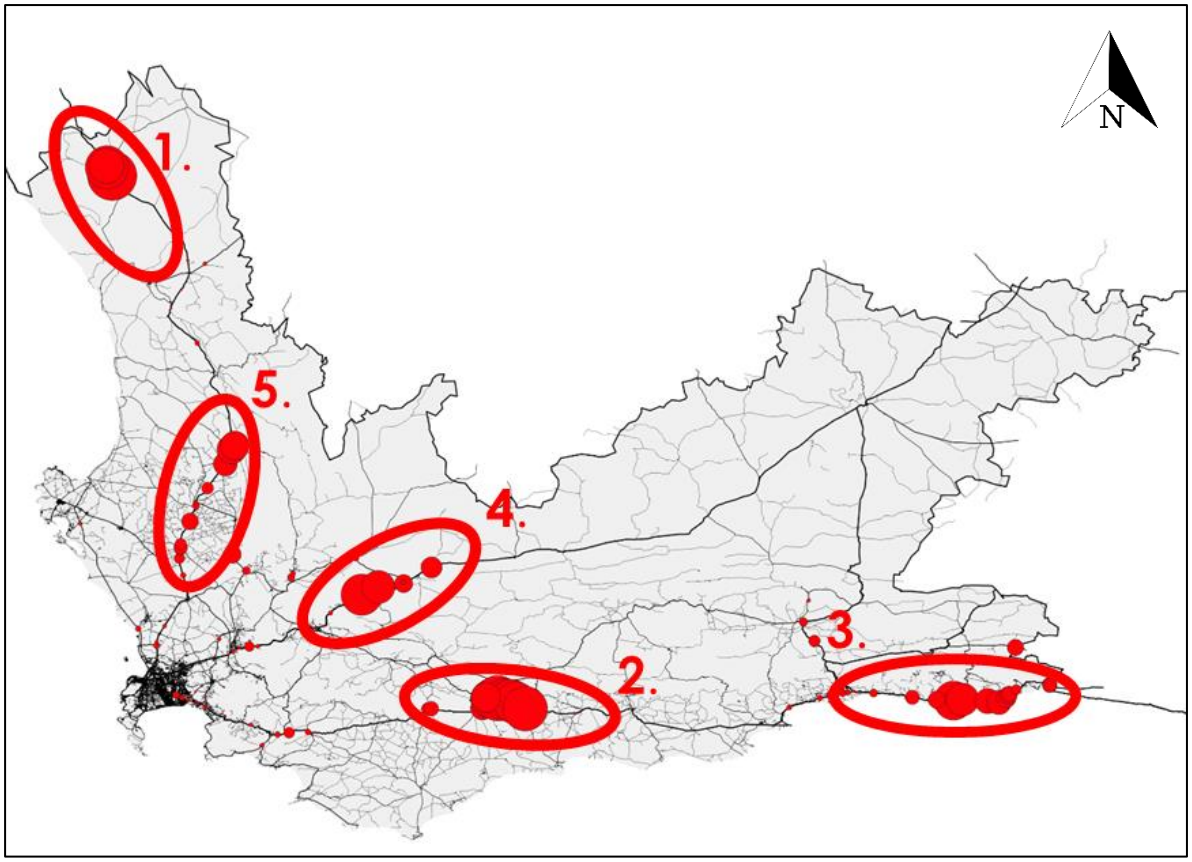


Figure 4-12: Final 3 Hop Multiplication Metric results

Table 4-2: Hop Multiplication results and rank of importance

Priority	Highway	Nearest town	Local Municipality	District Municipality
1	N7	Nuwerus	Matzikama	West Coast
2	N2	Swellendam	Swellendam	Overberg
3	N2	Knysna	Knysna	Garden Route
4	N1	De Doorns	Breede Valley	Cape Winelands
5	N7	Citrusdal	Cederberg	West Coast

4.6.4 Hop Multiplication Metric limitations and application considerations

The final 3 Hop Multiplication Metric results indicated 5 areas of possible demand for additional truck stops. However, the Hop Multiplication Metric results should not be taken as a definite indication that truck stops are required in the identified areas as the Hop Multiplication does not take facility capacity into account. Some facilities can accommodate 2 to 3 times the truck volume of other facilities.

During the Status Quo Assessment, it was determined that a truck driver should stop to rest every 2 hours or 200 - 400 km's. Figure 4-13 illustrates the distance between truck stops in each of the 5 network gaps identified measured along the road length. Each potential network gap identified during the Western Cape Truck Stop Study is less than 400 km. However, the conclusion cannot be made that there are sufficient truck stops available, as it will rely on the following assumptions to be valid for the entire study area:

- The truck passes through the identified network gap, passing through the truck stops at the end and start of the potential network gap identified. This is not always the case as vehicles can enter/leave the network gap at any available turnoff, therefore extending their total travel distance during which a truck stop is not available to the driver.
- The truck driver does not miss a stop along his/her route.
- The truck driver can utilize each of the stops (no capacity constraints at any of the stops).

It is therefore of critical importance that the results are shared with the relevant local and district municipalities to gain an overview of the situation on the ground. This will allow the Hop Multiplication Metric results to be validated through first person observation.

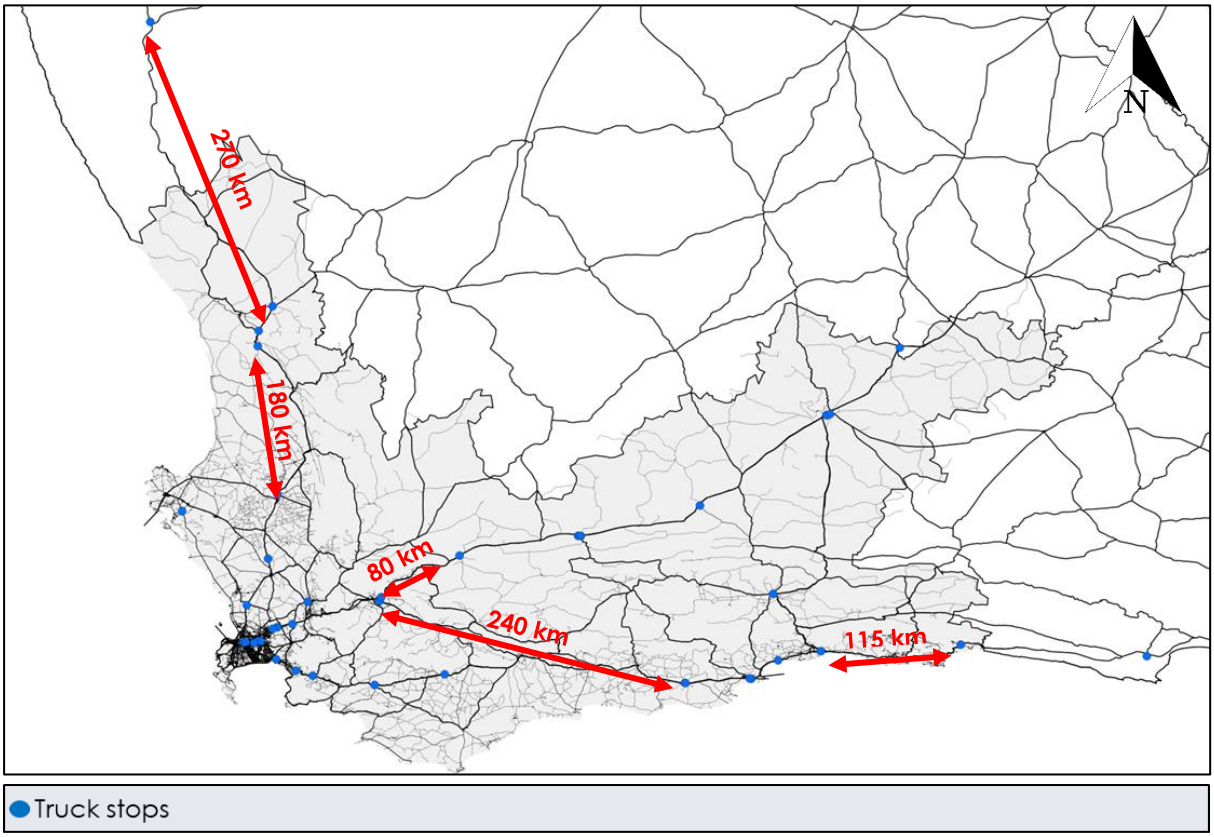


Figure 4-13: Network gap distance between truck stops

5 Stakeholder engagement

A systematic stakeholder engagement process was followed to present and ground truth the findings obtained through the Status Quo Assessment and Western Cape Truck Stop Study. The stakeholder engagement process consisted of three steps, as illustrated in Figure 5-1.

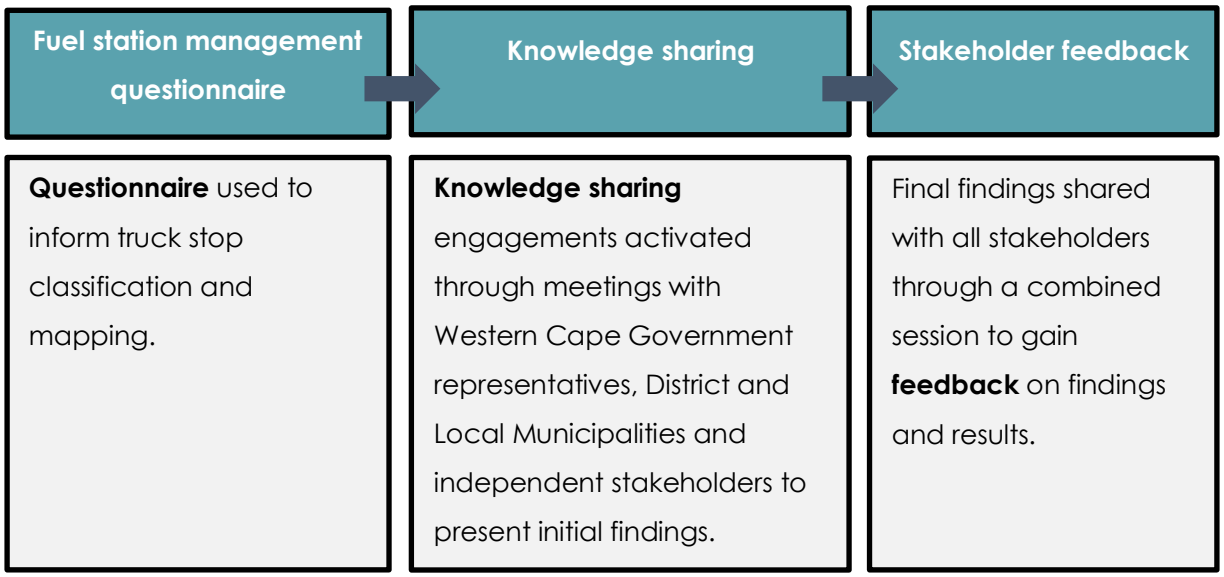


Figure 5-1: Stakeholder engagement process

5.1 Fuel station management questionnaire

The first stakeholder consultation step was completed during the fuel station classification database setup. The fuel station database was populated using the questionnaire illustrated and discussed in Section 3.3.

Individual interviews were held with the management of each of the 72 fuel stations identified in the Western Cape. This process allowed for the classification of the fuel stations and to gain a better perspective on how fuel stations in the Western Cape view the trucking industry and the needs thereof. The results of the fuel station management questionnaires are discussed in detail in Section 3.3. The updated fuel station classification database is attached in Appendix B – Fuel station classification database.

5.2 Knowledge sharing

5.2.1 Background

A total of 9 strategic knowledge sharing engagements were held over a period of two months with a variety of stakeholders in the Western Cape.

The purpose of the knowledge sharing engagements were twofold: Firstly, to present the study context and status quo information, including the fuel station classification and mapping results. Secondly, to gain insight from stakeholders on initiatives, planning, constraints, considerations, and opportunities in relation to truck stops. Discussion guidelines were implemented at each engagement to ensure the exercise produces fruitful results. The discussion guidelines are listed below:

- Information around potential or proposed truck stops;
- Truck stop application & approval processes;
- Risks & concerns around current or planned facilities;
- Considerations around opportunities for partnerships;
- Additional stakeholder engagement opportunities; and
- General or other comments.

The knowledge sharing engagements involved a wide range of stakeholders. Representatives from the Western Cape Government (WCG), local and district municipalities, City of Cape Town, SANRAL and freight industry representatives were involved in the knowledge sharing engagements. The full list of stakeholders engaged, information provided, comments made and how they have been included in the study is depicted in Appendix E – . Their additions and comments will be added to the report as they are sourced. The contact details of all attendees can be provided on request.

After each engagement the presentation was shared with all parties in attendance and valuable information was obtained from stakeholders.

5.2.2 Summary of knowledge sharing

The engagements provided a platform to validate the results presented and obtain additional information from the stakeholders. The results obtained through the Status Quo Assessment and Western Cape Truck Stop Study were validated through stakeholders who could provide an on-the-ground perspective.

5.2.2.1 Hop Multiplication results

The Hop Multiplication results were validated by each relevant municipality as an accurate portrayal of a potential need for additional truck stops. Each municipality in attendance confirmed that they are struggling with the illegal parking of trucks within the areas of concern.

5.2.2.2 Traffic management concerns

Various local and district municipalities raised concerns regarding insufficient traffic management in their areas. The traffic management concerns related to trucks consisted of two main elements, namely:

- Use of roads by trucks to bypass weighbridges. These roads used by trucks to bypass weighbridges are not designed to carry the heavy load imposed by trucks. This use of lower order roads by heavy vehicles poses serious safety concerns for persons using non-motorized transport (NMT) and private vehicles while drastically shortening the lifespan of the road surface structure, and;

- Truck drivers using informal truck stops (such as the one located in Klapmuts). Informal truck stops do not have demarcated parking bays, resulting in trucks parking within the road reserve. These informal truck stops create havoc in smaller towns through noise pollution, road infrastructure damage, traffic congestion and obstruction of access to businesses located along the road reserve. Municipalities noted that fines should be issued to trucks for parking illegally within the road reserve.

5.2.2.3 Legislation enforcement

Freight industry representatives highlighted that legislation stipulating the working hours of truck drivers are not respected. Industry representatives noted that transport regulations need to be put into place to limit the working hours of drivers, in turn limiting the effects of driver fatigue. Furthermore, industry representatives noted that the Department of Transport (DoT) needs to play an active role in policing the legislation in terms of working hours as companies do not respect driver requirements.

5.2.2.4 Aligning the needs of truck drivers and fleet management

The requirements of both the truck driver and fleet management need to be addressed at each truck stop. Freight industry representatives noted that the facility at which a truck driver is required to refuel does not always align with the facility at which a truck driver can get access to safe parking, quality food and an opportunity to rest. Industry representatives provided further elaboration, noting that fleet management is generally focused on refuelling agreements with facilities rather than the wellness of truck drivers. By ensuring a minimum service provision standard at each facility in the Western Cape, the needs of truck drivers and fleet management can be aligned.

5.2.2.5 Current truck stop application process

There are currently no formal requirements or processes when applying to construct a truck stop in a local municipality, district municipality or within the metro. Consultations with both local and district municipalities revealed that a Traffic Impact Assessment (TIA) is the only

formal requirement across all local and district municipalities. The remainder of the process is subject to the respective local or district municipality. SANRAL has however noted that a formal application needs to be completed in order to construct a truck stop along any of the national roads that fall under its management.

5.2.2.6 Applications received

During the knowledge sharing engagements attendees had the opportunity to share any truck stop applications that have been received by the respective entity. A total of 7 applications were noted throughout the Western Cape as illustrated in Table 5-1 and

Figure 5-2. The truck stops were not included in the fuel station classification database as the application process for each of the 7 truck stops were in varying stages of completion. The 2 applications along the N7 fell within the areas identified through the Hop Multiplication process while the remaining 5 applications along the N1 and N2 all fell within close proximity of the Hop Multiplication areas.

Table 5-1: Truck Stop applications received in the Western Cape

No	Location	Status	Road
1	Witzenberg	Approved	R46
2	Klapmuts	Denied	N1
3	Riversdal	Approved	N2
4	Nuwerus	Approved – approval expired	N7
5	Mossdustria	In process	N2
6	Malmesbury	In process	N7
7	Joostenberg Vlakte Weighbridge	No formal application done	N1

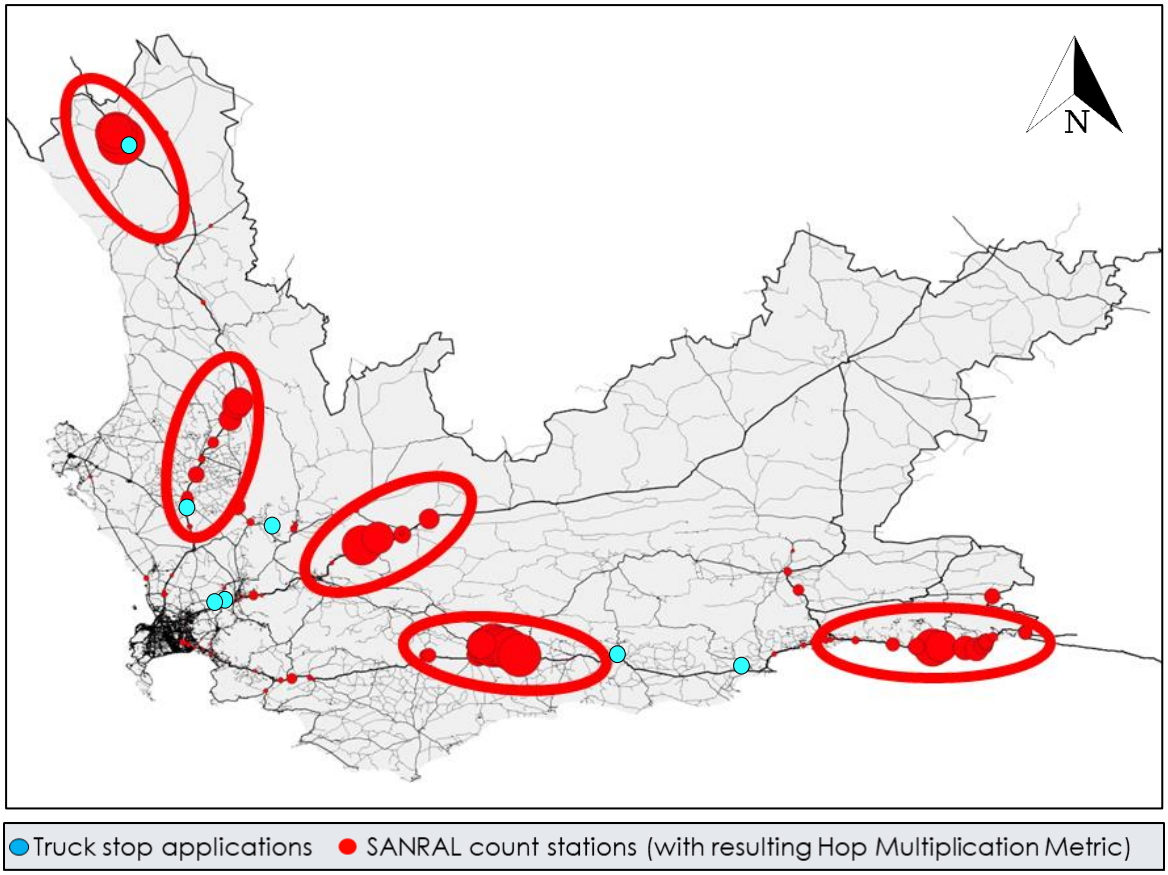


Figure 5-2: Truck stop applications

5.2.2.7 Additional information

The national road network in the Western Cape (N1, N2 and N7) plays a pivotal role in freight transportation. This is highlighted by the Hop Multiplication Metric results where all possible network gaps identified are located along the national road network (N1, N2 and N7).

However, it must be noted that the provincial road network also has a vital role to play in freight movement. The Class 1, 2 and 3 strategic road network of the Western Cape is illustrated in Figure 5-3. These strategic roads act as important through roads connecting various areas of commercial and economic interest with high vehicle volumes. The maintenance and development of the strategic road network is therefore an important investment for the province.

The investment into future truck stops that are not located along the national road network in the Western Cape should align with the road investment priorities of the province. When local and district municipalities assess truck stop applications that are not located along the national road network, consideration must be given to whether the placement of the proposed truck stop aligns with the strategic road network. Ensuring that truck stops are located along strategic provincial roads will align the investment profile of both the private and public sector.

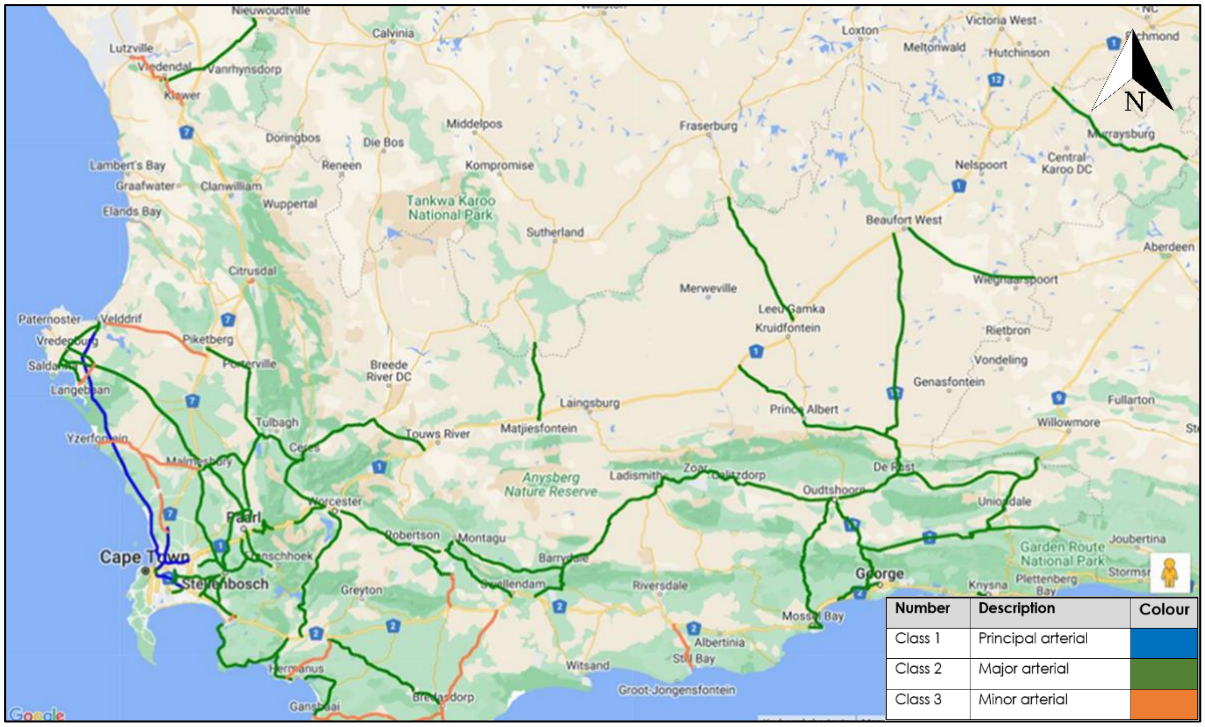


Figure 5-3: Strategic road network in the Western Cape

5.2.2.8 Other

During the knowledge sharing engagements, some authorities noted that they have already identified the need for truck stop facilities within their areas in documents such as Spatial Development Frameworks (SDF). Other authorities have indicated that this level of fine grade planning exceeds what is legislatively required by them as a planning authority.

Various authorities made specific reference to where their mandates started and ended. Authorities noted that their ability to address issues regarding informal truck stops and lack of sufficient truck stops is limited due to financial constraints and legislative power. Clarity regarding the specific mandates managed by each of the authorities highlighted the need for a consolidated investigation into truck stop needs and opportunities.

Consultations with authorities also reflected the risks experienced by adjoining property owners and the trucking industry regarding the positioning of truck stops. This highlights the importance of identifying truck stop locations that are suitable to the trucking industry and relevant private property owners in the vicinity.

5.3 Stakeholder feedback

During the final stakeholder feedback engagement in November 2023, the results of the Western Cape Truck Stop Study was shared with all authorities that participated in the knowledge sharing engagements. This allowed all authorities to respond to the results of the study and ensure no input was missed.

6 Final Truck Stop Framework

The purpose of the Western Cape Truck Stop Study is to provide a broad framework for achieving improvements in the status of truck stops in the Western Cape.

While the direct responsibility for the development of truck stops in the Western Cape does not fall on the Provincial Government, it is important to recognise the role the provincial government can play in facilitating sustainable and strategic development of truck stops. It is from this basis of understanding that the Western Cape Truck Stop Study, and subsequent final truck stop framework, was developed.

Western Cape Government can champion the cause of sustainable truck stop development by actively engaging and informing all relevant stakeholders, including the private sector, the freight industry, and municipalities. The collaborative approach not only ensures that truck stops meet industry needs, but also promotes an environment in which businesses can thrive. Therefore, the provincial government becomes an important enabler of economic growth and a trusted stakeholder in the development of an efficient truck stop network in the province.

6.1 Fundamental elements of truck stop improvement

Through the analysis done in this study and feedback received from stakeholders, 8 key elements for the development of truck stops were identified. It is recommended, and the intended outcome of this study, that these 8 elements be incorporated by the private and public sector into the planning and design of truck stops. The 8 elements are illustrated in Table 6-1, together with the responsible stakeholders and the supporting role Provincial Government can play in ensuring the elements are indeed considered by all stakeholders.

Table 6-1: The 8 fundamental elements of sustainable truck stop development

No	Framework Element	Responsible stakeholder	How is the stakeholder responsible?	How can WCG support?
1	**User experience and amenities**	Municipalities, SANRAL	The service provision requirements established for all truck stop classifications need to be considered when assessing new applications.	Ensure the service provision recommendations are made publicly available.
		Private sector	The service provision requirements established for all truck stop classifications need to be considered when designing new truck stops.	
2	**Accessibility and inclusivity**	Municipalities, SANRAL	Check that the truck stop application includes universal accessibility and inclusivity. This includes considerations for gender inclusivity.	Ensure the provincial regulations regarding universal accessibility and inclusivity are made publicly available.
		Private sector	Design truck stops to ensure that they are universally accessible and inclusive.	
3	**Network planning and location**	Municipalities, SANRAL	The location of the network gaps identified, and strategic freight road network need to be considered when reviewing land rezoning applications for new truck stops. Municipalities should include road freight planning and potential truck stop locations in the Spatial Development Frameworks (SDF's) and Integrated Transport Plans (ITP's).	Ensure the locations of the network gaps identified and strategic routes are made publicly available. Ongoing data analysis to support strategic location planning.
		Private sector	Ensure that the network gap locations identified, the strategic freight road network and municipal SDF and ITP documents	

			are considered when scouting for possible sites to develop truck stops.	
4	**Financial viability and investment**	Private sector	The private sector party is solely responsible for a sustainable business plan unless it is a public-private partnership (PPP). For PPPs, municipalities can avail land parcels at strategic locations for truck stop development.	Where possible, WCG can also avail land parcels at strategic locations for truck stop development.
5	**Regulatory compliance**	Municipalities, SANRAL	Any statutory compliance as applicable to a development application needs to be considered when considering a new truck stop. See Section 6.2 for further details.	Not applicable
6	**Monitoring and traffic law enforcement**	Municipalities, WCG	Update the network gaps identified periodically with new information on additional fuel stations and the strategic road network accordingly. Municipalities to prioritize the deployment of traffic law enforcement focusing on informal truck stops.	Continuous data sharing with municipalities. Development of performance metrics and evaluation framework.
7	**Safety protocols**	Municipalities, SANRAL	Ensure design elements such as safe geometric access points and sufficient security measures are taken into account when considering applications for new truck stops.	Ensure safety best practices are made publicly available.
		Private sector	Ensure all design elements regarding safety elements have been benchmarked with international best practices before applying for a new truck stop.	

8	**Environmental sustainability**	Municipalities, SANRAL	Ensure the application is received together with an environmental assessment to ensure it adheres to applicable legislation.	Ensure the environmental best practices are made publicly available.

6.2 Draft Truck Stop Application and Assessment Checklist

During the stakeholder engagements it became clear that no formal guidelines exist regarding the assessment of truck stop applications or the service provision requirements at existing truck stops. Standardising the assessment criteria of truck stop applications will ensure government stakeholders and the private sector knows what the requirements of a basic truck stop are. Adapting minimum service provision requirements at existing truck stops will assist in establishing a standard to achieve systematic improvements to existing truck stop infrastructure.

The items listed in the draft Truck Stop Application and Assessment Checklist can vary depending on the relevant authorities involved. The Checklist has been established to:

- Provide guidance to the private sector on developing all-encompassing truck stop applications;
- Provide guidance to authorities on assessing truck stop applications; and
- Provide guidance to authorities on assessing existing truck stops.

The Draft Truck Stop Application and Assessment checklist is illustrated in Table 6-2.

Table 6-2: Draft truck stop application and assessment checklist

Element	Element description
Property description	• Size • Ownership • Zoning • Servitudes • Title deed • Description of boundaries *Title deed and diagram of property to be included.
Strategic location	Property location to consider the following: • Network gaps identified through the: o Finalised Hop Multiplication o SDF, IDP and ITP of local/district municipality *Locality plan to be included in application.
Supporting transport routes	Supporting transport routes to consider the following: • Access to the following road networks: o National road network (N1, N2 and N7) o Western Cape strategic road network Freight transport along the route(s) under analysis

Zoning and surrounding land uses	Zoning and surrounding land uses to consider the following:
	• Zoning of:
	  o Property subject to development
	  o Properties bordering the property under analysis
	• Land use of:
	  o Property subject to development
	  o Properties bordering the property under analysis
	*Map illustrating relevant zoning and land uses to be included in application.

Proposed subdivision, rezoning and consent use	Proposed subdivision, rezoning and consent use to consider the following: • Authorisation of rezoning and subdivision • Primary use of rezoned area *Proposed subdivision map to be included. *Proposed rezoning plan to be included.
Service provision and site development plan	The service provision must include the following basic requirements: • Fuel (available 24/7) • Driver amenities (toilet) • On-site security (e.g. cameras, fences, security personnel) • Quality food (restaurant/take aways) • Parking facilities (available 24/7) The service provision to incorporate the following based on the serviceability to be offered: • Driver amenities (shower with hot water) • ATM • Laundry services • Wellness clinic • Repair services • Accommodation • Truck wash bay *Proposed site development plan indicating the relevant service provision to be included. *Proposed site development plan to comply with the required planning scheme regulations for the development according to the relevant zonings in the Section 8 scheme regulation. *See Table 6-3 and Table 6-4 for allowable size guidelines.

Infrastructure design	The detailed infrastructure designs to consider the following: • Character of surroundings • Access and traffic circulation • Height and scale • Texture and colour • Landscaping • Lighting
Visual Impact Assessment (VIA)	If the truck stop is located along a identified Scenic Route, a VIA to consider the following: • Appropriate category of expected impacts • Expected visual impact associated with the proposed development Measures/interventions to mitigate any detrimental impacts
Specialist studies	Specialist studies to include the following: • Heritage assessment (if applicable) • Botanical assessment (if applicable) • Geohydrological assessment • Social impact assessment covering: o Gender inclusivity around the truck stop facilities • Traffic Impact Assessment (TIA) covering: o Site observations o Proposed development – should not compromise the mobility of a national route or its functional classification. o Existing traffic flows in the vicinity of the development o Trip generation for the proposed development o Traffic flow analysis o Recommended road upgrades o Non-motorized transport and public transport o Access management - must comply with road safety and geometric design principles and standards of SANRAL. o Parking requirements • Services report covering: o Access and layout configuration o Storm water o Water o Waste water

	○ Solid waste disposal and recycling ○ Electricity

In Table 6-2 reference is made to the allowable size guidelines under the service provision and site development plan. The South African National Roads Agency Limited (SANRAL) Policy for Rest and Service Facilities (RSF) on National Roads specifies the allowable gross leasable area (GLA) for service provisions relevant to truck stop facilities (South African National Roads Agency Limited, 2021). The three types of facilities accommodated in the policy and their Western Cape (WC) Truck Stop Study equivalents are illustrated in Table 6-3:

Table 6-3: SANRAL facilities and WC Truck Stop Study equivalent

SANRAL facility:	SANRAL description:	WC Truck Stop Study equivalent:
Rest and Service Facility (urban and rural)	A small scale service area providing a small convenience shop, parking, Automatic Teller Machines (ATM's), wash bays, and all types of fuel and additional transport related services to the benefit of the public.	Service station
Maxi Service Area	A large scale service area providing an amenity building (including a convenience shop, restaurants, fast food drive-thru, washrooms and tourist information), all types of fuel (including alternative energy source(s) like electrical charging), ATM's, parking and additional transport related services	Basic Truck Stop
Exclusive Truck Stop	A facility that provides the basic amenities to enable drivers to rest. These can include ablution facilities, washrooms, dedicated sleep areas and food services.	Trucking facility/Fromal truck stop

The maximum size (m²) for the service provisions per fuel station classification listed in Table 6-3 has been derived from the Policy for Rest and Service Facilities on National Roads (South African National Roads Agency Limited, 2021). The maximum size (m²) per service provision is illustrated in Table 6-4.

Table 6-4: SANRAL allowable sizes guideline

	Max size of the ancillary facilities (m²)			
	Convenience store	**Other ancillary services (restaurants, drive- through's etc.)**	**Car wash**	**Total GLA**
RSF (Rural)	150	200	5 hand wash bays/1 automated wash bay	350
RSF (Urban)	250	250	5 hand wash bays/1 automated wash bay	500
Maxi Service Area	250	2000	None	2500
Exclusive Truck Stop.	250	2750	Dependent on size of facility and location	3000

7 Summary of findings

7.1 Conclusion

The Western Cape Truck Stop Study consisted of two main deliverables. Firstly, to assess, record and report on the truck stop network in the Western Cape, including the identification of potential gaps in the network through structured fieldwork and engagements. Secondly, to verify, supplement and establish a broad framework for truck stop improvement in the Western Cape through focused and strategic stakeholder engagements.

These deliverables were addressed in the Western Cape Truck Stop Study through the following measures:

- The establishment of a fuel station classification database for the Western Cape, which classified each fuel station in the Western Cape according to the service provisions available;
- The identification of potential network gaps in the Western Cape through the Hop Multiplication Metric;
- Documented stakeholder engagements with strategic authorities and representatives to validate the network gap analysis, fuel station classification criteria and gather information on truck stop application processes and requirements.
- The development of the Truck Stop Framework which denotes responsibility per authority for each of the 8 fundamental elements for sustainable truck stop development; and
- The development of the draft Truck Stop Application and Assessment Checklist which provides a guideline for assessing and compiling truck stop applications and assessing the service provision of existing truck stops.

The outputs produced by the Western Cape Truck Stop Study can therefore provide fundamental direction to address sustainable truck stop development and to achieve systematic improvements at existing truck stops in the Western Cape.

The Western Cape Truck Stop Study is the first comprehensive study that has been done which addressed service provision requirements, network gaps, stakeholder engagements, a development framework and a truck stop application guideline. It is therefore important that the Western Cape Truck Stop Study is shared with SANRAL, the Department of Transport, municipal

stakeholders, and industry representatives to utilise in their respective planning and bench-marking roles.

7.2 Moving forward

While conducting the Western Cape Truck Stop Study, various areas for potential future work emerged.

The potential focus points for future work is captured in Table 7-1. The focus points summarized in Table 7-1 are not exhaustive and may be in the mandate of organizations outside of the Mobility Department.

Table 7-1: Focus points for possible future work

No	Title	Description
1	Truck stop capacity analysis	Investigate the development of a 'truck stop booking application' which can be used to allow truckers to book their overnight parking spots at available fuel stations.
2	Alternative energy sources	Investigate the use of alternative energy sources such as green hydrogen and electric charging stations at fuel stations. It is also important to understand how alternative energy sources will impact the development of truck stops in the future.
3	Truck Stop application and assessment checklist	Workshop and finalise the draft Truck Stop Application and Assessment Checklist with planning authorities, to be used as formal assessment criteria for assessing new truck stop applications and improvements to existing truck stops. Assessment criteria to consider truck driver gender requirements.
4	Cape Metropole staging areas	Investigate the adequacy of truck staging and holding areas in the Cape Metropole to alleviate congestion to/from the port.
5	Review of network gaps	Review of the network gaps in 5 years to update the identified network gaps with new fuel station locations.

8 Appendix A - Engen Truck Stops

ENGEN TRUCK STOPS

SCAN HERE TO FIND OUT MORE ABOUT ENGEN

REGION	NAME	ADDRESS	FACILITIES
Eastern Cape	Gone South Truck Stop 041 466 8401	1 Old Grahamstown Road, Swartkops, Port Elizabeth	
	Kempston Truck Stop 043 731 1029	36 Settlers Way, Grately, East London	
Western Cape	Beaufort West Truck Stop 023 414 4702	Cnr Concrete and Production Streets, Industrial Area, Beaufort West	
	Kempston Truck Stop 021 531 5651	Gunner Circle, Epping Industrial, Cape Town	
KwaZulu-Natal	Kokstad Truck Stop 039 727 1581	Main Road, Kokstad	
	Sydney Road Pitstop 031 304 0550	115 Sydney Road, Durban	
	Port Shepstone Truck Stop 039 683 4520	3 Servus Road, Port Shepstone	
Free State	Highway Junction 058 624 2000	1 Industrial Road, Harrismith (N3/N5 split)	
	Springfontein Truck Stop 051 783 0474	N1 highway, Springfontein	
	Ficksburg Truck Stop 051 933 7634	Stafford Hill Ficksburg	
Northern Cape	Kimberley Truck Stop 079 882 5453	Cape Town Road, Kimberley	
	Upington Truck Stop 054 331 1869	Olyvenhoudtdrift, Luisville Ave, Upington	
Mpumalanga	Lebombo Truck Stop 013 793 8150	N4 highway, Komatipoort	
Limpopo	Gateway Truck Stop 015 530 0189	N1 Highway, Beit Bridge, Musina	

ENGEN
With us you are Number One

TOILETS · SHOWERS · BRAAI · TAKEAWAYS · RESTAURANT · SHOPS · ATM · FOREX SHOP · PARKING · WORKSHOP · E-FUEL / ACCESS · EDC · FUEL 24 HOURS · WELLNESS CLINIC · LAUNDRY FACILITIES · PUBLIC PHONE · SECURITY · SECURITY CAMERAS · TRUCK TYRE SERVICE · TRUCK WASH (HIGH PRESSURE & FLOOD LIGHTS) · ACCOMMODATION · CLEARING AGENTS

9 Appendix B – Fuel station classification database

Fuel Station									Facility provision														Classification of Fuel Station
									Formal Truck Stop														
									Trucking facility														
									Basic Truck Stop														
No.	Source	ID	Province	Name	Latitude	Longitude	Address	Contact details	Truck fuel (12/7)	Truck fuel (24/7)	Driver toilet	On-site security	Quality food	Parking (24 hr)	Driver shower	ATM	Laundry facilities	Wellness clinic	Repair service	Accomm.	Truck wash	
1	Atlantic Oil	76	Western Cape	Atlantic Oil Depot Caledon	-34.23773828	19.4249702	18 Industrie St, Caledon, 7230	0282123060	1	0	0	1	0	0	0	0	0	0	0	0	0	Service Station
2	Atlantic Oil	78	Western Cape	Atlantic Oil Moorreesburg	-33.1482253	18.6671954	Moorreesburg, 7310	0224334358	1	0	1	1	0	0	1	0	0	0	0	0	0	Service Station
3	Atlantic Oil	79	Western Cape	Atlantic Oil Depot Swellendam	-34.05113303	20.42729747	2 Koringland St, Swellendam, 6740	0285141148	1	1	1	1	0	0	0	0	0	0	0	0	0	Service Station
4	Atlantic Oil	80	Western Cape	Atlantic Oil Depot Worcester	-33.64631188	19.47139537	1 Perkins Street, Worcester, 6850	0230041117	1	1	1	1	1	1	1	0	0	0	1	0	1	Trucking Facility
5	Atlantic Oil	84	Western Cape	Atlantic Oil - Vredenal	-31.6532437	18.5169383	12 Sirkel Street, Vredendal, Western Cape, 8160	0814601511	1	0	1	1	0	0	1	0	0	0	0	0	0	Service Station
6	Atlantic Oil	85	Western Cape	Atlantic Oil - Malmesbury	-33.46657392	18.71818673	3 Schoonspruitweg, Malmesbury, Western Cape, 7299	0224821967	1	0	1	1	0	0	0	0	0	0	0	0	0	Service Station
7	Atlantic Oil	86	Western Cape	Atlantic Oil – Albertinia	-34.2108416	21.5804367	14 Nywerheids Avenue, Albertinia, Western Cape, 6695	0287351543	1	1	1	1	1	1	1	0	0	0	0	0	0	Basic Truck Stop
8	Atlantic Oil	87	Western Cape	Atlantic Oil – George industria	-33.99196441	22.44497004	6 Saffier Crescent, George, Western Cape, 6529	0835777622	1	1	1	1	0	0	0	0	0	0	0	0	0	Service Station
9	Atlantic Oil	88	Western Cape	Atlantic Oil George	-33.97366866	22.47109715	2 Nelson Mandela Blvd, George Industria, George, 6536	0448759273	1	1	1	1	1	0	0	0	0	0	0	0	0	Service Station
10	Atlantic Oil		Western Cape	Atlantic Oil Truck Inn	-32.36123333	22.55740293	Factory Street, Beaufort West	0234142149	1	1	1	1	1	1	1	0	0	0	0	0	0	Basic Truck Stop
11	BP	183	Western Cape	BP Beaufort West	-32.357081	22.583524	Donkin Road, Beaufort West	0234143244	1	1	1	1	1	0	0	1	0	0	0	0	0	Service Station
12	TFN	186	Western Cape	La Belle Q4	-33.898164	18.671326	La Belle Rd, Stikland Industrial, Cape Town, 7530	0219494499	1	1	1	1	1	0	0	1	0	0	0	0	0	Service Station
13	BP	192	Western Cape	BP Grabouw	-34.1607659	19.0092989	Oudebrug Rd, 1 Marsh Rose Mall, Grabouw, 7130	0218595687	1	1	1	1	1	1	0	1	0	0	0	0	0	Trucking Facility
14	BP	402	Western Cape	BP Touws Rivier	-33.3315	20.02374	N1 National Road, Touws River, 6880	0233581049	1	1	1	1	1	1	1	1	0	0	1	1	0	Trucking Facility
15	Caltex	120	Western Cape	Caltex Prima Truck Stop	-32.3607828	22.5617562	Corner Arbeid Street, Tegniek St, and, Beaufort West, 6970	0826199107	1	1	1	1	1	1	1	0	0	0	0	0	0	Basic Truck Stop
16	Caltex	125	Western Cape	Caltex Prime Park Service Station	-33.9044551	18.6214361	Tienie Meyer Bypass, Landdros St, Bellville, 7535	0219493922	1	1	1	1	1	0	0	1	0	0	0	0	0	Service Station
17	Caltex	134	Western Cape	Caltex De Rust	-33.4918346	22.5289926	De Rust, 6650	0442412141	1	0	1	1	1	0	0	0	0	0	0	0	0	Service Station
18	Caltex	136	Western Cape	Caltex Caledon	-34.2247833	19.4368211	1 Nerina St, Caledon, 7230	0282141164	1	1	1	1	1	1	0	1	0	0	0	0	0	Trucking Facility
19	Caltex	137	Western Cape	Caltex Klein Karoo	-33.5953426	22.1901139	Oudtshoorn, 6620	0442035790	1	0	1	0	1	1	1	1	0	0	1	0	1	Trucking Facility
20	Caltex	141	Western Cape	Caltex Worcester	-33.6440195	19.4641892	Leipoldt Ave, Western Cape Province, 6850	0233422954	1	0	1	1	1	0	1	0	0	0	0	0	0	Service Station
21	Caltex	144	Western Cape	Caltex Riviersonderend	-34.1516194	19.9203739	1d Main Street, Riversonderend, Western Cape Province	0282611496	1	1	1	1	1	1	0	1	0	0	0	0	0	Trucking Facility
22	Caltex	148	Western Cape	Caltex Heidelberg	-34.0964543	20.9635174	1 Eksteen St, Heidelberg - Wc, Heidelberg, 6665	0287221224	1	1	1	1	1	0	0	0	0	0	0	0	0	Service Station
23	Astron		Western Cape	Astron Energy Malmesbury N7 Nor	-33.35268521	18.70052598	N7, Malmesbury, 7300	0210071347	1	1	1	1	1	1	1	1	0	0	0	0	0	Trucking Facility
24	ENGEN 1 Stop		Western Cape	West Coast 1-Stop	-33.02610974	18.10632001	Langebaan Road, Langebaan	0227721568	1	1	1	1	1	1	1	1	0	0	0	0	0	Trucking Facility
25	ENGEN 1 Stop	5	Western Cape	Winelands 1 Stop North	-33.8261088	18.7628427	N1, Joostenberg Vlakte, Cape Town, 7570	0219881112	1	1	1	1	1	1	1	1	0	1	0	0	0	Trucking Facility
26	ENGEN 1 Stop	6	Western Cape	Winelands 1 Stop South	-33.8274279	18.7643823	N1, Joostenberg Vlakte, Cape Town, 7570	0219881112	1	1	1	1	1	1	1	1	0	1	0	0	0	Trucking Facility
27	ENGEN 1 Stop	15	Western Cape	Engen False Bay 1 Stop	-34.0475954	18.7568558	N2, Macassar, Cape Town, 7130	0218571050	1	1	1	1	1	1	1	1	0	0	0	0	0	Trucking Facility
28	ENGEN 1 Stop	19	Western Cape	Engen Klawer 1 Stop	-31.7787866	18.6354279	Cnr N7 &, Kerk St, Klawer, 8145	0272161816	1	1	1	1	1	1	1	1	0	0	0	0	0	Trucking Facility
29	ENGEN 1 Stop	26	Western Cape	Engen Laingsburg 1 Stop	-33.1956205	20.8611277	1 Voortrekker St, Laingsburg, 6900	0235511020	1	1	1	1	1	1	1	1	0	0	0	0	0	Trucking Facility
30	ENGEN 1 Stop	27	Western Cape	Engen Swartland 1 Stop	-33.673932	18.55293	N7, Cape Farms, Philadelphia, 7304	0219721836	1	1	1	1	1	1	1	1	1	0	0	0	0	Trucking Facility
31	ENGEN 1 Stop	32	Western Cape	Engen Mossel Bay 1 Stop	-34.1822051	22.0384149	N2, Vyf Brakke Fonteinen, Mossel Bay, 6506	0446981444	1	1	1	1	1	1	1	1	0	0	0	0	0	Trucking Facility
32	ENGEN 1 Stop	42	Western Cape	Engen Sedgefield 1 Stop	-34.0100262	22.7806268	N2, The Island, Sedgefield, 6525	0443431696	1	1	1	1	1	0	1	1	0	0	0	0	0	Service Station
33	ENGEN 1 Stop	50	Western Cape	Engen Heidelberg 1 Stop	-34.096099	20.9638491	Eksteen St, Heidelberg - Wc, Heidelberg, 6665	0287221633	1	1	1	1	1	0	1	1	0	0	0	0	0	Service Station
34	ENGEN 1 Stop	52	Western Cape	Engen Riversdale 1 Stop	-34.0222934	21.2281332	N2, Riversdale, 6670	0287131327	1	1	1	1	1	0	0	1	0	0	0	0	0	Service Station
35	ENGEN 1 Stop	56	Western Cape	Engen Plettenberg Bay 1 Stop	-34.0412504	23.3701992	Beacon Way, Plettenberg Bay, 6600	0445332152	1	1	1	1	1	0	0	1	0	0	0	0	0	Service Station
36	ENGEN 1 Stop		Western Cape	Engen De Werf 1 Stop	-33.66487315	18.55947961	Intersection R304 and N7 Philadelphia Rd, Cape Farms, 7304	0648678578	1	1	1	1	1	0	0	1	0	0	0	0	0	Service Station

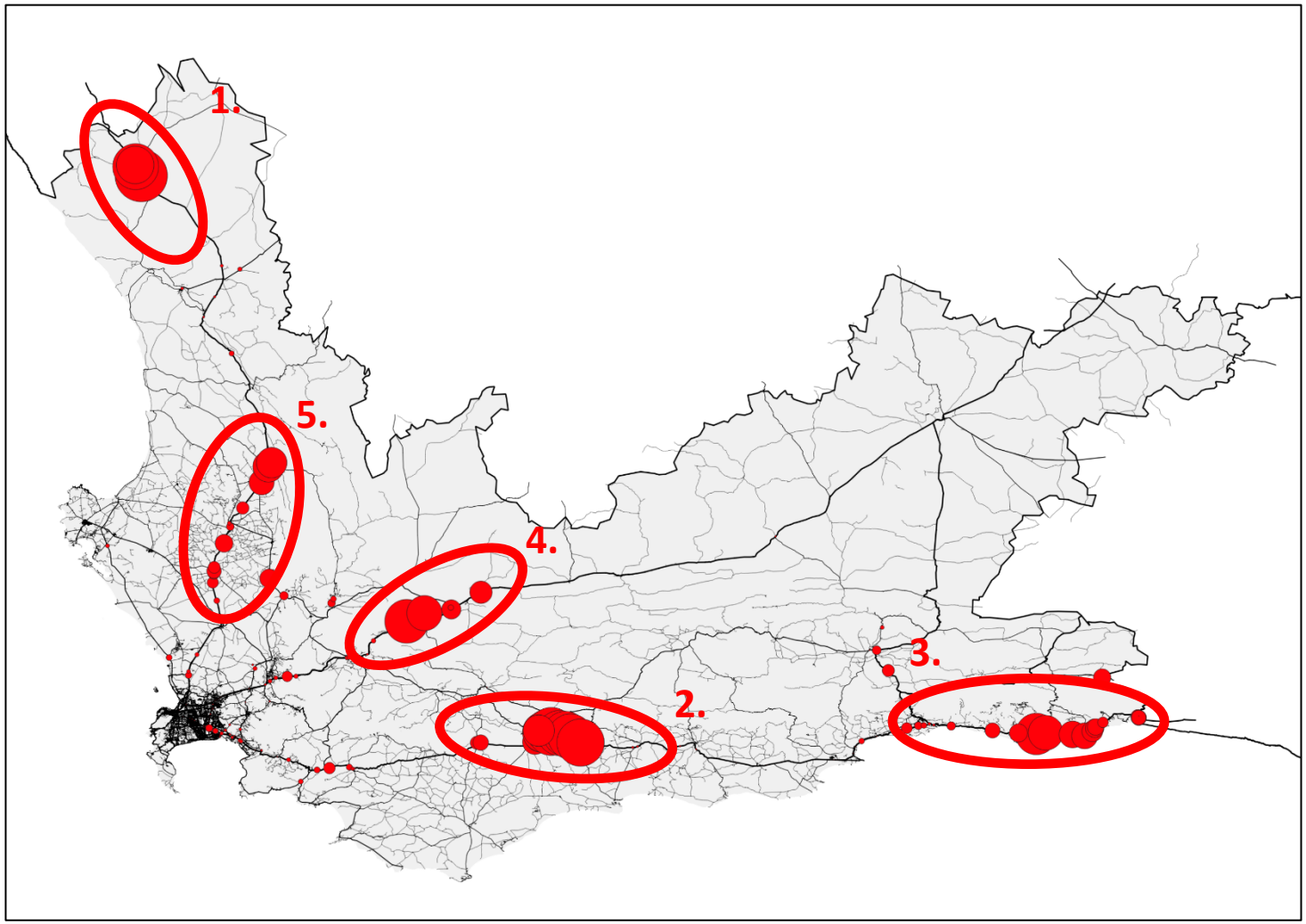
Fuel Station									Facility provision															Classification of Fuel Station
									Formal Truck Stop															
									Trucking facility															
									Basic Truck Stop															
No.	Source	ID	Province	Name	Latitude	Longitude	Address	Contact details	Truck fuel (12/7)	Truck fuel (24/7)	Driver toilet	On-site security	Quality food	Parking (24 hr)	Driver shower	ATM	Laundry facilities	Wellness clinic	Repair service	Accomm.	Truck wash	
37	ENGEN 1 Stop	58	Western Cape	Engen Swartberg 1 Stop	-32.3429618	22.5830285	Donkin St, Beaufort West, 6970	0234142777	1	1	1	1	1	0	0	1	0	0	0	0	0	Service Station
38	ENGEN 1 Stop		Western Cape	Engen The Crags	-33.94658719	23.48632876	The Crags, N2, Plettenberg Bay, 6600	0445348002	1	1	1	1	1	1	0	1	0	0	0	0	0	Trucking Facility
39	ENGEN Truckstop	59	Western Cape	Engen Truckstop Beaufort West	-32.362305	22.561514	Industrial Area Concrete Street, Beaufort West, 6970	0234144702	1	1	1	1	1	1	1	1	1	0	1	0	0	Trucking Facility
40	ENGEN Truckstop	62	Western Cape	Kempston Truck Stop (Epping)	-33.92913	18.53181	12 Gunners Cir, Goodwood, Cape Town, 7475	0215315651	1	1	1	1	1	1	1	1	1	0	0	0	0	Trucking Facility
41	TFN	216	Western Cape	Laingsburg Truck Stop	-33.1950412	20.8421006	1 Voortrekker St, Bergsig, Laingsburg, 6900	0230041477	1	1	1	1	1	1	1	0	0	0	0	0	0	Basic Truck Stop
42	Other		Western Cape	Aloe Motors	-34.21168135	21.58452341	31 Station Street, Albertinia, 6695	0287351123	1	1	1	1	1	1	1	1	1	0	0	1	0	Trucking Facility
43	Other	279	Western Cape	IKAMVA Trust - Worcester	-33.641079	19.481301	23 Ramond Pollet Weg	0233425345	1	0	1	0	1	0	0	0	0	0	0	0	0	Service Station
44	Other	284	Western Cape	Mosh Petroleum CC	-33.921911	18.631476	Cnr Robert Sobukwe	0219480753	1	1	1	1	1	1	1	0	0	0	0	0	0	Basic Truck Stop
45	Other	329	Western Cape	JEV Petroleum Cape	-33.8865878	18.7498511	Meerdam Farm, Bottelary Rd, Brackenfell, Cape Town, 7561	0760630137	1	0	1	1	0	0	0	0	0	0	0	0	0	Service Station
46	Other	362	Western Cape	Alan's Truck Stop	-34.2250964	19.4079948	Cemetery Rd, Caledon, 7230	No number	1	0	1	0	0	0	0	0	0	0	0	0	0	Service Station
47	Sasol	198	Western Cape	Sasol George Highway	-33.99157217	22.5202032	N2, George, Western Cape, 6529	0448890282	1	1	1	1	1	1	1	1	0	0	0	0	0	Trucking Facility
48	Sasol	199	Western Cape	Sasol Harkerville	-34.0376931	23.2267983	N2, Harkerville, 6604	0445327628	1	1	1	1	1	0	0	1	0	0	0	0	0	Service Station
49	Shell	103	Western Cape	Cape Town Truck Port	-33.92947005	18.54529182	7 Bofors Cir, Goodwood, Cape Town, 7460	0215341730	1	1	1	1	1	1	1	0	0	0	0	0	0	Basic Truck Stop
50	Shell	108	Western Cape	Shell Ultra City	-33.1957834	20.8562585	Voortrekker St, Laingsburg, 6900	0235511550	1	1	1	1	1	1	0	1	0	0	0	0	0	Trucking Facility
51	Shell	111	Western Cape	Shell Albertinia	-34.2116983	21.5851653	Station Street, N2, Albertinia, 6695	0287351316	1	1	1	1	1	0	0	1	0	0	0	0	0	Service Station
52	Shell	112	Western Cape	Voorbaai Truck Port	-34.1441531	22.1008484	Voorbaai, Louis Fourie Rd, Voorbaai, Mossel Bay, 6500	0446951172	1	1	1	1	1	0	1	1	0	0	0	0	0	Service Station
53	Shell	116	Western Cape	Shell Somerset West	-34.1257956	18.8929008	N2, Helderberg Rural, Cape Town, 7130	0218561166	1	1	1	1	1	1	0	1	0	0	0	0	0	Trucking Facility
54	Shell		Western Cape	Turcks Garage	-31.608606	18.731437	2 van Riebeeck Street, van Rhynsdorp,8170	0272191022	1	1	1	1	1	1	0	1	0	0	0	0	0	Trucking Facility
55	TFN	211	Western Cape	Trawal Truck Inn	-31.884031	18.629125	N7, Klawer, 8145, Western Cape	0272161536	1	1	1	1	1	1	1	1	1	0	0	0	0	Trucking Facility
56	TFN	212	Western Cape	Puma - Wellington	-33.650076	18.973746	1 Oude Pont Street, Wellington, 7655, Western Cape	0711959743	1	1	1	1	1	1	1	1	0	0	0	0	0	Trucking Facility
57	TFN	213	Western Cape	Fuel 1 - Kraaifontein	-33.8370132	18.7317247	12 Acacia Way, Kraaifontein Industria, 7570, Western Cape	0113436970	1	1	1	1	1	1	0	1	0	1	0	0	1	Trucking Facility
58	TFN	239	Western Cape	Quest Beaufort West	-32.3612583	22.5589722	Quest, Hillside, Beaufort West Local Municipality, South Africa	0234144654	1	1	1	1	1	1	1	1	0	0	0	0	0	Trucking Facility
59	TFN	297	Western Cape	Mosh Diesel Depot - Bellville South	-33.921308	18.630783	Corner of Robert Sobukwe and McDonald Road, Bellville South	0219480753	1	1	1	1	0	0	1	0	0	0	0	0	0	Service Station
60	TFN	311	Western Cape	Mosh Petroleum - Worcester	-33.618451	19.48265	N1, Worcester, Farm Bersig, Worcester, 6850, Western Cape	0233412727	1	1	1	1	1	1	1	1	1	0	0	0	0	Trucking Facility
61	TFN	317	Western Cape	Wine Route Diesel Depot	-33.804465	18.869094	80 Old Paarl Road, R101, Klapmuts, 7625, Western Cape	0218755504	1	1	1	1	1	1	1	0	0	0	1	0	0	Trucking Facility
62	TFN	323	Western Cape	Sir Lowry Diesel Depot	-34.120179	18.876378	2 Laker Road, Helderberg Industrial Park, Strand, Western Cape	0218454236	1	0	1	1	0	0	0	0	0	0	0	0	0	Service Station
63	TFN	325	Western Cape	West Coast Petroleum	-32.907024	18.001197	Main Road (R399), Vredenburg, 7310, Western Cape	0227131432	1	0	1	1	0	0	1	0	0	0	0	0	0	Service Station
64	TFN	328	Western Cape	Hoofweg Motors	-33.930213	18.606302	c/o Stellenberg and Tekstiel Road, Parow Industria, 8001, Western C	0219335775	1	0	1	1	0	0	1	0	0	0	0	0	0	Service Station
65	TFN	385	Western Cape	Fuel 1 - Manhattan Airport	-33.972282	18.579581	50 Manhattan Street, Airport Industria, 8001, Western Cape	0213850817	1	1	0	1	1	0	1	1	0	0	0	0	0	Service Station
66	TFN	391	Western Cape	Fuel 1 - Bellville South	-33.923762	18.650167	6 Mill Road, Bellville South, Western Cape	0219511035	1	0	1	1	1	1	1	1	1	0	0	0	0	Trucking Facility
67	TFN	392	Western Cape	Fuel 1 - Parow	-33.934467	18.604095	3 Radnor Street, Parow Industria, 7490, Western Cape	0219884111	1	1	1	1	1	1	1	1	0	0	0	0	1	Trucking Facility
68	TFN	400	Western Cape	Hoofweg Motors	-32.985664	21.684412	National Road (N1), Prince Albert Road, Western Cape	0235221006	1	1	1	1	1	1	0	1	0	0	0	0	0	Trucking Facility
69	Total	153	Western Cape	Total Beaufort West	-32.3542487	22.583687	127 Donkin St, Beaufort West, 6970	0234143227	1	1	1	1	1	1	0	0	0	0	0	0	0	Basic Truck Stop
70	Total	172	Western Cape	Total Petroport Mossel Bay	-34.180341	22.0286403	2, Mossel Bay, 6506	0446981388	1	1	1	1	1	1	1	1	0	0	0	0	0	Trucking Facility
71	Total	173	Western Cape	Total Great Brak	-34.0548246	22.2243968	R102, Bergsig, Groot Brakrivier, 6525	0446203711	1	1	1	1	1	1	0	1	0	0	0	0	0	Trucking Facility
72	Total	401	Western Cape	Total TruckStop Piketberg	-32.90766	18.76601	Kerk st N7 Corner of N7 and R44, CBD, Piketberg, 7320	0659710840	1	1	1	1	1	1	1	1	0	0	0	0	1	Trucking Facility

10 Appendix C – Hop Multiplication results

No	Site ID	Site name	Site type	Location	Latitude	Longitude	Lanes	ADTT	Nearest hub/stop	3 Hop Multiplication Metric value
1	18008	ST-J_N007_05_79-3	Secondary (Temp)	Between Nuwerus and Bitterfontein	-31.055665	18.29149	2	262	Dawella Auto Springbok	959 089 427
2	18009	ST-J_N007_06_03-7	Secondary (Temp)	Between Bitterfontein and Pofadder T/O	-31.008088	18.261728	2	243	Dawella Auto Springbok	761 578 389
3	18010	ST-J_N007_06_04-7	Secondary (Temp)	Between Pofadder T/O and WC Border	-30.99925	18.259172	2	218	Dawella Auto Springbok	535 274 957
4	18047	ST-J_N002_08_31-6	Secondary (Temp)	Between Knysna and R339 Uniondale T/O	-34.041813	23.079007	2	1217	Sasol George Highway	638 077 383
5	18070	ST-J_N002_05_5-0	Secondary (Temp)	Between Swellendam & Buffeljagsrivier	-34.028179	20.484968	2	1253	Caltex Riviersonderend	821 348 096
6	18038	ST-J_N002_05_20-7	Secondary (Temp)	Between Buffeljagsrivier & R324 Witsand T/O	-34.087797	20.641213	2	966	Caltex Riviersonderend	801 475 703
7	18073	ST-J_N002_05_12-6	Secondary (Temp)	Between R324Barrydale T/O and R324 Witsand T/O	-34.055605	20.587707	3	969	Caltex Riviersonderend	743 603 527
8	18071	ST-J_N002_05_8-2	Secondary (Temp)	Between Buffeljagrivier T/O & Sparrebosch T/O	-34.036835	20.529142	2	1056	Caltex Riviersonderend	738 846 405
9	715	Swellendam East	Permanent	Between Swellendam and R324 Barrydale TO	-34.041	20.560583	2	1009	Caltex Riviersonderend	734 250 837
10	18098	ST-J_N002_05_1-5	Secondary (Temp)	Between Swellendam Voortrekker St T/O	-34.024082	20.4597	2	1050	Caltex Riviersonderend	653 084 090

No	Site ID	Site name	Site type	Location	Latitude	Longitude	Lanes	ADTT	Nearest hub/stop	3 Hop Multiplication Metric value
11	1043	Knysna East	Permanent	Between Knysna and Plettenberg Bay	-34.035305	23.128616	2	1008	Sasol George Highway	470 358 574
12	18037	ST-J_N002_04_56-3	Secondary (Temp)	Between R60 Robertson T/O and Buffeljagsrivier	-34.032395	20.4378	2	1020	Caltex Riviersonderend	599 425 195
13	1206	De Doorns	Secondary (Temp)	Between De Doorns and Touwsriver	-33.439388	19.711267	2	1683	BP Touws Rivier	699 913 540
14	18086	ST-J_N002_04_54-6	Secondary (Temp)	Between Stroom St Swellendam & R60 Robertson T/O	-34.044872	20.430275	2	841	Caltex Riviersonderend	479 365 080
15	18048	ST-J_N002_08_51-3	Secondary (Temp)	Between Plettenberg Bay Airport Rd & Wittedrift TO	-34.044345	23.272405	2	916	Engen Sherwoods Humansdorp	296 532 781
16	917	Swellendam R60	Permanent Piezo	Between Swellendam and Montagu Turnoff	-34.024055	20.417778	2	620	Caltex Riviersonderend	391 110 220
17	18049	ST-J_N002_08_57-6	Secondary (Temp)	Between Kwanokuthula & Plettenberg	-34.051988	23.337285	2	1085	Engen Sherwoods Humansdorp	280 323 666
18	18017	ST-J_N001_03_50-4	Secondary (Temp)	Between De Doorns & R318 Montagu T/O	-33.395485	19.805935	2	1772	BP Touws Rivier	477 387 696
19	292	Piekenierskloof New	Secondary	Between Piketberg and Citrusdal	-32.611332	18.971972	3	898	Total TruckSleep & TruckStop Piketberg	386 832 233
20	5015	Citrusdal	Permanent	Between Citrusdal and Clanwilliam (0054C)	-32.591194	18.98917	2	759	Total TruckSleep & TruckStop Piketberg	373 366 407

11 Appendix D – Areas of interest



12 Appendix E – Stakeholders engaged

Stakeholder Category	Authorities / Organisations	Information	Information provided	General comments	Information inclusion in WC Truck Stop Study	Comment inclusion in WC Tuck Stop Study
Public	**WCG: DOI - Road Planning**	Freight Route Map	YES	Consider adding section in report on truck stop formalization	YES - Section 5.2.2.7	YES - Section 6.2
Public	**WCG: DOI - Regional Road Management**			Consider Klapmuts as a possible freight Village location	-	NO - Impact as a possible future generator of truck volumes noted but not considered at this time.
Public	**WCG: WCMD - Transport Policy**			The role of private vs province i.t.o structure - not province's responsibility to provide truck stops - but how can province assist private entities in creating sustainable development?	-	YES - Section 6
Public	**WCG: DOI - Road Design**			Upgrade of roads lead to an increase in truck volumes, Piketberg-Veldrif Road given as an example	-	NO - Impact of road upgrades on truck volumes noted, however assessment was done based on existing truck volumes and road infrastructure.

Stakeholder Category	Authorities / Organisations	Information	Information provided	General comments	Information inclusion in WC Truck Stop Study	Comment inclusion in WC Tuck Stop Study
Public	**WCG: DEA&DP**			The gender of the trucker also needs to be considered when developing truck stop standards	-	YES - Section 7
Public	**WCG: DEA&DP - Waste Management**			What is the average physical ability for a truck driver to concentrate on the road, take a bathroom break and refuel?	-	YES - Section 4.6.4
Public	**WCG: DEA&DP - Development Planning**			Important to consider how the road to rail policy position impacts the truck stop facility study	-	NO - Considering the problems that are being faced by freight rail in SA, modal balance is unlikely to be achieved in the immediate future. Initiatives are being persued to achieve a sustainable modal shift, however there will always be road transport and resultant industry reuirements.
Public	**WCG: DEA&DP - Air Quality Management**			Could be worth while to look at Vehicle Emissions Monitoring (VEM Diesel) at truck stops - Garden Route DM and CoCT already have VEM programmes	-	YES - Section 7
Public	**WCG: DEA&DP - Environmental Sustainability**			Can truck stops create a safer environment for sex workers?	-	NO - the importance of this is noted and further engagements with stakeholders is required to estalish guidelines which speak to the safety of sex workers.
				Logistics companies and trucker unions to be consulted	-	YES - Included in stakeholder engagements
Public	**WCG: DEA&DP - Spatial Planning**			Report to capture "future work"	-	YES - Section 7
Public	**WCG: DOI**			What amount of trucks will the facilities need to be able to accommodate? Will drivers be able to know beforehand if a facility is full?	-	YES - Section 7
Public	**WCG: WCMD**			Important to consider alternative fuels in the future (such as green hydrogen) - UWC has a Green Hydrogen Innovation Centre	-	YES - Section 7
Public	**WCG: WCGH&W**			Health is noted as having an impact on everyone - therefore important to get clinics up and running at truck stops in hot spots	-	YES - Section 3.2
Public	**WCG: DEDAT**	**Could not secure an engagement**				
Public	**WCG: DOSD**					

Stakeholder Category	Authorities / Organisations	Information	Information provided	General comments	Information inclusion in WC Truck Stop Study	Comment inclusion in WC Tuck Stop Study
Public	**Cape Winelands DM**			Need a freight strategy to use for allowing/disallowing truck stop applications	-	YES - Section 6.1 and 6.2
Public	**Witzenberg LM**			Trucks use smaller roads for less traffic, toll roads and weigh bridges	-	YES - Section 5.2.2.2
Public	**Breede Valley LM**			NB: Municipalities do not have pre-defined criteria for truck stop construction	-	YES - Section 6.2
Public	**Drakenstein LM**	Goedgevonden application - outside Wolsely	YES	Witzenberg has a approved truck stop application. 2017, R46 and Main Road 305, Goedgevonden Farm. Construction not started. Gouda logistical hub (C/O R44 & R46) - possible opportunity	YES - Section 5.2.2.6	YES - Section 5.2.2.6
Public	**Langeberg LM**			Trucks pass the N1 via the R101 (Muldersvlei/Klapmuts) to avoid weghbridges	-	YES - Section 5.2.2.2
Public	**Stellenbosch LM**			Informal truck stop in Klapmuts - application filed for a permanent truck stop - application denied. Land use portrayal inaccurate (crossing over provate land not owned by the applicant). Three major issues with truck stops: 1. Space 2. Access roads to/from the truck stop not designed for heavy loads 3. Socai ills	-	YES - Section 5.2.2.2
Public	**Garden Route DM**			Oudtshoorn has informal truck stop problems. Nothing in the IDP/SDF	-	YES - Section 5.2.2.1
Public	**George LM**			Heidelberg a problem with informal truck stops	-	YES - Section 5.2.2.1
Public	**Oudtshoorn LM**			No specific specs for application - site traffic assessment or TIA required. Truck stop requirements is the developers mandate - no mandate from municipality	-	YES - Section 6.2
Public	**Hessequa LM**	Riversdal application - approved	YES		YES - Section 5.2.2.6	N/A
Public	**Mossel Bay LM**	Moss dustria application	NO		YES - Section 5.2.2.6	N/A
Public	**Swellendam LM**			No applications received in Swellendam LM. Large informal truck stop has developed next to the traffic department, validating the Hop Multiplication results.	-	YES - Section 5.2.2.1

Stakeholder Category	Authorities / Organisations	Information	Information provided	General comments	Information inclusion in WC Truck Stop Study	Comment inclusion in WC Tuck Stop Study
Public	**West Coast DM**			Malmesbury are struggling with informal trucks parked along Bokomo Road & Paarl Road. Riebeeck-West are struggling with informal truck parking.	-	YES - Section 5.2.2.1
Public	**Matzikana LM**	Nuwerus application - approved	YES	KoekenAap, Vredendal, Lutzville and Nuwerus have informal truck stops	YES - Section 5.2.2.6	YES - Section 5.2.2.1
Public	**Saldanha Bay LM**			Saldanha does not want a truck stop - noted social ills as a reason for this	-	Already noted in Section 3.3.1
Public	**Cederberg LM**			Mining companies produce large truck volumes	-	NO - Impact as a possible future generator of truck volumes noted but not considered at this time.
Public	**Swartland LM**			Law Enforcement has limited capacity which often results in unavailability to attend to issues surrounding activities at informal truck stops	-	YES - Section 5.2.2.2
Public	**Central Karoo DM**	**Could not secure an engagement**				
Public	**Prince Albert LM**					
Public	**City of Cape Town**	Any recent applications	YES	Should the locations of fuel bunkering systems be considered to identify truck stop locations?	YES - Section 5.2.2.6	NO - The methodology provided a more generic assessment to identify truck stop locations. Where such locations fall within their jurisdiction, each planning authority can take the location and activity at these points into consideration when they evaluate the need/assess an application for a truck stop.
				The CoCT is struggling with illegal parking of trucks in the metro - resultant of unsufficient truck stops or staging areas?	-	YES - Section 7
Public	**SANRAL**	Applications received	YES	SANRAL has established a Business Development Unit. Can be used to establish PPP's.	YES - Section 5.2.2.6	NO - It has been noted that the SANRAL Business Development Unit has been established and should be incorporated in future studies when considering PPP's.
				Only spacing and access control are of concern to SANRAL	-	YES - Section 6.2
		Policy for rest facilities on national roads	YES	SARTSM has a fuel station classification	YES - Section 6.2	YES - Section 6.2
				No land on N1 and N7 - land available on N2. SANRAL charges service levy for access to major roads.	-	NO - further analysis required to validate this statement

Stakeholder Category	Authorities / Organisations	Information	Information provided	General comments	Information inclusion in WC Truck Stop Study	Comment inclusion in WC Tuck Stop Study
Private	**Safer Stops Association**	Safer Stops Questionnaire	YES	Dual driver system used - truck stops not safe enough. Focus on improving existing truck stops rather than adding new truck stops.	-	YES - Section 6.2
Private	**Road Freight Association**	Presentation	YES	Hop Multiplication results and fuel station classification guidelines stated in the report are valid.	-	YES - Section 5.2.2.1. Presentation was used to validate the 12 service provision elements utilized in the fuel station classification.
Private	**SA Long Distance Truckers**			Need buy in from trucking companies to get drivers into truck stops.	-	YES - Section 5.2.2.3
Private	**SAAFF**			Transport regulations need to be put into place to limit the working hours per driver.	-	YES - Section 5.2.2.3
Private	**Truckers for Transformation**			DoT is not policing the legislation i.t.o working hours. Companies are not respecting driver requirements.	-	YES - Section 5.2.2.3
Private	**Industry representative**			Need to understand where the blockages are in the logistics chain.	-	NO - It has been noted that the freight network is an integrated, co-dependent system where operations, infrastructure, legislation, development all impact each other and must be incorporated as such in future studies.
Private	**Truckers for Unity**			Additional truck stops in the metro will take pressure of rural areas such as Laingsburg, Beaufort West. Cost of land and rezoning limiting the development of truck stops.	-	YES - Section 7
Private	**Industry representative**			Owner tells driver where to buy fuel, driver decides where to stop for ablutions, rest and food. Truck stops need to care about the driver and fuel sales - ensuring the facility can meet driver and truck owner requirements. Drivers need to be upskilled during the day at truck stops.	-	YES - Section 5.2.2.4

Contact Person

Email: **Corrine.Gallant@westerncape.gov.za**

Tel: +27 21 483 6909 **Fax:** +27 86 510 0611

Western Cape Mobility Department

www.westerncape.gov.za

Western Cape Government