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SOUTH AFRICAN NATIONAL ROADS AGENCY SOC LTD
Reg.No.1998/009584/30
BUILDING SOUTH AFRICA
THROUGH BETTER ROADS

# THE SOUTH AFRICAN NATIONAL ROADS AGENCY SOC LIMITED

## CONTRACT NO. NRA X.002-066-2018/1F

## CONSULTING ENGINEERING SERVICES FOR THE ROUTINE ROAD MAINTENANCE OF NATIONAL ROAD R511 SECTION 2 & 3 FROM GAUTENG BORDER TO LIMPOPO BORDER, R512 SECTION 2 & 3 FROM GAUTENG BORDER TO BRITS AND N4 SECTION 12 FROM R512 TO N4

## ROAD CONDITION REPORT

**REPORT DATE:** **1 APRIL 2026**
**COVERING THE PERIOD:** **1 OCTOBER 2025 to 31 MARCH 2026**

**PREPARED FOR:**

**SOUTH AFRICAN NATIONAL ROADS AGENCY SOC LIMITED**
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**PREPARED BY:**

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[redacted]

## GENERAL ROUTINE ROAD MAINTENANCE INFORMATION

## DISCLAIMER

This report has been compiled by [redacted] on behalf of the South African National Roads Agency SOC Limited for the use of its routine road maintenance contracts on the national road network.

The information provided in this report is based on data which has been collected on the routine road maintenance contracts over the past three years. The South African National Roads Agency SOC Limited takes no responsibility for the accuracy or adequacy of each item, which is offered in good faith.

**VERSION CONTROL TABLE**

CLIENT: **THE SOUTH AFRICAN NATIONAL ROADS AGENCY SOC LIMITED**

CONSULTANT: [redacted]

PROJECT DESCRIPTION: **THE ROUTINE ROAD MAINTENANCE OF NATIONAL ROAD R511 SECTION 2 & 3 FROM GAUTENG BORDER TO LIMPOPO BORDER, R512 SECTION 2 & 3 FROM GAUTENG BORDER TO BRITS AND N4 SECTION 12 FROM R512 TO N4**

CONTRACT NUMBER: **NRA X.002-066-2018/1F**

DOCUMENT TITLE: **ROAD CONDITION REPORT**

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Issued by:
Project Leader:

Name: .....

..... .....
SIGNATURE DATE

# THE SOUTH AFRICAN NATIONAL ROADS AGENCY SOC LIMITED

**PROJECT No: SANRAL X.002-066-2018/1F**

**PROJECT NAME: CONSULTING ENGINEERING SERVICES FOR THE ROUTINE ROAD MAINTENANCE OF NATIONAL ROAD R511 SECTION 2 & 3 FROM GAUTENG BORDER TO LIMPOPO BORDER, R512 SECTION 2 & 3 FROM GAUTENG BORDER TO BRITS AND N4 SECTION 12 FROM R512 TO N4**

## ROAD CONDITION REPORT

**Reporting period (*October 2025 to March 2026*)**

Compiled by:

[redacted]

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For:

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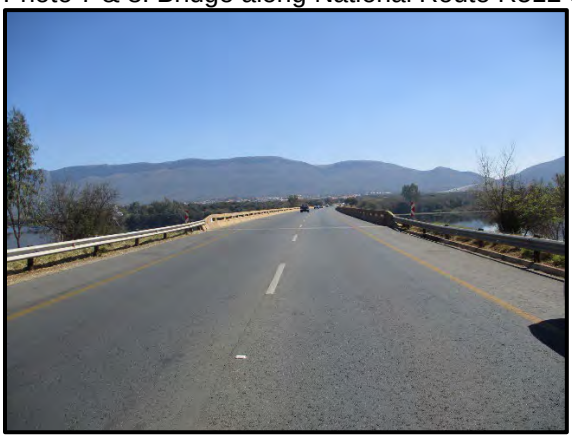
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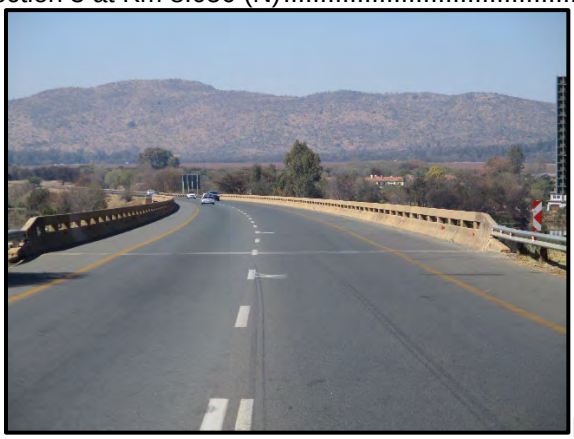


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# 1 INTRODUCTION

This report is intended to provide an updated record of the road condition and maintenance actions to be implemented. The purposes of this report are:

- To provide the Project Managers with an overview of the route condition; and
- To inform prospective contractors of the current route condition for tendering purposes.

Although efforts have been made to ensure that this report accurately represents the current route condition, the report cannot be regarded as conclusive. The information given is based on visual survey data gathered from the site over a period of six months (*October 2025 to March 2026*).

The standard industry guideline, TMH 9, was followed during the visual condition assessment of the route. TMH 9 is a useful guideline for the visual evaluation of the condition of flexible paved roads for use in the Pavement Management System (PMS). TMH9 outlines the standard assessment procedures and specifies the requirements for road segment information data. It provides a classification system for various pavement distress types with detailed descriptions of the standardised quantification of the degree and extent for each distress type. The key objectives for carrying out the visual assessment are to determine the following:

- Condition indices,
- Maintenance and rehabilitation need, and
- Priorities at network level.

Over the years, SANRAL has developed a Routine Road Maintenance Manual as a guideline for use in all of the routine maintenance contracts implemented on their road network. The scope of the routine road maintenance activities covered by this manual encompasses all the various aspects pertaining to routine road maintenance of National Roads, including the maintenance and management of the road reserve. This manual has been developed based on various industry guidelines and standards which, among others, include the following:

- TMH 9 (Standard Visual assessment manual for flexible pavements) and TRH 16 (Nomenclature and methods for describing the condition of asphalt pavements),
- Bituminous Pavement Repairs, General Repairs and Patching published by SABITA,
- South African Road Traffic Signs Manual (SARTSM),
- Site Management System for Routine Road Maintenance Contracts,
- National Slope Management Systems,
- Road Incident Management System,
- Drainage Manual (5th Edition), and
- Manual on Bi-Annual Bridge, Culvert and Gantry Inspections.

# 2 SCOPE

The primary aim of this report is to provide current and historic routine road maintenance data of the (NRA X.002-066-2018/1F) contract. Planned maintenance activities to address current maintenance needs will be discussed for the period from (*October 2025 to March 2026*). "The data allows project managers to address the needs of the project at all levels within the guidelines and ensures that the works required reflect actual conditions based on collected data.
The topics covered fall under the following broad categories:

- General information
- General as built information
- Traffic information
- Road furniture information
- Historic routine road maintenance information
- Proposed future rehabilitation projects.
- Sub-contractors and ABE's involved with Routine Road Maintenance

# 3 DESCRIPTION OF CONTRACT

## 3.1 Route description and locality plan

The route description of the national route sections for which routine road maintenance will be provided by this contract, varies and is as follows:

***(a)*** *National Route R511 Section 2*

The Section of Route R511, also known as Provincial Road P249 Section 1, as declared by all Administrator's Notices which might be relevant to this section of road, commencing from its junction with the North-West/Gauteng Provincial Border, from where it proceeds in a general westerly direction along the existing Provincial Road P249 Section 1 up to its junction with Provincial District Road D1562;

The Section of Route R511, also known as Provincial District Road 01562, as declared by all Administrator's Notices which might be relevant to this section of road, commencing from its junction with Provincial Road P249 Section 1, from where it proceeds in a general northerly direction along the existing Provincial District Road D1562, up to where it joins Provincial Road P35 Section 1;

The Section of Route R511, also known as Provincial Road P35 Section 1, as declared by all Administrator's Notices which might be relevant to this section of road, commencing from where it joins Provincial District Road D1562, from where it proceeds in a general northerly direction along the existing Provincial Road P35 Section 1 up to where it joins Provincial Road P110 Section 1.

(i) Commences at km 0.0 (North-West/Gauteng Provincial Border) and ends at km 21.5 (Brits)

- Type of carriageway = Single (S1) carriageway with climbing lanes
- Surfacing = Multiple seals
- Interchanges = Nil
- Shoulders = Paved (P) & Unpaved (U)
- Toll Plazas = Nil
- Carriage width = Varies
- Road reserve width = Varies
- Median description = Nil
- Topography = Rolling/Mountainous
- Climate (Weinert) = Moderate

(ii) Commences at km 21.5 (Brits) and ends at km 25.6 (Brits)

- Type of carriageway = Divided (D2) carriageway
- Surfacing = Multiple seals
- Interchanges = Nil
- Shoulders = Paved & Unpaved
- Toll Plazas = Nil
- Carriage width = Varies
- Road reserve width = Varies
- Median description = Raised kerb median
- Topography = Rolling
- Climate (Weinert) = Moderate

***(b)*** *National Route R511 Section 3*

The Section of Route R511, also known as, Provincial Road P110 Section 1, as declared by all Administrator's Notices which might be relevant to this section of road, commencing from where it joins Provincial Road P35 Section 1, from where it proceeds in a general northerly direction along the existing Provincial Road P110 Section 1 through the township of Brits, up its junction with the North-West/Limpopo Provincial Border, where it terminates as a National Road.

(i) Commences at km 0.0 (Brits) and ends at km 75.4 (North-West/Limpopo Provincial Border)

- Type of carriageway = Single (S1) carriageway
- Surfacing = Multiple seals
- Interchanges = Nil
- Shoulders = Paved (P) & Unpaved (U)
- Toll Plazas = Nil
- Carriage width = Varies
- Road reserve width = Varies
- Median description = Nil
- Topography = Rolling/Mountainous
- Climate (Weinert) = Moderate

***(c)*** *National Route R512 Section 2*

The Section of Route R512, also known as Provincial Road P103 Section 2, as declared by all Administrator's Notices which might be relevant to this section of road, commencing from the junction with the North-West/Gauteng Provincial Border, from where it proceeds in a general northerly direction along the existing Provincial Road P103 Section 2 up to its junction with Route R104, also known as Provincial Road P31 Section 1 at Broederstroom, where it terminates as a National Road.

(i) Commences at km 16.16 (North-West/Gauteng Provincial Border) and ends at km 23.65 (Broederstroom)

- Type of carriageway = Single (1) carriageway with climbing lanes
- Surfacing = Multiple seals
- Interchanges = Nil
- Shoulders = Paved (P) & Unpaved (U)
- Toll Plazas = Nil
- Carriage width = Varies
- Road reserve width = Varies
- Median description = Nil
- Topography = Mountainous / rolling
- Climate (Weinert) = Moderate

***(d)*** *National Route R512 Section 3*

The Section of Route R512, also known as Provincial Road P35 Section 2, as declared by all Administrator's Notices which might be relevant to this section of road, commencing from its junction with Route R104, also known as Provincial Road P2 Section 4, from where it proceeds in a general northerly direction along the existing Provincial Road P35 Section 2 through the township of Brits up to its junction with Route R511 in Brits, where it terminates as a National Road.

(i) Commences at km 0.0 (Junction at Route R104) and ends at km 10.6 (R511-3 - Brits)

- Type of carriageway = Single (S1) carriageway
- Surfacing = Multiple seals
- Interchanges = Nil
- Shoulders = Paved (P) & Unpaved (U)
- Toll Plazas = Nil
- Carriage width = Varies
- Road reserve width = Varies
- Median description = Nil
- Topography = Rolling
- Climate (Weinert) = Moderate

***(e)*** N*ational Road N4 Section 12*

The Section of National Road 4 Section 12 as declared by all Administrator's Notices which might be relevant to this section of road, commencing from the junction with Provincial Road R512, from where it proceeds in a general northern direction along the existing Provincial Road R512 Section 1 up to its junction with National Road N4.

(i) Commences at km 24.6 (Junction with Route R512) and ends at km 28.1 (Connection with National Road N4)

- Type of carriageway = Single (S1) carriageway
- Surfacing = Multiple seals
- Interchanges = Nil
- Shoulders = Paved (P) & Unpaved (U)
- Toll Plazas = Nil
- Carriage width = Varies
- Road reserve width = Varies
- Median description = Nil
- Topography = Rolling
- Climate (Weinert) = Moderate

(ii) Commences at km 28.1 (on N4-12 W) and ends at km 34.2 (R512-3 interchange)

- Type of carriageway = Double undivided (D2) carriageway
- Surfacing = UTFC
- Interchanges = 2 (km 29.6 & 33.8)
- Shoulders = Paved
- Toll Plazas = Nil
- Carriage width = Varies
- Road reserve width = Varies
- Median description = No median
- Topography = Rolling/Mountainous
- Climate (Weinert) = Moderate

(iii) Commences at km 34.2 (R512-3 interchange) and ends at km 37.6 (Connection with National Road N4 interchanges)

- Type of carriageway = Single (S1) carriageway
- Surfacing = Multiple seals
- Interchanges = Nil
- Shoulders = Paved (P) & Unpaved (U)
- Toll Plazas = Nil
- Carriage width = Varies
- Road reserve width = Varies
- Median description = Nil
- Topography = Rolling
- Climate (Weinert) = Moderate

**Table 1: Description of various route sections with estimated surface areas**

| Route | Section | Kilometre | | Length (km) | Road Pavement Area* ($m^2$) | Road Reserve Area* (ha) dual (m) | Road Reserve Area* (ha) |
|---|---|---|---|---|---|---|---|
| | | Start | End | | | | |
| R511 | 2 | 0.00 | 25.60 | 25.60 | 237,611 | 25,3 | 103 |
| R511 | 3 | 0.00 | 75.40 | 75.40 | 590,977 | Nil | 226 |
| R512 | 2 | 16.16 | 23.65 | 7.49 | 58,029 | Nil | 30 |
| R512 | 3 | 0.00 | 10.60 | 10.60 | 87,800 | Nil | 43 |
| N4 | 12 | 24.60 | 37.60 | 13.00 | 200,790 | 67,3 | 324 |
| | | | Totals | 132.090 | 1,175,207.00 | | |

# 4 GENERAL

## 4.1 Traffic

An analysis of the traffic carried by the route is provided in Table 2 and includes the following traffic measures; annual average daily traffic (AADT) in both directions, the number of E80 kN axle loads and the year in which it was observed. This information was obtained from the Department's CTO system (Comprehensive Traffic Observations).

**Table 2: Traffic Information**

| Route | Section | Station | Km | ADT | ADTT | Daily E80 kN Axle Loads | Year | Counted (T) or Estimated (B) |
|---|---|---|---|---|---|---|---|---|
| N 004 | 12 | 872 | 26.34 | 11881 | 911 | 1451 | 2023 | T |
| R 511 | 2 | 19239 | 22.38 | 13854 | 1419 | 3556 | 2023 | T |
| | 3 | 19169 | 105.73 | 2401 | 464 | 627 | 2023 | T |
| | | 19099 | 87.25 | NA | NA | 979 | 2023 | T |
| R 512 | 3 | 19241 | 4.693 | 13788 | 1219 | 1938 | 2023 | T |
| | | 19241 | 4.693 | 7391 | 631 | 1390 | 2019 | T |

## 4.2 KM – distance references

The South African National Roads Agency SOC Ltd (SANRAL) km-distance reference marker boards (blue boards) have been installed on all sections to assist with determining accurate locations of points of interest along the route. All routes are provided with the blue marker boards spaced at 200m intervals at the coordinates provided by SANRAL.

## 4.3 Urban and peri-urban sections included in Route Sections

Urban and peri-urban sections as identified in Table 3 are considered sections which will require more frequent maintenance activities such as cleaning and removal of litter and debris as well as activities associated with pedestrian and road user safety such as fencing, road marking and road signs amongst others.

**Table 3: Peri-Urban areas**

| Town | Type | Section and Kilometre | | | | Length (m) |
|---|---|---|---|---|---|---|
| | | Start | | End | | |
| | | Section | km | Section | Km | |
| GP/NW Border - Brits | Peri-Urban | R511-2 | 4.8 | R511-2 | 10.27 | 5500 |
| NW/Limpopo Border- Brits | Peri-Urban | R511-3 | 0.0 | R511-3 | 1.1 | 1100 |
| Brits (R104) | Peri-Urban | R512-3 | 8.4 | R512-3 | 10.6 | 2200 |
| Brits | Peri-Urban | R511-2 | 13.3 | R511-2 | 21.5 | 4100 |
| GP/NW Border - Brits | Rural | R511-2 | 0.0 | R511-2 | 4.8 | 4810 |
| GP/NW Border - Brits | Rural | R511-2 | 10.27 | R511-2 | 21.17 | 10900 |
| Brits | Rural | R511-3 | 1.1 | R511-3 | 75.4 | 74300 |
| NW/GP Border | Rural | R512-2 | 0.0 | R512-2 | 7.63 | 7600 |
| Brits (R104) | Rural | R512-3 | 0.0 | R512-3 | 8.4 | 8400 |
| Brits (R104) | Rural | N4-12 | 24.6 | N4-12 | 29.6 | 5000 |
| Brits (R104) | Rural | N4-12 | 29.5 | N4-12 | 37.5 | 8000 |

## 4.4 Cross-sectional properties

**Table 4: Cross-section profile information**

| Route & Section | Kilometre | | Total Length (km) | Road prism (width in metres) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | West Bound | | | | East Bound | | | |
| | Start | End | | Road Reserve(m) | Gravel Shoulder(m) | Surfaced Shoulder(m) | Surfaced Lanes No | Surfaced Lanes No. | Surfaced Shoulder(m) | Gravel Shoulder(m) | Road Reserve(m) |
| R511-2 | 0.0 | 4.3 | 4,3 | 20 | 2,5 | Nil | 1 | 2 | Nil | 2,5 | 20 |
| | 4.3 | 5.6 | 1,3 | 20 | 2,5 | Nil | 1 | 1 | Nil | 2,5 | 20 |
| | 5.6 | 7.3 | 1,7 | 20 | 2,5 | Nil | 1 | 1 | Nil | 2,5 | 20 |
| | 7.3 | 7.4 | 0,1 | 20 | 2,5 | Nil | 2 | 2 | Nil | 2,5 | 20 |
| | 7.4 | 8.4 | 1.0 | 16 | 2,5 | Nil | 2 | 2 | Nil | 2,5 | 16 |
| | 8.4 | 10.3 | 1.9 | 16 | 2,5 | Nil | 1 | 1 | Nil | 2,5 | 16 |
| | 10.3 | 11.7 | 1,4 | 16 | 2,5 | Nil | 2 | 2 | Nil | 2,5 | 16 |
| | 11.7 | 16 | 4,3 | 16 | 2,5 | Nil | 1 | 2 | Nil | 2,5 | 16 |
| | 16.0 | 17.2 | 1,2 | 16 | 2,5 | Nil | 1 | 1 | Nil | 2,5 | 16 |
| | 17.2 | 21.2 | 4,0 | 16 | 2,5 | Nil | 1 | 1 | 2,5 | Nil | 16 |
| | 21.2 | 24.5 | 3,3 | 20 | 2,5 | Nil | 2 | 2 | Nil | 2,5 | 20 |
| | 24.5 | 25.6 | 1,1 | 20 | Nil | 2,5 | 2 | 2 | 1.5 | Nil | 20 |
| R511-3 | 0.0 | 10.6 | 10,6 | 16 | 2,5 | Nil | 1 | 1 | Nil | 2,5 | 16 |
| | 10.6 | 13.6 | 3,0 | 16 | 1,2 | 1,5 | 1 | 1 | 1,5 | 1,2 | 16 |
| | 13.6 | 75.4 | 61,8 | 16 | 2,5 | Nil | 1 | 1 | Nil | 2,5 | 16 |
| R512-2 | 16.16 | 23.65 | 7,49 | 16 | 1,0 | 1,5 | 1 | 1 | 1,5 | 1,0 | 16 |

| Route & Section | Kilometre | | Total Length (km) | Road prism (width in metres) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | West Bound | | | | East Bound | | | |
| | Start | End | | Road Reserve(m) | Gravel Shoulder(m) | Surfaced Shoulder(m) | Surfaced Lanes No | Surfaced Lanes No. | Surfaced Shoulder(m) | Gravel Shoulder(m) | Road Reserve(m) |
| R512-3 | 0 | 6 | 6,0 | 40 | 2,5 | Nil | 1 | 1 | Nil | 2,5 | 16 |
| N4-12 | 24.6 | 25.85 | 1,25 | 40 | 2,5 | Nil | 1 | 1 | Nil | 2,5 | 40 |
| | 25.85 | 28.05 | 2,2 | 40 | Nil | 1,5 | 1 | 1 | 1,5 | Nil | 40 |
| | 28.05 | 29.6 | 1,55 | 40 | Nil | 1,9 | 2 | 2 | 1,9 | Nil | 40 |
| | 29.6 | 30.55 | 950 | 40 | Nil | 1,9 | 3 | 2 | 1,9 | Nil | 40 |
| | 30.55 | 31.1 | 550 | 100 | Nil | 2,3 | 3 | 3 | 2,3 | Nil | 80 |
| | 31.1 | 32.2 | 1,1 | 60 | Nil | 1,9 | 2 | 3 | 1,9 | Nil | 40 |
| | 32.2 | 34.3 | 2,1 | 60 | Nil | 2,3 | 2 | 2 | 2,3 | Nil | 40 |
| | 34.3 | 37.7 | 3,4 | 60 | Nil | 2,0 | 1 | 1 | 2,0 | Nil | 30 |

## 4.5 District Municipalities

This project is located in the North West Province in the Bojanala District Municipality and falls within the Madibeng Municipal borders.

## 4.6 Climate

The climate can be classified as moderate (Weinert).

## 4.7 Climate – Rainfall

The average yearly rainfall was recorded as 360 mm according to the latest available data.

## 4.8 Climate – Temperatures

The average yearly temperature is 19ºC according to the latest available data.

## 4.9 Material sources

Possible sources of aggregate and asphalt identified on route are provided as follows:

**Table 5: Material sources for contract**

| NAME | PRODUCTS | Tel. No. |
|---|---|---|
| All materials are sourced from commercial sources in Tshwane (Bon Accord). | | |

# 5 INTERCHANGES, INTERSECTIONS AND ACCESSES

A summary of the interchanges and intersections is provided in the tables below.

## 5.1 Interchanges

The following interchanges are present on the N4 Section 12:

**Table 6: Interchange information**

| Route | Interchanges | Length | |
|---|---|---|---|
| | Latitude | Longitude | Km |
| N4 Section 12 | 25°44'45.52"S | 27°47'50.43"E | 3.5 |
| | 25°42'48.45"S | 27°46'48.73"E | 3.5 |
| | 25°42'53.77"S | 27°47'403.44"E | 1.0 |
| | 25°42'44.18"S | 27°46'32.27"E | 1.2 |

## 5.2 Intersections

The following intersections are present on the project routes:

**Table 7: Intersection information**

| Description | Destination | KM distance |
|---|---|---|
| R511 Section 2 | | |
| T-junction right | De Vette Mossel | 4.220 |
| T-junction left | Jasmyn | 4.850 |
| T-junction right | Xanadu Nature Estate | 4.850 |
| T-junction right | Pretville | 5.870 |
| T-junction right | Total Garage | 7.565 |
| T-junction right | Wellness World Corporate Park | 7.680 |
| T-junction right | Private properties | 7.800 |
| T-junction left | African Island Picnic Resort | 7.935 |
| T-junction right | Gateway Manor residential estate | 8.130 |
| T-junction left | Schuman Street | 8.475 |
| T-junction left | Private properties | 9.200 |
| T-junction right | Private properties | 9.200 |
| T-junction left | Mount Cambridge School | 9.460 |
| T-junction right | Private properties | 9.490 |
| T-junction right | Business entrance / exit | 9.500 |
| T-junction left | Makalani Bottle Store | 9.525 |
| T-junction right | Business entrance / exit | 9.690 |
| T-junction right | R514 | 10.300 |
| T-junction right | De Wildt | 11.700 |
| T-junction right | Pretoria North | 13.050 |
| T-junction left | R104 - Mooinooi & N4 Rustenburg | 14.245 |
| T-junction right | Multi Plant | 15.970 |
| T-junction right | Interchange from N4 | 17.520 |
| T-junction right | Interchange to N4 | 17.875 |
| T-junction right | Hernic Chrome Mine | 18.700 |

| Description | Destination | KM distance |
|---|---|---|
| T-junction left | Unknown to private properties | 18.950 |
| T-junction left | Unknown to private properties / business | 20.670 |
| R511 Section 3 | | |
| 4-way junction | Van Deventer Street | 0.000 |
| 4-way junction | Ludorf Street | 0.100 |
| 4-way junction | Harrington Street | 0.200 |
| 4-way junction | Van Deventer Street | 0.300 |
| 4-way junction | Danie Street | 1.310 |
| T-junction left | Roodekopjes | 3.850 |
| T-junction left | Losperfontein / Wolwekraal | 7.200 |
| T-junction left | Bethanie | 10.630 |
| T-junction right | Krokodilberg | 14.600 |
| T-junction right | Rashoop | 17.600 |
| T-junction right | Veekraal | 22.385 |
| T-junction left | Sanddrift | 22.950 |
| T-junction right | Sanddrift Primary School | 23.950 |
| T-junction left | Kameeldrift | 26.000 |
| T-junction right | Klipplaat | 29.710 |
| T-junction right | PPC Beestekraal / Atlanta | 46.450 |
| T-junction left | Slachtkraal | 55.600 |
| T-junction right | Leeupoort | 60.760 |
| R512 Section 2 | | |
| T-junction left | Kalkheuwel West | 1.855 |
| T-junction right | Lion & Safari Park | 3.470 |
| T-junction | R104 Pretoria/ R512 Broederstroom | 7.490 |
| R512 Section 3 | | |
| 4-way junction | R 104 | 0.000 |
| Off-ramp | N4 to Rustenburg off-ramp | 0.675 |
| T-junction left | N4 - On-ramp | 0.900 |
| T-junction right | Crocodile Mine | 1.635 |
| T-junction right | Brits Airfield | 2.720 |
| T-junction left | Chemstof Mine | 2.720 |
| T-junction left | Chemstof Mine | 3.740 |
| Off-ramp | N4 - Rustenburg off-ramp | 4.060 |
| T-junction right | N4 - From Pretoria on-ramp | 4.060 |
| T-junction left | N4 - From Rustenburg on-ramp | 4.280 |
| Off-ramp | N4 - To Pretoria off-ramp | 4.280 |
| 4-way junction | AFGRI and private properties (left) | 4.925 |
| 4-way junction | Langplaas (right) | 4.925 |
| 4-way junction | Bokfontein (left) | 5.610 |
| 4-way junction | R566 - To Pretoria North / Ga-Rankuwa / Rosslynn (right) | 5.610 |

| Description | Destination | KM distance |
|---|---|---|
| N4 Section 12 | | |
| T-Junction | R512 Magaliesburg / Broederstroom | 24.500 |
| Intersection - Ramp | R512 Brits / R560 Magaliesburg | 29.600 |
| Intersection - Ramp | R512 Brits / R560 Magaliesburg | 29.600 |
| Interchange | N4 / R512 | 29.600 |

# 6 ROAD FURNITURE

## 6.1 Earth Drains

Several earth channels are located along the National Routes included in this Contract.

Earth channels are effective at managing storm water in areas where the topography is relatively flat. They are also effective where water runoff has relatively low velocities and low erosion potential.

During the previous maintenance Contract earth channels were cleaned and cleared of all foreign objects regularly by maintenance teams. In some instances, the earth channels were severely deteriorated and required repairs or reconstruction to allow water flow and are maintained continuously where and when required.

## 6.2 Concrete Drains

The table below provides a summary of concrete drains on this project.

**Table 8: Concrete drain information**

| Route | Total Length (m) | Comment |
|---|---|---|
| R511 Section 2 | 5,514 | Concrete lined drain |
| | 2,395 | Stone pitched drains |
| | 22,069 | Kerb-channel combination |
| R511 Section 3 | 2,973 | Concrete lined drain |
| | 6,075 | Kerb-channel combination |
| R512 Section 2 | 529 | Concrete lined drain |
| | 250 | Stone pitched drains |
| | 6,541 | Kerb-channel combination |
| R512 Section 3 | 6,612 | Kerb-channel combination |
| N4 Section 12 | 5,456 | Concrete lined drain |
| | 1,645 | Kerb-channel combination |
| Total | 60,059 | |

## 6.3 Guardrails

Guardrails are generally located at areas where the road fill height is higher than 4m, as well as at bridges, large culverts and protected pedestrian walkways along the National Routes.

During this maintenance contract, existing guardrails were repaired, painted and realigned to improve their general state. New guardrails were also installed where required due to safety concerns.

The photos below illustrate examples of guardrail maintenance along the project routes:



**Photo 1: Guardrail in need of repairs along National Route R511 Section 3**



**Photo 2: Guardrail repairs complete along National Route R511 Section 3**

## 6.4 Traffic Signs

A summary of the traffic signs occurring on the project routes is provided below.

**Table 9: Traffic Sign Information**

| Route | Description | Total |
|---|---|---|
| R511 Section 2 | Regulatory and Warning signs | 370 |
| | Guidance signs | 167 |
| R511 Section 3 | Regulatory and Warning signs | 213 |
| | Guidance signs | 96 |
| R512 Section 2 | Regulatory and Warning signs | 29 |
| | Guidance signs | 13 |
| R512 Section 3 | Regulatory and Warning signs | 155 |
| | Guidance signs | 70 |
| N4 Section 12 | Regulatory and Warning signs | 64 |
| | Guidance signs | 32 |

## 6.5 Fencing

Many areas along the project routes are without fencing. This is generally due to theft and/or accidents along the project routes.

Only minor fencing work was possible within the available budget of the previous maintenance Contract as pavement layer repairs were prioritised to improve safety for road users. It is recommended that fencing be included in new rehabilitation contracts due to the high volume of work and funding required.

The table below contains information relating to the type of fencing along the project routes.

**Table 10: Fencing information**

| Route | Type of Fencing | Frequency of Repair | Date of Erection |
|---|---|---|---|
| R511 Section 2 | Stock Proof (6-Strand) | Minor repairs | Pre-2013 |
| R511 Section 3 | Stock Proof (6-Strand) | Minor repairs | Pre-2013 |
| R512 Section 2 | Stock Proof (6-Strand) | Minor repairs | Pre-2013 |
| R512 Section 3 | Stock Proof (6-Strand) | Minor repairs | Pre-2013 |
| N4 Section 12 | Stock Proof (6-Strand) | Minor repairs | Pre-2013 |

## 6.6 Road markings

All project routes are currently remarked under the Performance Based Road Marking Contract in the North West Province which commenced in August 2023.

The road markings have subsequently reached the end of their performance lifetime and most markings no longer comply with the minimum specified retro-reflectivity criteria.

# 7 BRIDGES

Bridge investigations had been done on all the routes and all the maintenance defects that were detected in 2022 were repaired / attended. Maintenance such as cleaning of concrete drainage and kerb-channel combinations, edge build-up removal, painting of steel railings, eradication of undesirable vegetation and debris and litter collection are performed on a general basis.

Bridges are in a generally good condition and no structural defects were reported during this report period.

The table below contains information relating to the bridges present along the project routes.

**Table 11: Bridge information**

| Route | Km | Direction | Bridge Number | Bridge description |
|---|---|---|---|---|
| R511 Section 2 | 3.500 | N | 3716B/1982 | Railway bridge (railway not in use) |
| | 5.225 | N | 1017B/1982 | Swart Stream |
| | 20.930 | N | No Number | Waterway (unknown) |
| | 25.030 | N | No Number | Spoorweg Street and railway Overpass |
| R511 Section 3 | 2.205 | N | 979/1952 | Crocodile River |
| | 11.635 | N | 1781/1969 | Crocodile River |
| | 36.200 | N | No Number | Railway overpass |
| | 37.665 | N | No Number | Waterway (unknown) |
| | 69.000 | N | 2399/1968 | Pienaars River |
| R512 Section 2 | 6.280 | N | 3029 | Crocodile River |
| R512 Section 3 | 0.785 | N | B1668/1985 | R512 / N4 Overpass |
| | 8.050 | N | No Number | Crocodile River |
| N4 Section 12 | 27.590 | W | B1666/1986 | Hartbeespoort Dam Overpass |
| | 29.600 | W | B0072/2019 | N4-12 W / R560 Overpass |
| | 32.670 | W | B1656/1986 | R104 Overpass over N4-12 W |
| | 36.280 | W | No Number | R566 Overpass over N4-12 W |

The photos below illustrate examples of bridge maintenance along the project routes:




**Photo 3 & 4: Bridge # 979/1952 along National Route R511 Section 3 at Km 2.205 (N)**

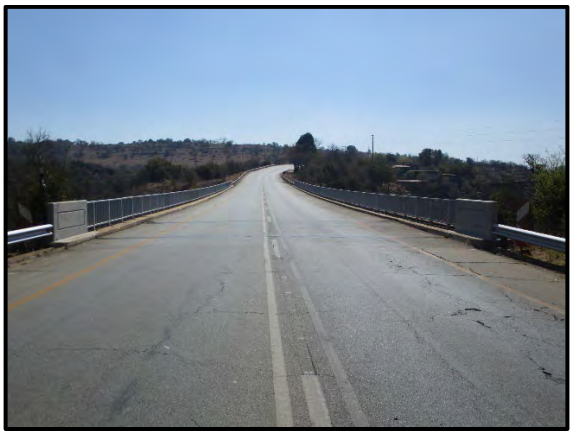



**Photo 5 & 6: Bridge # 3029 along National Route R512 Section 2 at Km 6.280 (N)**




**Photo 7 & 8: Bridge along National Route R512 Section 3 at Km 8.050 (N)**





Photo 9 & 10: Bridge # B1666/1986 along National Route N4 Section 12 W at Km 27.590 (W)





**Photo 11 & 12: Bridge # B0072/2019 along National Route N4 Section 12 W at Km 29.600 (W)**

# 8 CULVERTS

Culverts are located at frequent intervals along the national routes. The table below contains information relating to the number of culverts along each route, culvert size and frequency of cleaning under the previous maintenance contract.

**Table 12: Culvert information**

| Route | Number of Culverts (Per km) | Size (mm) | | Frequency of Cleaning (Per Year) |
|---|---|---|---|---|
| R511 Section 2 | 4 | Pipes | 600 – 900 | Monthly (Performance-based) |
| | | Boxes | 1200 x 1200 – 3600 x 2400 | |
| R511 Section 3 | 3 | Pipes | 450 – 2000 | Monthly (Performance-based) |
| | | Boxes | 600 x 450 – 5000 x 3000 | |
| R512 Section 2 | 3 | Pipes | 600 – 900 | Monthly (Performance-based) |
| | | Boxes | 900 x 750 – 4500 x 3000 | |
| R512 Section 3 | 1 | Pipes | 600 | Monthly (Performance-based) |
| | | Boxes | 600 x 450 | |
| N4 Section 12 | 2 | Pipes | 450 – 900 | Monthly (Performance-based) |
| | | Boxes | 600 x 450 – 3000 x 3000 | |

Many culverts were not fully functional due to the build-up of silt, debris or litter inside the culverts due to heavy rains. These blocked culverts were cleaned and cleared of any silt, debris or litter. The inlet and outlet structures were also cleaned and the outlets were day lighted to facilitate drainage away from the road pavement structure.

After further inspection, it was discovered that only local culverts along the project routes were silted up due to heavy rainfall experienced from January 2026 to March 2026. Culvert cleaning is done as a performance-based item by the Sub-contractor to ensure that all culverts function with maximum capacity and protect against overtopping during rainy seasons.

The photos below show typical examples of culvert maintenance works:



**Photo 13: Blocked culvert along National Route R511 Section 2**



**Photo 14: Culvert cleaning completed along National Route R511 Section 2**

# 9 EROSION PROTECTION AND GABIONS

Gabions were installed on the N4 Section 12 W at km 30.350 on the northern side to protect the slope against erosion.

Should any erosion be observed near inlet or outlet structures, along earth drains, at embankments, etc., the identified areas will be protected by constructing gabions to prevent further erosion in the road reserve. Areas were identified on the R511 Section 3 and will be programmed in the next financial year.

# 10 EDGE BREAKS

Edge breaks were attended to on all project routes, especially the R511 Section 2 and 3, where the edge break repairs were done in conjunction with the milling and paving operations. Edge breaks may be caused by erosion, traffic movements on the road shoulder and traffic near the shoulder on the surfaced edge.

The table below indicates the extent and frequency of edge break repair along the project routes.

**Table 13: Edge break information**

| Route | Extent (Isolated / Intermittent / Extensive) | Frequency of Repair (No. Repairs Per Year) |
|---|---|---|
| R511 Section 2 | Isolated | 1 |
| R511 Section 3 | Isolated | 1 |
| R512 Section 2 | Isolated | 1 |
| R512 Section 3 | Isolated | 1 |
| N4 Section 12 | Isolated | 1 |

# 11 SHOULDER REPAIRS

**Table 14: Shoulder information**

| Route | Chainage | Extent (Isolated / Intermittent / Extensive) | Date repaired / planned |
|---|---|---|---|
| R511 Section 2 | Km 7.4 to km 24.5 | Intermittent | August 2026 |
| R511 Section 3 | Km 10.6 to km 35.4 | Intermittent | April 2026 to August 2026 |
| R512 Section 2 | Km 4.5 to 4.55 | Isolated | Repairs will be done by hand. |
| R512 Section 3 | Km 0 to 8.0 | Intermittent | Project NRA R512-030-2019/1: Restoration of R512-3 addressed all the issues experienced. |
| N4 Section 12 | Km 24.6 to 37.6 | Isolated | Shoulder repairs were completed in September 2024 from km 24.6 to 27.6 and km 35 to km 37. |

The photos below show reinstatement of existing shoulders done on the R511 Section 2:



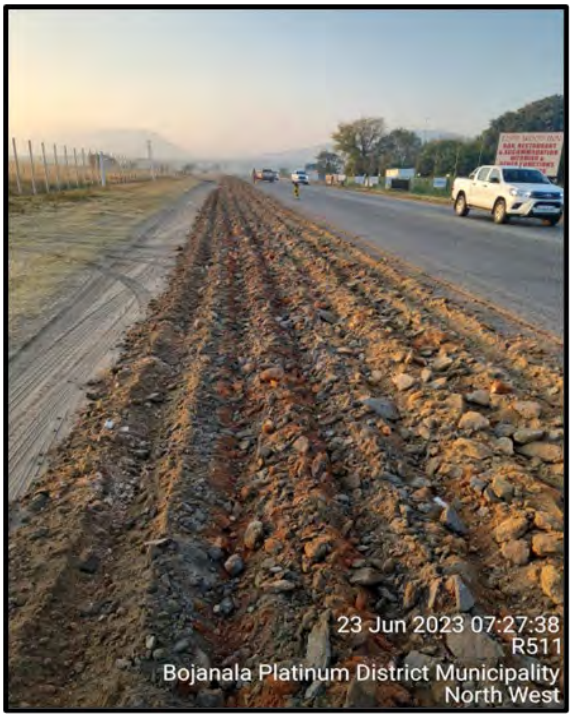




**Photo 15 & 16: Shoulder reinstatement (ripping) along National Route R511 Section 2**







**Photo 17 & 18: Shoulder reinstatement (watering, import) along National Route R511 Section 2**







**Photo 19 & 20: Shoulder reinstatement (watering, import) along National Route R511 Section 2**

The photos below show the condition of existing shoulders on the R511 Section 2 from km 0.600 to km 10.600 (report was forwarded to Client) that requires repairs:





**Photo 21 & 22: Shoulder drop-offs on R511 Section 3 at km 2.4**




**Photo 23 & 24: Shoulder drop-offs on R511 Section 3 at km 4.8 & km 6.8**

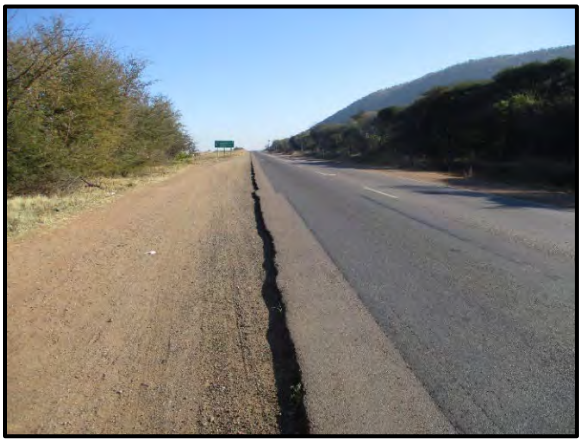



**Photo 25 & 26: Shoulder drop-offs on R511 Section 3 at km 6.8 & km 8**

# 12 PAVEMENT LAYER REPAIRS

**Table 15: Pavement information**

| Route | Chainage | Extent (Isolated / Intermittent / Extensive) | Failure type/s | Date repaired / comment |
|---|---|---|---|---|
| R511 Section 2 | Km 2 to 4 | Extensive | Potholes, surface & base | January 2026 |
| | Km 5.4 to 8.4 | Extensive | Potholes, surface & base | October 2025 |
| | Km 10.3 to 17.1 | Extensive | Potholes, surface & base | October 2025 |
| | Km 19.0 to 21.4 | Extensive | Potholes & surface | March 2025 |
| R511 Section 3 | Km 0.6 to 10.6 | Extensive | Potholes, surface & base | July 2025 |
| R512 Section 2 | Km 0 to 6.5 | Intermittent | Potholes & surface | September 2024 |
| R512 Section 3 | Km 0 – 10.7 | Extensive | Potholes, surface & base | Restoration completed March 2025 |
| N4 Section 12 | Km 36.2 to 36.3 | Isolated | Potholes | November 2025 |

The photos below show milling and paving operations done on the R511 Section 3:















**Photo 30, 31, 32 & 33: Milling and paving operations along National Route R511 Section 3 at km 5.400**

**Photo 27, 28 & 29: Milling and paving operations along National Route R511 Section 3 at km 5.400**

# 13 SURFACE CRACKS

Surface cracks were present on R511 Section 2 from km 11.5 to km 17.5 and from km 19.4 to km 21.8. Surface cracks were also present on the R511 Section 3 from km 0.5 to km 0.7 and were repaired during the milling and paving operations performed from July 2025 to January 2026.

# 14 RUMBLE STRIPS

Rumble strips had been installed at the Mount Cambridge School on the R511 Section 2 at km 9.450. The request came after reports of multiple accidents that occurred at this location.

Rumble strips were also installed on the R511 Section 3 at km 26.800 and km 27.000 on the approach sides to a dangerous curve. The request also came after above-normal accidents were reported at this location. The road signage was also upgraded to warn road users of the hazard.

# 15 ILLEGAL ADVERTISING

During the routine road maintenance project, a survey of signs in the road reserve was conducted along all project routes and submitted to SANRAL's statutory control division for review. SANRAL considered each sign and made distinction between legal and illegal signs. Maintenance teams were instructed to remove all signs deemed illegal from the road reserve. Other signs which were considered legal were left in place within the road reserve.

All new signs erected in the road reserve by third parties were removed if there was no prior approval by SANRAL. Smaller illegal signs and posters were removed by Route Patrol during their daily patrols as well as the removal of debris and litter teams.

Illegal signs are still present along the project routes. Stickers are attached to the illegal signs with a notice period of 30 days and will be removed if the owner did not remove the illegal signs.

All illegal advertising inside the road reserve is removed as an ongoing activity. The normal application for facility and tourism signs is submitted to SANRAL for approval. Other advertisements outside the road reserve are also submitted to SANRAL statutory control.
The photo below depicts a typical illegal sign erected along a project route:







**Photo 34 & 35: Illegal Road signs along the National Route R511 Section 2**

# 16 SLOPE STABILITY

Slope instability in the form of minor rock falls occurs in cuttings on all sections. These rocks and debris clog the side drains and block the free flow of stormwater. The construction of concrete drains or stone pitched drains is one of the measures taken to mitigate the effects of the drain blockage. The existing contractor clears the rock falls and debris as an ongoing activity and, provides an emergency standby team in severe situations should the rock falls extend onto the road surface, potentially posing danger to the traffic.

| Route | Start km | End km | Direction | Slope description | Slope condition |
|---|---|---|---|---|---|
| R511 Section 2 | 1.000 | 1.250 | S | Inclined slope | Stable |
| | 1.250 | 1.970 | N | Declined fill | Stable |
| | 1.400 | 1.700 | S | Inclined slope | Stable |
| | 1.770 | 2.150 | S | Inclined slope | Stable |
| | 2.000 | 2.750 | N | Inclined slope | Stable |
| | 2.100 | 3.000 | S | Declined fill | Stable |
| | 3.030 | 3.300 | N | Inclined slope | Stable |
| | 3.050 | 3.350 | S | Inclined slope | Stable |
| | 3.550 | 3.780 | N | Inclined slope | Stable |
| | 3.850 | 3.870 | S | Inclined slope | Stable |
| | 3.880 | 3.950 | N | Inclined slope | Stable |
| | 4.100 | 4.800 | N | Declined fill | Stable |
| | 4.300 | 4.800 | S | Declined fill | Stable |
| | 5.100 | 5.400 | N | Declined fill | Stable |
| | 5.200 | 5.300 | S | Declined fill | Stable |
| | 5.600 | 5.760 | N | Inclined slope | Stable |
| | 10.100 | 10.300 | S | Declined fill | Stable |
| | 10.770 | 11.500 | N | Inclined slope | Stable |
| | 10.950 | 11.400 | S | Inclined slope | Stable with minor scouring |
| R511 Section 3 | 2.000 | 2.205 | N | Declined fill | Stable |
| | 2.000 | 2.205 | S | Declined fill | Stable |
| | 2.300 | 2.400 | N | Declined fill | Stable |
| | 2.300 | 2.400 | S | Declined fill | Stable |
| | 7.800 | 9.800 | S | Inclined slope | Stable |
| | 65.050 | 65.900 | N | Declined fill | Stable |
| | 66.300 | 67.400 | N | Declined fill | Stable |
| | 66.740 | 66.850 | S | Inclined slope | Stable |
| | 67.550 | 67.850 | S | Inclined slope | Stable |
| | 67.850 | 68.100 | N | Declined fill | Stable |
| | 67.900 | 67.980 | S | Declined fill | Stable |
| | 68.480 | 68.620 | S | Inclined slope | Stable |
| | 68.500 | 68.620 | N | Inclined slope | Stable |
| | 68.650 | 68.930 | S | Declined fill | Stable |
| | 68.700 | 68.930 | N | Declined fill | Stable |

| Route | Start km | End km | Direction | Slope description | Slope condition |
|---|---|---|---|---|---|
| R511 Section 3 | 69.000 | 69.200 | N | Declined fill | Stable |
| | 69.000 | 69.200 | S | Declined fill | Stable |
| | 69.320 | 70.200 | N | Declined fill | Stable |
| | 69.600 | 69.830 | S | Inclined slope | Stable with minor rock falls |
| | 69.920 | 70.350 | S | Inclined slope | Stable |
| | 74.830 | 75.050 | N | Declined fill | Stable |
| | 75.050 | 75.160 | S | Inclined slope | Stable |
| R512 Section 2 | 0.470 | 0.770 | N | Inclined slope | Stable |
| | 0.520 | 0.660 | S | Inclined slope | Stable |
| | 1.400 | 1.525 | N | Declined fill | Stable |
| | 1.570 | 1.740 | N | Inclined slope | Stable |
| | 1.570 | 1.720 | S | Inclined slope | Stable |
| | 1.750 | 1.830 | N | Declined fill | Stable |
| | 1.750 | 1.950 | S | Declined fill | Stable |
| | 1.900 | 2.240 | N | Inclined slope | Stable |
| | 1.970 | 2.160 | S | Inclined slope | Stable |
| | 2.270 | 2.470 | S | Declined fill | Stable |
| | 2.300 | 2.470 | N | Declined fill | Stable |
| | 3.000 | 3.200 | N | Inclined slope | Stable |
| | 3.000 | 3.160 | S | Inclined slope | Stable |
| | 3.500 | 3.680 | N | Inclined slope | Stable |
| | 3.560 | 3.630 | S | Inclined slope | Stable |
| | 3.880 | 4.450 | N | Declined fill | Stable |
| | 4.700 | 4.850 | N | Inclined slope | Stable |
| N4 Section 12 | 4.950 | 5.020 | N | Inclined slope | Stable |
| | 5.170 | 5.250 | N | Inclined slope | Stable |
| | 5.350 | 5.600 | N | Inclined slope | Stable |
| | 6.150 | 6.230 | N | Declined fill | Stable |
| | 6.150 | 6.230 | S | Declined fill | Stable |
| | 6.500 | 6.600 | S | Inclined slope | Stable |
| | 6.750 | 7.080 | N | Inclined slope | Stable |
| | 7.100 | 7.150 | N | Declined fill | Stable |
| | 7.170 | 7.490 | N | Inclined slope | Stable with minor rock falls |
| | 7.200 | 7.490 | S | Inclined slope | Stable with minor rock falls |
| | 27.100 | 27.600 | N | Declined fill | Stable |
| | 27.100 | 27.600 | S | Declined fill | Stable |
| | 27.920 | 28.060 | N | Declined fill | Stable |
| | 27.920 | 28.170 | S | Declined fill | Stable |
| | 28.250 | 29.100 | N | Inclined slope | Stable |
| | 28.250 | 29.100 | S | Inclined slope | Stable |
| | 29.180 | 29.450 | N | Declined fill | Stable |

| Route | Start km | End km | Direction | Slope description | Slope condition |
|---|---|---|---|---|---|
| N4 Section 12 | 29.180 | 29.350 | S | Declined fill | Stable |
| | 29.650 | 30.550 | N | Declined fill | Stable |
| | 29.650 | 30.470 | S | Declined fill | Stable |
| | 30.470 | 31.050 | N | Inclined slope | Stable |
| | 30.550 | 31.050 | S | Inclined slope | Stable |
| | 31.050 | 32.180 | N | Declined fill | Stable |
| | 31.050 | 32.180 | S | Declined fill | Stable |
| | 34.670 | 34.980 | N | Declined fill | Stable |
| | 34.670 | 34.980 | S | Declined fill | Stable |
| | 35.900 | 36.300 | N | Inclined slope | Stable |
| | 35.950 | 36.300 | S | Inclined slope | Stable |
| | 36.880 | 37.130 | N | Declined fill | Stable |
| | 36.900 | 37.130 | N | Declined fill | Stable |

## 17 PEDESTRIAN PATHS

Pedestrian paths were constructed on the R511 Section 3 from km 0.6 to km 1.1 to provide a safe and functional environment for pedestrians commuting alongside the route.

The remainder of the pedestrian paths are through the town of Brits and behind the kerbs. The MOU between SANRAL and the Madibeng Local Municipality stipulates that maintenance behind the kerbs is done by the municipality.





**Photo 36 & 37: Pedestrian path signs along the National Route R511 Section 3**

## 18 ROUTE MARKER BOARDS

Route marker boards had been installed on all the project routes at 200m intervals. Instructions were issued to the Contractor to replace the damaged, faded and/or absent reference marker boards on the R511 Section 2, R511 Section 3 and the R512 Section 2.




**Photo 38: Replaced route marker**

# 19 PAVEMENT MANAGEMENT SYSTEM INFORMATION

Pavement information is available from SANRAL on request.

The table below provides detail on pavement material descriptions and abbreviated specifications.

**Table 16: Material descriptions and specifications**

| Code | Material | Abbreviated Specification |
|---|---|---|
| G1 | Graded crushed stone | 86 – 88 % of apparent density; PI < 4.5 |
| G2 | Graded crushed stone | 100 – 102 % mod. AASHTO; PI < 6 |
| G3 | Graded crushed stone | Min. 98 % mod. AASHTO; PI < 6 |
| G4 | Natural gravel | CBR > 80; PI < 6 |
| G5 | Natural gravel | CBR > 45; PI < 10 |
| G6 | Natural gravel | CBR > 25; PI < 10 |
| G7 | Gravel – soil | CBR > 15 |
| G8 | Gravel – soil | CBR > 10, in-situ |
| G9 | Gravel – soil | CBR > 7, in-situ |
| G10 | Gravel – soil | CBR > 3, in-situ |
| BC | Hot-mix Asphalt | Continuously graded |
| BS | Hot-mix Asphalt | Semi-gap graded |
| TC | Tar hot-mix | Continuously graded |
| TS | Tar hot-mix | Semi-gap graded |
| PCC | Portland cement concrete | Mod. rupture > 4,5 MPa |
| CRC | Continuously reinforced concrete | |
| C1 | Cemented crushed stone or gravel | UCS 6 – 12 MPa at 100 % mod. AASHTO |
| C2 | Cemented crushed stone or gravel | UCS 3 – 6 MPa at 100 % mod. AASHTO |
| C3 | Cemented natural gravel | UCS 1.5 – 3 MPa at 100 % mod. AASHTO |
| C4 | Cemented natural gravel | UCS 0.75 – 1.5 MPa at 100 % mod. AASHTO |
| AG | Asphalt surfacing | Gap-graded |
| AC | Asphalt surfacing | Continuously graded |
| AS | Asphalt surfacing | Semi-gap-graded |
| AO | Asphalt surfacing | Open-graded |
| AP | Asphalt surfacing | Porous |
| S1 | Surface treatment | Single seal |
| S2 | Surface treatment | Multiple seal |
| S3 | Sand seal | |
| S4 | Cape seal | |
| S5 | Slurry | Fine grading |
| S6 | Slurry | Coarse grading |
| S7 | Surface renewal | Rejuvenator |
| S8 | Surface renewal | Diluted emulsion |
| WM1 | Water-bound macadam | PI < 6, 88 – 90 % of apparent density |
| WM2 | Water-bound macadam | PI < 6, 86 – 88 % of apparent density |
| PM | Penetration macadam | Coarse stone with bitumen or tar |
| DR | Dump rock | Ungraded waste rock |

# 20 TRAFFIC INFORMATION

Traffic information was obtained from numerous counting stations along the project routes as summarised in the table below.

**Table 17: Available CTO information**

| Route | Section | Station | Km | ADT | ADTT | Daily E80 kN Axle Loads | Year | Counted (T) or Estimated (B) |
|---|---|---|---|---|---|---|---|---|
| N 004 | 12 | 872 | 26.34 | 11881 | 911 | 1451 | 2023 | T |
| R 511 | 2 | 19239 | 22.38 | 13854 | 1419 | 3556 | 2023 | T |
| | 3 | 19169 | 105.73 | 2401 | 464 | 627 | 2023 | T |
| | | 19099 | 87.25 | NA | NA | 979 | 2023 | T |
| R 512 | 3 | 19241 | 4.693 | 13788 | 1219 | 1938 | 2023 | T |
| | | 19241 | 4.693 | 7391 | 631 | 1390 | 2019 | T |

# 21 HISTORIC ROAD MAINTENANCE INFORMATION

**Table 18: Historic Road Maintenance Information**

| Route & section | Project description | Start date / Anticipated |
|---|---|---|
| | | |
| | | |

## 21.1 General

The maintenance information is from actual data obtained during the current routine road maintenance project.

### 21.1.1 National Route R511 Section 2

The national route is generally in a fair to good riding condition. The shoulders are mainly gravel shoulders and are in a fair condition.

The route was serviced three (3) times per week by the route patrol team which attended to safety concerns and minor repair works.

Potholes, surface failures, base failures and edge breaks were repaired where the pavement was in severe distress. Extensive pavement repairs were done from km 2 to km 4, km 5.4 to km 8.4 and km 10.3 to km 17.1 by means of milling and paving. Most of the repairs were surface patches to a depth of 40mm and distressed base failures were repaired with 150mm BTB base and 40mm surface with medium graded hot-mixed asphalt.

No new fences have been erected along the route. Debris and litter were collected in the road reserve monthly and all culverts and concrete side drains along the route have been cleaned.

Route marker boards have been installed every 200m, hazard plates (W405's) have been installed along gentle curves and hazard plates (W401's) have been installed at all culverts.

Road markings and road studs have been reinstated under the Performance Based Road Marking Contract in the North West Province.

Existing guardrails have been repaired and new guardrails have been erected at fills higher than 4m.

Gabion protection was done at selected inlet/outlet structures and at unstable fill areas to prevent further erosion.

Vegetation was constantly maintained by means of mowing to prevent overgrowth of vegetation and minimise the risk of fires in the road reserve. General mowing was done during the months of January, July and November/December. Physical eradication of undesirable vegetation was done at infested areas to improve visibility and safety within the road reserve.

The emergency standby team was deployed to incidents along the route for safeguarding of accident scenes and accident restoration.

Two (2) upgrading projects are scheduled for the route from km 0.0 to km 10.3 (phase 1) and from km 10.3 to km 25.6 (phase 2). The upgrading projects should commence around 2026.

### 21.1.2 National Route R511 Section 3

The national route is generally in a good riding condition. The shoulders are mainly gravel shoulders and are in a fair condition.

The route was serviced three (3) times per week by the route patrol team which attended to safety concerns and minor repair works.

Potholes, surface failures, base failures and edge breaks were repaired where the pavement was in severe distress. Surface treatment was also required for areas with aggregate loss and poor riding quality.

No new fences have been erected along the route. Debris and litter were collected in the road reserve monthly and all culverts and concrete side drains along the route have been cleaned.

Route marker boards have been installed every 200m, hazard plates (W405's) have been installed along gentle curves and hazard plates (W401's) have been installed at all culverts.

Road markings and road studs have been reinstated under the Performance Based Road Marking Contract in the North West Province in 2024.

Existing guardrails have been repaired and new guardrails have been erected at fills higher than 4m.

Gabion protection was done at selected inlet/outlet structures and at unstable fill areas to prevent further erosion.

Vegetation was constantly maintained by means of mowing to prevent overgrowth of vegetation and minimise the risk of fires in the road reserve. General mowing was done during the months of January, July and November/December. Physical eradication of undesirable vegetation was done at infested areas to improve visibility and safety within the road reserve.

The emergency standby team was deployed to incidents along the route for safeguarding of accident scenes and accident restoration.

Two (2) partial reconstruction projects are scheduled for the route from km 0.0 to km 10.6 and from km 36.2 to km 75.4. The partial reconstruction project from km 0.0 to km 10.6 is expected to commence in 2026. The partial reconstruction project from km 36.2 to km 75.4 commenced on 1 November 2024 and the projected completion date is August 2026.

### 21.1.3 National Route R512 Section 2

The national route is generally in a fair riding condition. The shoulders are mainly paved shoulders and are in a fair condition.

The route was serviced three (3) times per week by the route patrol team, which attended to safety concerns and minor repair works.

Potholes, surface failures, base failures and edge breaks were repaired where the pavement was in severe distress.

No new fences have been erected along the route. Debris and litter were collected in the road reserve monthly and all culverts and concrete side drains along the route have been cleaned.

Route marker boards have been installed every 200m, hazard plates (W405's) have been installed along gentle curves and hazard plates (W401's) have been installed at all culverts.

Road markings and road studs have been reinstated under the Performance Based Road Marking Contract in the North West Province.

Existing guardrails have been repaired and new guardrails have been erected at fills higher than 4m.

Vegetation was constantly maintained by means of mowing to prevent overgrowth of vegetation and minimise the risk of fires in the road reserve. General mowing was done during the months of January, July and November/December. Physical eradication of undesirable vegetation was done at infested areas to improve visibility and safety within the road reserve.

The emergency standby team was deployed to incidents along the route for safeguarding of accidents scenes and accident restoration.
An upgrading project is scheduled for the route from km 16.16 to km 23.65 and should commence by 2026.

### 21.1.4 National Route R512 Section 3

The national route is generally in a good riding condition. The shoulders are mainly gravel shoulders and are in a fair condition.

The route was serviced three (3) times per week by the route patrol team, which attended to safety concerns and minor repair works.

Potholes, surface failures, base failures and edge breaks were repaired where the pavement was in severe distress. The road width was substandard in some instances and was therefore widened to improve safety for road users.

No new fences have been erected along the route. Debris and litter were collected in the road reserve on a monthly basis, and all culverts and concrete side drains along the route have been cleaned.
Route marker boards have been installed every 200m, hazard plates (W405's) have been installed along gentle curves and hazard plates (W401's) have been installed at all culverts.
Road markings and road studs have been reinstated under the Performance Based Road Marking Contract in the North West Province.

Existing guardrails have been repaired and new guardrails have been erected at fills higher than 4m.

Vegetation was constantly maintained by means of mowing to prevent overgrowth of vegetation and minimise the risk of fires in the road reserve. General mowing was done during the months of January, July and November/December. Physical eradication of undesirable vegetation was done at infested areas to improve visibility and safety within the road reserve.

The emergency standby team was deployed to incidents along the route for safeguarding of accidents scenes and accident restoration.

A restoration and asphalt overlay project scheduled for the route from km 0.0 to km 10.7 commenced on 1 September 2023 and the project was completed in March 2025.

### 21.1.5 National Road N4 Section 12

The national route is generally in a good to fair riding condition. The shoulders are both gravel and paved and are in a good to fair condition.

The route was serviced three (3) times per week by the route patrol team, which attended to safety concerns and minor repair works.

Route marker boards have been installed every 200m, hazard plates (W405's) have been installed along gentle curves and hazard plates (W401's) have been installed at all culverts.
Road markings and road studs have been reinstated under the Performance Based Road Marking Contract in the North West Province.

Existing guardrails have been repaired and new guardrails have been erected at fills higher than 4m.

Vegetation was constantly maintained by means of mowing to prevent overgrowth of vegetation and minimise the risk of fires in the road reserve.

The emergency standby team was deployed to incidents along the route for safeguarding of accidents scenes and accident restoration.

A reseal project is scheduled on the N4 Section 12 from km 34.2 to 37.6 and will probably commence in 2026.

# 22 VISUAL ASSESSMENT OF PAVEMENT

The visual assessments for pavements are undertaken on a monthly basis in order to be able to generate a register of pavement failures that will be repaired during suitable conditions or seasons. The last visual assessment of the pavement condition on the route was performed in September 2025. The Visual Road assessment sheets are included in the Annexures.

# 23 CONTRACTORS/SUB-CONTRACTORS INFORMATION

## 23.1 Contractors/Sub-contractors

**Table 19: Contractor and Sub-contractor Road maintenance information**

| Sub-contractor | Package | Period contracted | Contact person | Contact number | Comments |
|---|---|---|---|---|---|
| PM Motsoane Trading | SC 01 Debris and litter | September 2021 to May 2022 | Evelyn Ntjie | 078 328 2119 | Contract completed |
| Cantjie Trading Projects | SC 02 Debris and litter | September 2021 to May 2022 | Cathryn Ntjie | 079 481 3845 | Contract completed |
| Matshogame Construction | SC 03 Debris and litter | September 2021 to May 2022 | Tsholo Khutone | 078 869 1284 | Contract completed |
| Mabekane's Management Projects | SC 04 Minor works | September 2021 to May 2022 | Kenneth Mahlo | 079 748 1943 | Contract completed |
| Mmakoma Wabo Makoti | SC 05 General | September 2021 to December 2022 | Owner passed away | N/a | Contract terminated |
| Multilayer Trading | SC 06 General | September 2021 to date | Hannes Roos | 072 446 7513 | Contract is ongoing |
| BJ's Grasscutting | SC 07 Vegetation | September 2021 to date | Armand Jonker | 082 829 0455 | Contract is ongoing |
| Beulah Trading | SC 08 Debris and litter | June 2022 to February 2023 | Bontle Lubbe | 076 610 7929 | Contract completed |
| Lesedi Kitso | SC 09 Debris and litter | June 2022 to February 2023 | Paulina Ledwaba | 083 319 2302 | Contract completed |
| Maleho APP | SC 10 Debris and litter | June 2022 to February 2023 | Paballo Maleho | 083 623 5068 | Contract completed |
| Stonebeks Investments | SC 11 Minor works | June 2022 to February 2023 | Vincent Chiloane | 072 397 0494 | Contract completed |
| Basetsana Ba Bontle | SC 12 Debris and litter | March 2023 to date | George Molekoa | 076 610 7929 | Contract is ongoing |
| Bogosikwena Trading | SC 13 Debris and litter | March 2023 to date | Louisa Mmereke | 072 350 1887 | Contract is ongoing |
| Gogontle Projects | SC 14 Debris and litter | March 2023 to date | Anthony Hlatswayo | 081 807 9543 | Contract is ongoing |
| RAT Maintenance | SC 15 Minor works | March 2023 to date | Tshepo Mampa | 060 777 4417 | Contract is ongoing |
| Roadbuild | SC 16 Pavement | March 2023 to date | Nelia Roos | 071 608 7929 | Contract is ongoing |

# 24 FUTURE MAINTENANCE AND REHABILITATION PROJECTS

The following maintenance and rehabilitation projects are planned for the future along the project routes.

**Table 20: Maintenance and rehabilitation information**

| Route | Description | Estimated Start Date |
|---|---|---|
| R511 Section 2 | Upgrade | 2026 |
| R511 Section 3 | Rehabilitation (Km 36.2 to 75.4) | 1 November 2024 |
| | Rehabilitation (Km 0 to 10.6) | 2026 |
| R512 Section 2 | Upgrade | 2026 |
| N4 Section 12 | Reseal from R512 interchange to N4 | 2026 |

# ANNEXURES

# ANNEXURE A - TRAFFIC DATA

# Station Information

| | | | |
|---|---|---|---|
| **Site Number** | 19241 | **Site Identifier** | 25412 |
| **Site Name** | Langplaas | | |
| **Site Description** | Between Hartbeespoort and Brits | | |
| **Site Type** | Permanent | **Owner** | SANRAL |
| **Physical Lanes** | 2 | **Responsibility** | NON-TOLL |
| **Logical Lanes** | 2 | **Installation Date** | 2015-05-12 |
| **GPS Longitude** | 27.78389 | **Termination Date** | |
| **GPS Lattitude** | -25.67901 | **Status** | In Use |
| **Region** | North | **Companion Site** | |
| **Road** | R512 | **Speed Limit** | 100 |
| **Route** | R512 | **Count Type** | Normal Traffic Counting Station |
| **Section** | 03 | **Distance** | 4.693 |
| **Authority** | SANRAL | **Contract No** | SANRAL 53000/1002/2022/LT |
| **Contract Org** | Mikros Traffic Monitoring (Pty) Ltd | **Station History Type** | Full Site |
| **System Type** | C1 | | |

| Lane No | Lane Description | Stream No | Stream Description | Direction | Reverse Lane No | Pos |
|---|---|---|---|---|---|---|
| 1 | To Brits | 1 | To Brits | North | 2 | 1 |
| 2 | To Hartbeespoort | 2 | To Hartbeespoort | South | 1 | 1 |

## PHOTO



**Direction 1**

To Brits

## PHOTO



**Direction 2**

To Hartbeespoort

## PHOTO



**As Built**

| Traffic Highlights of Site: Langplaas (19241) | |
|---|---|
| Site No | 19241 |
| Site Name | Langplaas |
| Site Description | Between Hartbeespoort and Brits |
| Road Description | Route : R512 Section : 03N Distance : 4.693 km |
| GPS Position | Latitude: -25.67901 Longitude: 27.78389 |
| Number of Lanes | 2 |
| Station Type | Permanent |

| | |
|---|---|
| Requested Data Period | 01 Jan 2023 - 31 Dec 2023 |
| First and Last Data Dates | 25 May 2023 - 28 Nov 2023 |
| Data Available for Requested Period as Percentage | 49% |

| | |
|---|---|
| Last Full Day Count for ADT and ADTT | 27 Nov 2023 |
| Number of Full Days in Requested Period | 177 |

| Highlights per Stream | | Str 1: To Brits | Str 2: To Hartbeespoort | Value |
|---|---|---|---|---|
| 1.1 | Total Number of Vehicles | 1,271,035 | 1,212,634 | 2,483,669 |

| | | | | |
|---|---|---|---|---|
| 1.2 | Average Daily Traffic (ADT) | 7,058 | 6,730 | 13,788 |
| 1.3 | Average Daily Truck Traffic (ADTT) | 614 | 605 | 1,219 |
| 1.4 | Percentage of Trucks | 8.7 % | 9.0 % | 8.8 % |
| 1.5 | Truck Split % (Short : Medium : Long) | 39 : 10 : 51 | 39 : 10 : 51 | 39 : 10 : 51 |
| 1.6 | Percentage of Night Traffic [20h00 - 6h00) | 9.9 % | 12.0 % | 10.9 % |
| | | | | |
| 2.1 | Speed Limit | | | 100 |
| 2.2 | Average Speed (km/hr) | 61.3 | 54.4 | 57.9 |
| 2.3 | Average Speed - Light Vehicles (km/hr) | 62.5 | 56.1 | 59.3 |
| 2.4 | Average Speed - Heavy Vehcles (km/hr) | 53.9 | 41.9 | 47.9 |
| 2.5 | Average Night Speed (km/hr) | 64.1 | 56.6 | 60.4 |
| 2.6 | 15th Centile Speed (km/hr) | | | |
| 2.7 | 85th Centile Speed (km/hr) | | | |
| 2.8 | Percentage of Vehicles in Excess of Speed Limit | 39.5 % | 33.0 % | 36.2 % |
| | | | | |
| 3.1 | Percentage Vehicles in Flows Over 600 (vehs/hr) | 18.4 % | 12.2 % | 82.59% |
| 3.2 | Percentage of Vehicles less than 2s behind vehicle ahead | 0 % | 0 % | 0 % |
| | | | | |
| 4.1 | Total Number of Heavy Vehicles | 110,625 | 108,804 | 219,429 |
| 4.2 | Estimated Average Number of axles per Truck | 4.9 | 4.9 | 4.9 |
| 4.3 | Estimated Truck Mass (Ton/Truck) | 27.7 | 27.7 | 27.7 |
| 4.4 | Estimated Average E80 / Truck | 1.8 | 1.8 | 1.8 |
| 4.5 | Estimated Daily E80 on the Road | | | 1,938.0 |
| 4.6 | Estimated Daily E80 in the North Direction | | | 2,931.0 |
| 4.7 | Estimated Daily E80 in the South Direction | | | 2,882.0 |
| 4.8 | Estimated Daily E80 in the Worst North Lane | | | 2,931.0 |
| 4.9 | Estimated Daily E80 in the Worst South Lane | | | 2,882.0 |
| | | | | |
| 5.1 | ASSUMPTION on Axles/Truck (Short:Medium:Long) | | | (2.0 : 5.0 : 7.0) |
| 5.2 | ASSUMPTION on Mass/Truck (Short:Medium:Long) | | | (10.9 : 31.5 : 39.8) |
| 5.3 | ASSUMPTION on E80s/Truck (Short:Medium:Long) | | | (0.4 : 1.3 : 3.1) |

| Traffic Volumes | | Date and Time | Value |
|---|---|---|---|
| 6.1 | Highest Volume on the Road (vehs/hr) | 12 Oct 2023 (16:00 - 17:00) | 1,600 |
| 6.2 | Highest Volume in the North (vehs/hr) | 22 Sep 2023 (14:00 - 15:00) | 844 |
| 6.3 | Highest Volume in the South (vehs/hr) | 12 Oct 2023 (16:00 - 17:00) | 807 |
| 6.4 | Highest Volume in a Lane (vehs/hr) | 22 Sep 2023 (14:00 - 15:00) | 844 |
| 6.5 | 15th Highest Volume on the Road (vehs/hr) | 02 Jun 2023 (16:00 - 17:00) | 1,476 |
| 6.6 | 15th Highest Volume in the North Direction (vehs/hr) | 27 Oct 2023 (14:00 - 15:00) | 769 |
| 6.7 | 15th Highest Volume in the South Direction (vehs/hr) | 04 Aug 2023 (15:00 - 16:00) | 735 |
| 6.8 | 30th Highest Volume on the Road (vehs/hr) | 15 Sep 2023 (14:00 - 15:00) | 1,433 |
| 6.9 | 30th Highest Volume in the North Direction (vehs/hr) | 23 Jun 2023 (15:00 - 16:00) | 745 |

| | | | |
|---|---|---|---|
| 6.10 | 30th Highest Volume in the South Direction (vehs/hr) | 01 Sep 2023 (16:00 - 17:00) | 704 |

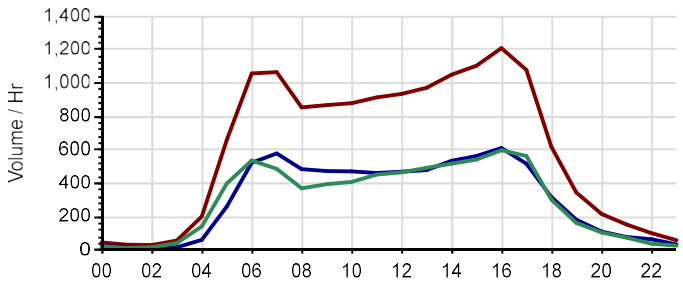
# Station Typical Flow Graphs

| | |
|---|---|
| **Site** | 19241 - Langplaas |
| **Region** | North |
| **Actual Period** | 25 May 2023 - 28 Nov 2023 |
| **Classification** | RSA Ext Lgt/Hvy |
| **Day Type** | Normal Day & Fixed Public Holiday+ |

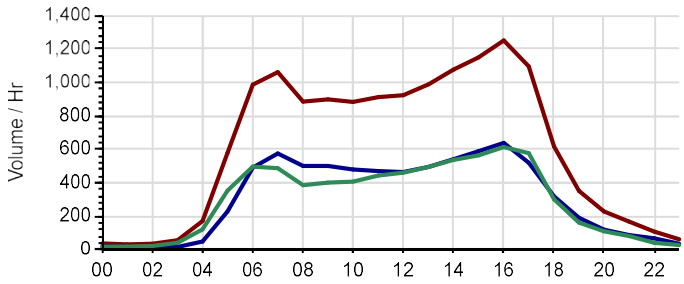
Total
To Brits
To Hartbeespoort

Total
Light
Heavy

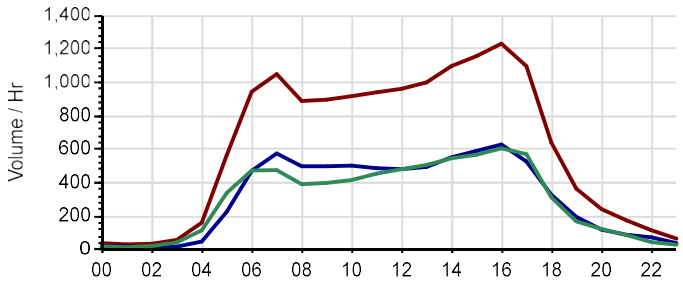
Typical Flow for a Monday



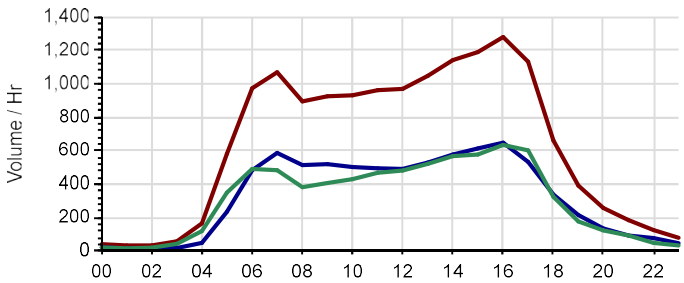

Typical Flow for a Tuesday



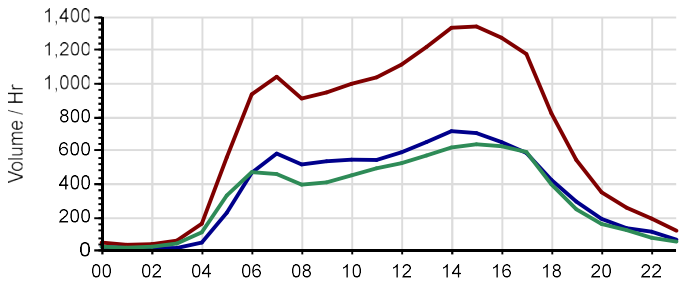

Typical Flow for a Wednesday



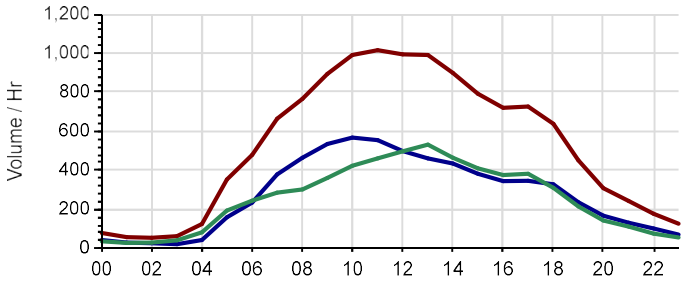

Typical Flow for a Thursday



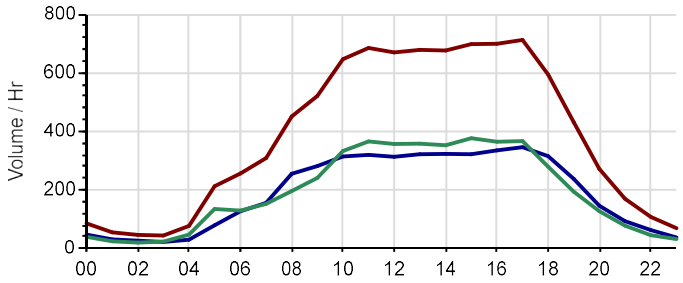

Typical Flow for a Friday



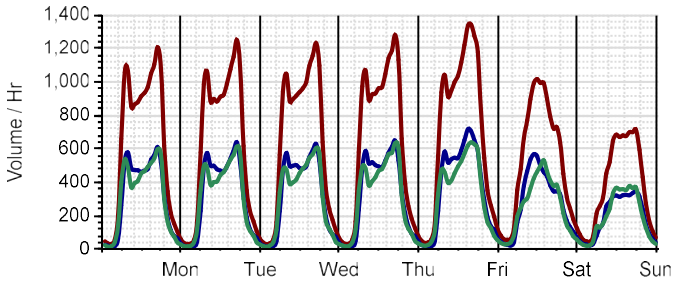

Typical Flow for a Saturday



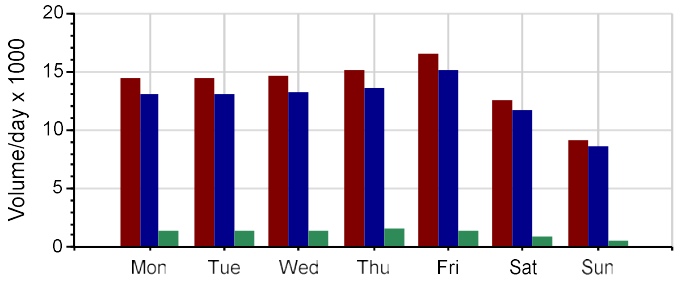

Typical Flow for a Sunday




Typical Flow for a Week




Typical Flow for a Week





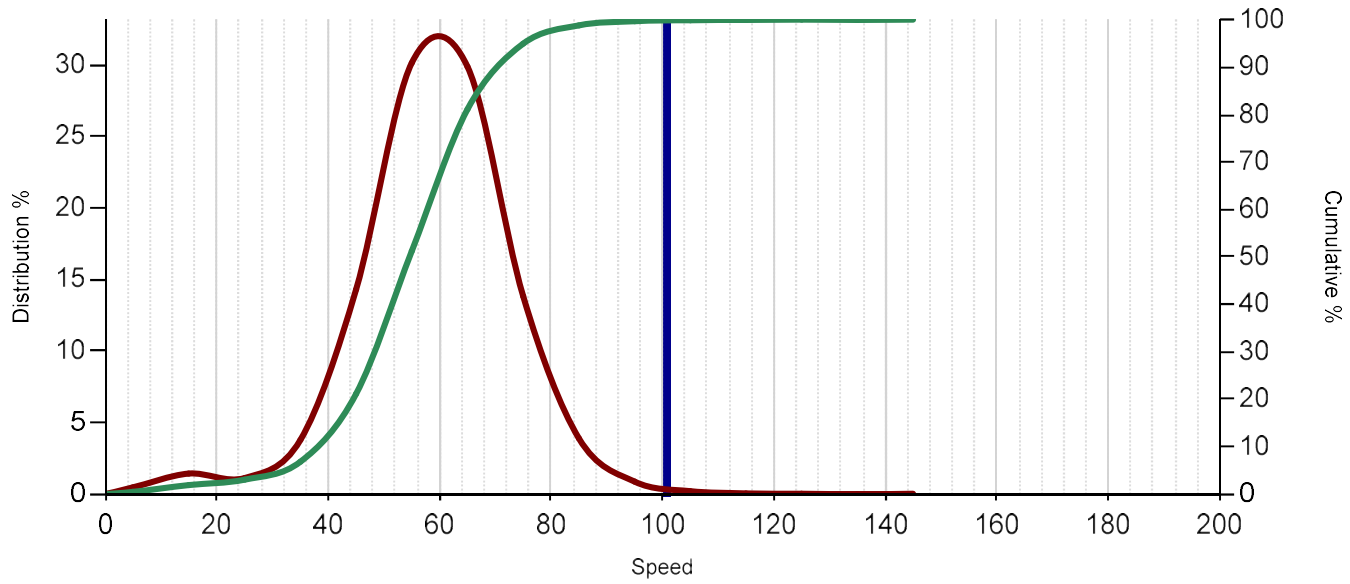

Generated by The South African National Roads Agency SOC LTD
For queries, contact:
Michelle van der Walt (012) 844 8029 vdwaltm@nra.co.za

# Station Speed Distribution

| | |
|---|---|
| **Site** | 19241 - Langplaas |
| **Speed Limit** | 100 km/hr |
| **Period** | 01 Jan 2023 - 31 Dec 2023 |

Distribution
Cumulative
Speed Limit

**Lane 1 - To Brits**

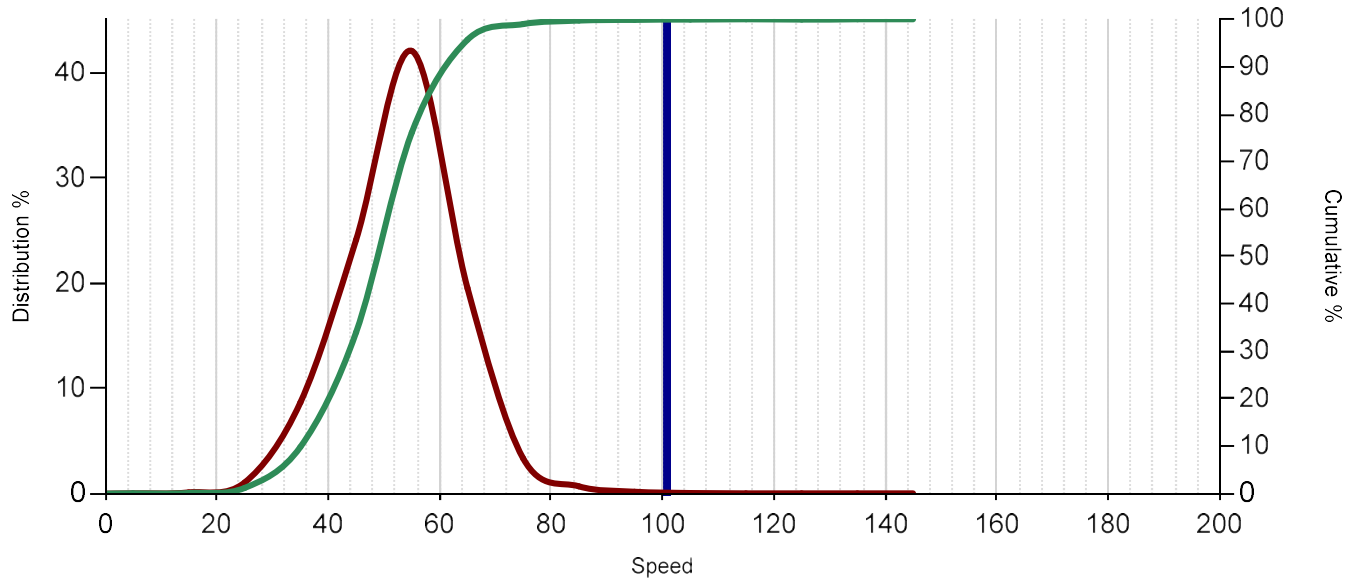



# Station Speed Distribution

| | |
|---|---|
| **Site** | 19241 - Langplaas |
| **Speed Limit** | 100 km/hr |
| **Period** | 01 Jan 2023 - 31 Dec 2023 |

Distribution
Cumulative
Speed Limit

**Lane 2 - To Hartbeespoort**

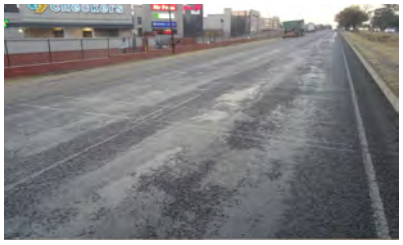


# Station Information

| | | | |
|---|---|---|---|
| **Site Number** | 19239 | **Site Identifier** | 25530 |
| **Site Name** | Brits Industrial | | |
| **Site Description** | Between Hartbeespoort and Thabazimbi | | |
| **Site Type** | Permanent | **Owner** | SANRAL |
| **Physical Lanes** | 4 | **Responsibility** | NON-TOLL |
| **Logical Lanes** | 4 | **Installation Date** | 2015-05-12 |
| **GPS Longitude** | 27.80494 | **Termination Date** | |
| **GPS Lattitude** | -25.64962 | **Status** | In Use |
| **Region** | North | **Companion Site** | |
| **Road** | R511 | **Speed Limit** | 60 |
| **Route** | R511 | **Count Type** | Normal Traffic Counting Station |
| **Section** | 02 | **Distance** | 22.38 |
| **Authority** | SANRAL | **Contract No** | SANRAL 53000/1002/2022/LT |
| **Contract Org** | Mikros Traffic Monitoring (Pty) Ltd | **Station History Type** | Full Site |
| **System Type** | C1 | | |

| Lane No | Lane Description | Stream No | Stream Description | Direction | Reverse Lane No | Pos |
|---|---|---|---|---|---|---|
| 1 | Slow To Thabazimbi | 1 | To Thabazimbi | North | 0 | 1 |
| 2 | Fast To Thabazimbi | 1 | To Thabazimbi | North | 0 | 2 |
| 3 | Fast To Hartbeespoortdam | 2 | To Hartbeespoortdam | South | 0 | 2 |
| 4 | Slow To Hartbeespoortdam | 2 | To Hartbeespoortdam | South | 0 | 1 |

## PHOTO



**Direction 1**

To Thabazimbi

## PHOTO



**Direction 2**

To Hartbeespoortdam

## PHOTO



**As Built**

| Traffic Highlights of Site: Brits Industrial (19239) | |
|---|---|
| Site No | 19239 |
| Site Name | Brits Industrial |
| Site Description | Between Hartbeespoort and Thabazimbi |
| Road Description | Route : R511 Section : 02N Distance : 22.38 km |
| GPS Position | Latitude: -25.64962 Longitude: 27.80494 |
| Number of Lanes | 4 |
| Station Type | Permanent |

| | |
|---|---|
| Requested Data Period | 01 Jan 2023 - 31 Dec 2023 |
| First and Last Data Dates | 29 May 2023 - 31 May 2023 |
| Data Available for Requested Period as Percentage | 0% |

| | |
|---|---|
| Last Full Day Count for ADT and ADTT | 30 May 2023 |
| Number of Full Days in Requested Period | 1 |

| Highlights per Stream | | Str 1: To Thabazimbi | Str 2: To Hartbeespoortdam | Value |
|---|---|---|---|---|
| 1.1 | Total Number of Vehicles | 7,405 | 17,841 | 25,246 |



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| | | | | |
|---|---|---|---|---|
| 1.2 | Average Daily Traffic (ADT) | 2,074 | 11,780 | 13,854 |
| 1.3 | Average Daily Truck Traffic (ADTT) | 203 | 1,216 | 1,419 |
| 1.4 | Percentage of Trucks | 8.9 % | 9.9 % | 9.6 % |
| 1.5 | Truck Split % (Short : Medium : Long) | 38 : 17 : 45 | 38 : 18 : 44 | 38 : 18 : 44 |
| 1.6 | Percentage of Night Traffic [20h00 - 6h00) | 10.0 % | 7.1 % | 8.0 % |
| | | | | |
| 2.1 | Speed Limit | | | 60 |
| 2.2 | Average Speed (km/hr) | 80.8 | 77.3 | 79.1 |
| 2.3 | Average Speed - Light Vehicles (km/hr) | 82.9 | 79.7 | 81.3 |
| 2.4 | Average Speed - Heavy Vehcles (km/hr) | 71.7 | 67.2 | 69.5 |
| 2.5 | Average Night Speed (km/hr) | 82.7 | 79.3 | 81.0 |
| 2.6 | 15th Centile Speed (km/hr) | | | |
| 2.7 | 85th Centile Speed (km/hr) | | | |
| 2.8 | Percentage of Vehicles in Excess of Speed Limit | 95.5 % | 94.7 % | 95.1 % |
| | | | | |
| 3.1 | Percentage Vehicles in Flows Over 600 (vehs/hr) | 73.1 % | 83.6 % | 86.65% |
| 3.2 | Percentage of Vehicles less than 2s behind vehicle ahead | 0 % | 0 % | 0 % |
| | | | | |
| 4.1 | Total Number of Heavy Vehicles | 662 | 1,764 | 2,426 |
| 4.2 | Estimated Average Number of axles per Truck | 4.8 | 4.7 | 4.8 |
| 4.3 | Estimated Truck Mass (Ton/Truck) | 27.4 | 27.3 | 27.4 |
| 4.4 | Estimated Average E80 / Truck | 1.7 | 1.7 | 1.7 |
| 4.5 | Estimated Daily E80 on the Road | | | 3,556.0 |
| 4.6 | Estimated Daily E80 in the North Direction | | | 2,911.0 |
| 4.7 | Estimated Daily E80 in the South Direction | | | 7,757.0 |
| 4.8 | Estimated Daily E80 in the Worst North Lane | | | 6,060.0 |
| 4.9 | Estimated Daily E80 in the Worst South Lane | | | 2,067.0 |
| | | | | |
| 5.1 | ASSUMPTION on Axles/Truck (Short:Medium:Long) | | | (2.0 : 5.0 : 7.0) |
| 5.2 | ASSUMPTION on Mass/Truck (Short:Medium:Long) | | | (10.9 : 31.5 : 39.8) |
| 5.3 | ASSUMPTION on E80s/Truck (Short:Medium:Long) | | | (0.4 : 1.3 : 3.1) |

| Traffic Volumes | | Date and Time | Value |
|---|---|---|---|
| 6.1 | Highest Volume on the Road (vehs/hr) | 29 May 2023 (16:00 - 17:00) | 2,177 |
| 6.2 | Highest Volume in the North (vehs/hr) | 29 May 2023 (16:00 - 17:00) | 997 |
| 6.3 | Highest Volume in the South (vehs/hr) | 30 May 2023 (16:00 - 17:00) | 1,252 |
| 6.4 | Highest Volume in a Lane (vehs/hr) | 30 May 2023 (16:00 - 17:00) | 696 |
| 6.5 | 15th Highest Volume on the Road (vehs/hr) | 30 May 2023 (11:00 - 12:00) | 796 |
| 6.6 | 15th Highest Volume in the North Direction (vehs/hr) | 29 May 2023 (23:00 - 00:00) | 39 |

| | | | |
|---|---|---|---|
| 6.7 | 15th Highest Volume in the South Direction (vehs/hr) | 30 May 2023 (18:00 - 19:00) | 654 |
| 6.8 | 30th Highest Volume on the Road (vehs/hr) | 30 May 2023 (23:00 - 00:00) | 76 |
| 6.9 | 30th Highest Volume in the North Direction (vehs/hr) | 01 Jan 0001 (00:00 - 01:00) | |
| 6.10 | 30th Highest Volume in the South Direction (vehs/hr) | 30 May 2023 (22:00 - 23:00) | 68 |

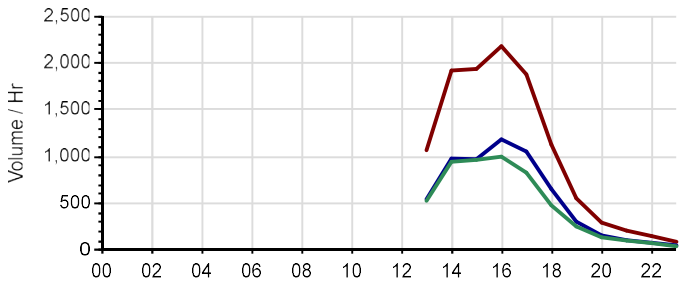
# Station Typical Flow Graphs

| | |
|---|---|
| **Site** | 19239 - Brits Industrial |
| **Region** | North |
| **Actual Period** | 29 May 2023 - 30 May 2023 |
| **Classification** | RSA Ext Lgt/Hvy |
| **Day Type** | Normal Day & Fixed Public Holiday+ |

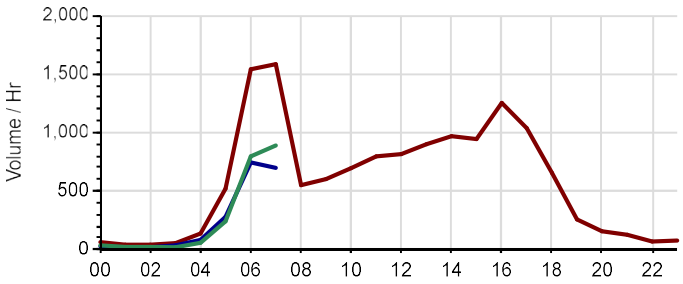
Total
To Hartbeespoortdam
To Thabazimbi

Total
Light
Heavy

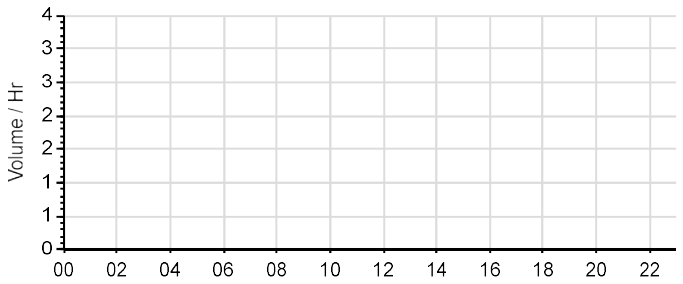
### Typical Flow for a Monday




### Typical Flow for a Tuesday




### Typical Flow for a Wednesday




### Typical Flow for a Thursday

No Data Available

### Typical Flow for a Friday

No Data Available

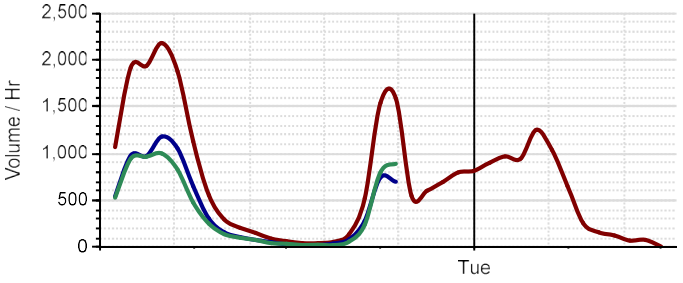
### Typical Flow for a Saturday

No Data Available

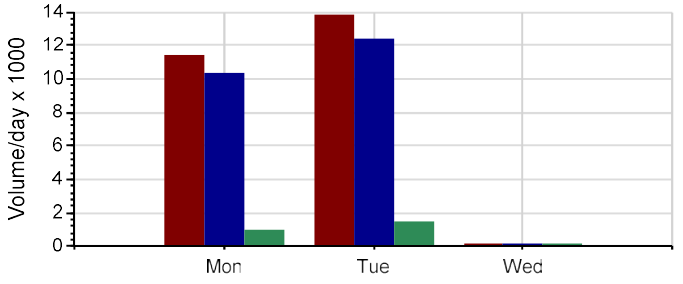
### Typical Flow for a Sunday

No Data Available

### Typical Flow for a Week




### Typical Flow for a Week

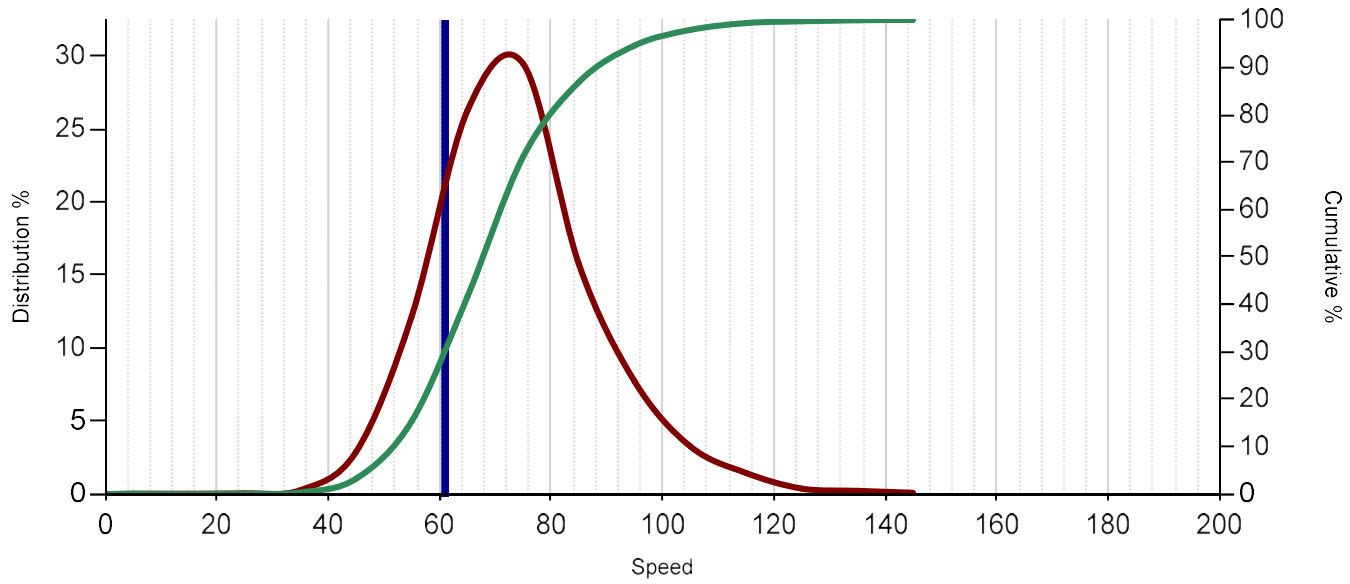


# Station Speed Distribution

| | |
|---|---|
| **Site** | 19239 - Brits Industrial |
| **Speed Limit** | 60 km/hr |
| **Period** | 01 Jan 2023 - 31 Dec 2023 |

Distribution
Cumulative
Speed Limit

**Lane 1 - Slow To Thabazimbi**

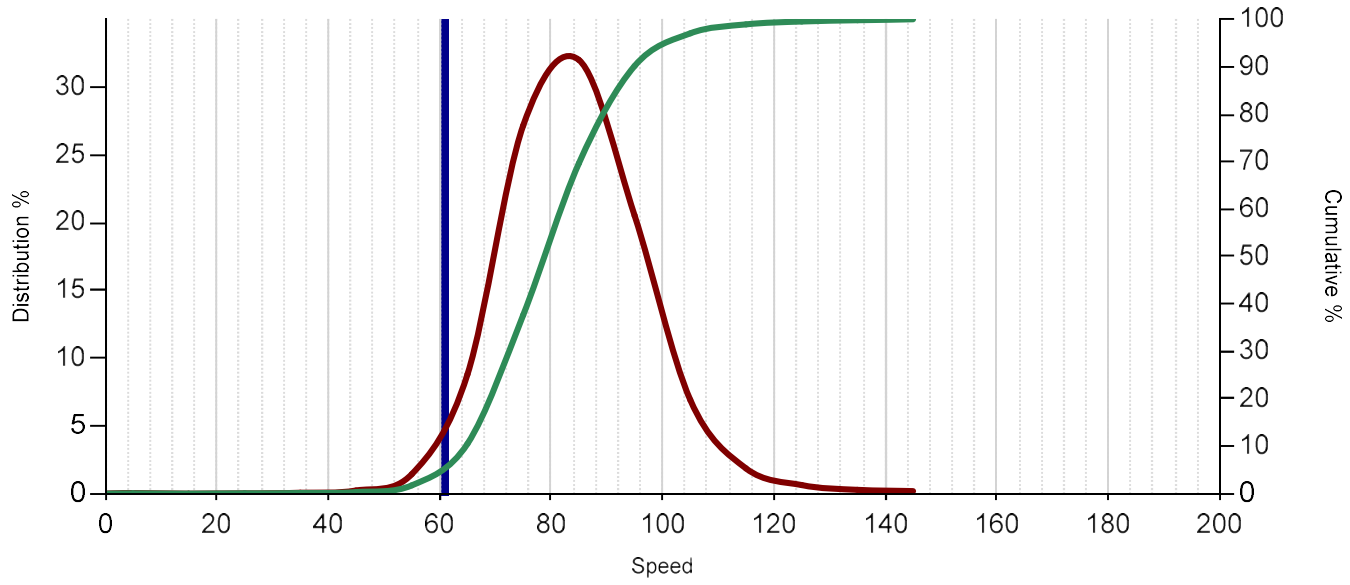



# Station Speed Distribution

| | |
|---|---|
| **Site** | 19239 - Brits Industrial |
| **Speed Limit** | 60 km/hr |
| **Period** | 01 Jan 2023 - 31 Dec 2023 |

Distribution
Cumulative
Speed Limit

**Lane 2 - Fast To Thabazimbi**

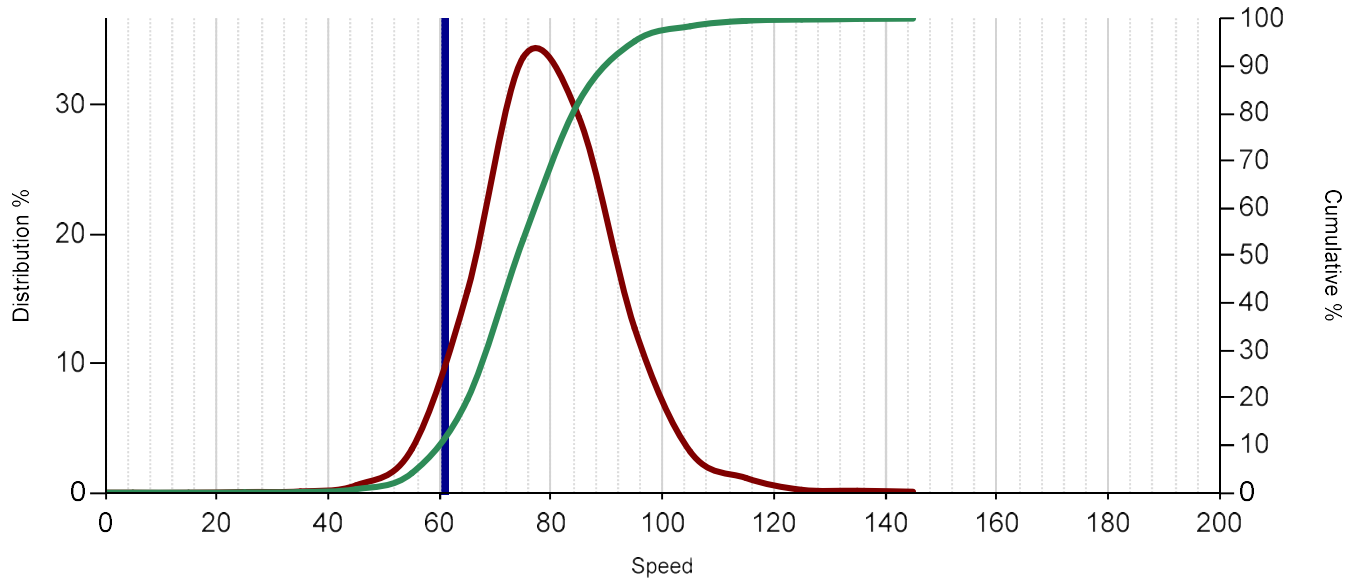



# Station Speed Distribution

| | |
|---|---|
| **Site** | 19239 - Brits Industrial |
| **Speed Limit** | 60 km/hr |
| **Period** | 01 Jan 2023 - 31 Dec 2023 |

Distribution
Cumulative
Speed Limit

**Lane 3 - Fast To Hartbeespoortdam**

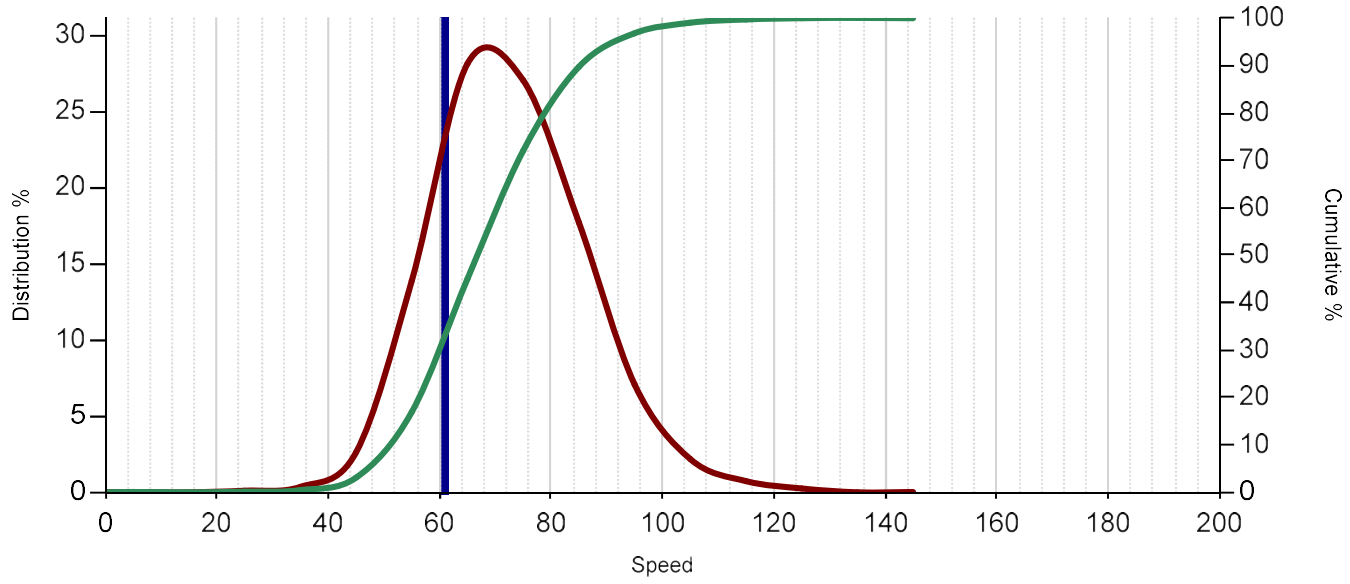



# Station Speed Distribution

| | |
|---|---|
| **Site** | 19239 - Brits Industrial |
| **Speed Limit** | 60 km/hr |
| **Period** | 01 Jan 2023 - 31 Dec 2023 |

Distribution
Cumulative
Speed Limit

**Lane 4 - Slow To Hartbeespoortdam**



# Station Information

| | | | |
|---|---|---|---|
| **Site Number** | 872 | **Site Identifier** | 18775 |
| **Site Name** | Kosmos | | |
| **Site Description** | Between Pelindaba and Hartbeespoortdam | | |
| **Site Type** | Permanent | **Owner** | SANRAL |
| **Physical Lanes** | 2 | **Responsibility** | NON-TOLL |
| **Logical Lanes** | 2 | **Installation Date** | 1999-05-11 |
| **GPS Longitude** | 27.815168 | **Termination Date** | |
| **GPS Lattitude** | -25.768885 | **Status** | In Use |
| **Region** | North | **Companion Site** | |
| **Road** | N004 | **Speed Limit** | 120 |
| **Route** | N004 | **Count Type** | Normal Traffic Counting Station |
| **Section** | 12 | **Distance** | 26.34 |
| **Authority** | SANRAL | **Contract No** | SANRAL 53000/1002/2022/LT |
| **Contract Org** | Mikros Traffic Monitoring (Pty) Ltd | **Station History Type** | Full Site |
| **System Type** | C1 | | |

| Lane No | Lane Description | Stream No | Stream Description | Direction | Reverse Lane No | Pos |
|---|---|---|---|---|---|---|
| 1 | To Pelindaba | 1 | To Pelindaba | East | 2 | 1 |
| 2 | To Rustenburg | 2 | To Rustenburg | West | 1 | 1 |

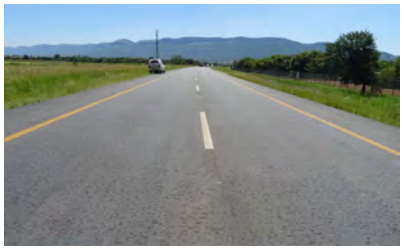
## PHOTO



**Direction 1**

To Pelindaba

## PHOTO



**Direction 2**

To Rustenburg

## PHOTO



**As Built**

| Traffic Highlights of Site: Kosmos (872) | |
|---|---|
| Site No | 872 |
| Site Name | Kosmos |
| Site Description | Between Pelindaba and Hartbeespoortdam |
| Road Description | Route : N004 Section : 12W Distance : 26.34 km |
| GPS Position | Latitude: -25.768885 Longitude: 27.815168 |
| Number of Lanes | 2 |
| Station Type | Permanent |

| | |
|---|---|
| Requested Data Period | 01 Jan 2023 - 31 Dec 2023 |
| First and Last Data Dates | 04 Jul 2023 - 31 Dec 2023 |
| Data Available for Requested Period as Percentage | 49% |

| | |
|---|---|
| Last Full Day Count for ADT and ADTT | 31 Dec 2023 |
| Number of Full Days in Requested Period | 176 |

| Highlights per Stream | | Str 1: To Pelindaba | Str 2: To Rustenburg | Value |
|---|---|---|---|---|
| 1.1 | Total Number of Vehicles | 1,076,348 | 1,053,218 | 2,129,566 |



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| | | | | |
|---|---|---|---|---|
| 1.2 | Average Daily Traffic (ADT) | 6,002 | 5,879 | 11,881 |
| 1.3 | Average Daily Truck Traffic (ADTT) | 485 | 426 | 911 |
| 1.4 | Percentage of Trucks | 8.1 % | 7.3 % | 7.7 % |
| 1.5 | Truck Split % (Short : Medium : Long) | 36 : 11 : 53 | 42 : 12 : 46 | 39 : 12 : 50 |
| 1.6 | Percentage of Night Traffic [20h00 - 6h00) | 9.3 % | 9.0 % | 9.1 % |
| | | | | |
| 2.1 | Speed Limit | | | 120 |
| 2.2 | Average Speed (km/hr) | 92.6 | 97.4 | 95.0 |
| 2.3 | Average Speed - Light Vehicles (km/hr) | 94.6 | 99.9 | 97.3 |
| 2.4 | Average Speed - Heavy Vehcles (km/hr) | 78.8 | 79.0 | 78.9 |
| 2.5 | Average Night Speed (km/hr) | 93.4 | 97.6 | 95.5 |
| 2.6 | 15th Centile Speed (km/hr) | | | |
| 2.7 | 85th Centile Speed (km/hr) | | | |
| 2.8 | Percentage of Vehicles in Excess of Speed Limit | 42.0 % | 39.5 % | 40.8 % |
| | | | | |
| 3.1 | Percentage Vehicles in Flows Over 600 (vehs/hr) | 5.2 % | 2.5 % | 81.87% |
| 3.2 | Percentage of Vehicles less than 2s behind vehicle ahead | 0 % | 0 % | 0 % |
| | | | | |
| 4.1 | Total Number of Heavy Vehicles | 87,181 | 76,616 | 163,797 |
| 4.2 | Estimated Average Number of axles per Truck | 5.0 | 4.7 | 4.9 |
| 4.3 | Estimated Truck Mass (Ton/Truck) | 28.5 | 26.7 | 27.6 |
| 4.4 | Estimated Average E80 / Truck | 1.9 | 1.7 | 1.8 |
| 4.5 | Estimated Daily E80 on the Road | | | 1,451.0 |
| 4.6 | Estimated Daily E80 in the East Direction | | | 2,317.0 |
| 4.7 | Estimated Daily E80 in the West Direction | | | 2,036.0 |
| 4.8 | Estimated Daily E80 in the Worst East Lane | | | 2,036.0 |
| 4.9 | Estimated Daily E80 in the Worst West Lane | | | 2,317.0 |
| | | | | |
| 5.1 | ASSUMPTION on Axles/Truck (Short:Medium:Long) | | | (2.0 : 5.0 : 7.0) |
| 5.2 | ASSUMPTION on Mass/Truck (Short:Medium:Long) | | | (10.9 : 31.5 : 39.8) |
| 5.3 | ASSUMPTION on E80s/Truck (Short:Medium:Long) | | | (0.4 : 1.3 : 3.1) |

| Traffic Volumes | | Date and Time | Value |
|---|---|---|---|
| 6.1 | Highest Volume on the Road (vehs/hr) | 22 Sep 2023 (16:00 - 17:00) | 1,424 |
| 6.2 | Highest Volume in the East (vehs/hr) | 22 Sep 2023 (16:00 - 17:00) | 879 |
| 6.3 | Highest Volume in the West (vehs/hr) | 08 Sep 2023 (15:00 - 16:00) | 676 |
| 6.4 | Highest Volume in a Lane (vehs/hr) | 22 Sep 2023 (16:00 - 17:00) | 879 |
| 6.5 | 15th Highest Volume on the Road (vehs/hr) | 01 Sep 2023 (16:00 - 17:00) | 1,296 |
| 6.6 | 15th Highest Volume in the East Direction (vehs/hr) | 01 Dec 2023 (15:00 - 16:00) | 719 |
| 6.7 | 15th Highest Volume in the West Direction (vehs/hr) | 07 Jul 2023 (14:00 - 15:00) | 624 |
| 6.8 | 30th Highest Volume on the Road (vehs/hr) | 01 Sep 2023 (17:00 - 18:00) | 1,248 |
| 6.9 | 30th Highest Volume in the East Direction (vehs/hr) | 13 Oct 2023 (16:00 - 17:00) | 683 |

| | | | |
|---|---|---|---|
| 6.10 | 30th Highest Volume in the West Direction (vehs/hr) | 07 Jul 2023 (16:00 - 17:00) | 608 |



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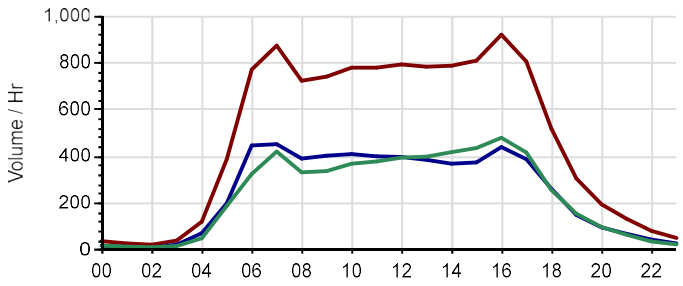
# Station Typical Flow Graphs

| | |
|---|---|
| **Site** | 872 - Kosmos |
| **Region** | North |
| **Actual Period** | 04 Jul 2023 - 31 Dec 2023 |
| **Classification** | RSA Ext Lgt/Hvy |
| **Day Type** | Normal Day & Fixed Public Holiday+ |

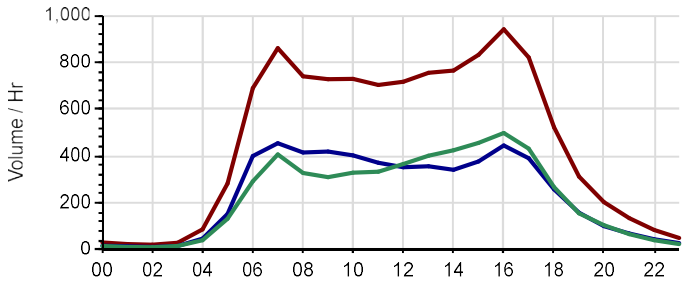
Total
To Pelindaba
To Rustenburg

Total
Light
Heavy

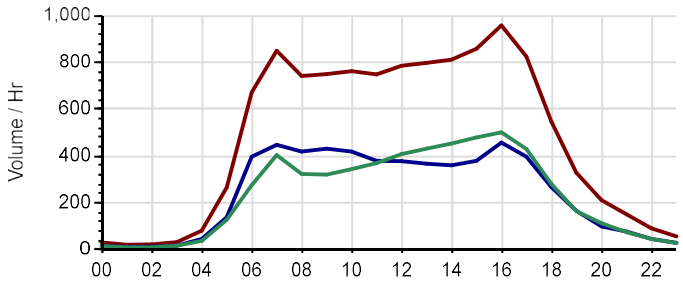
Typical Flow for a Monday



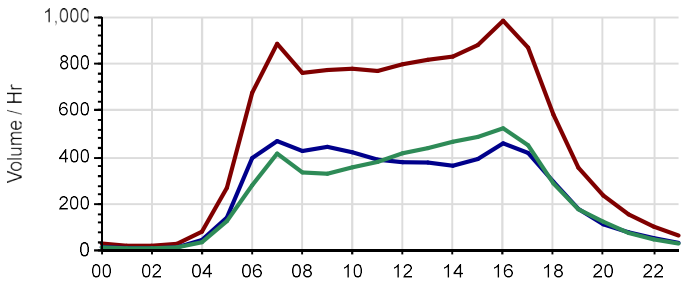

Typical Flow for a Tuesday



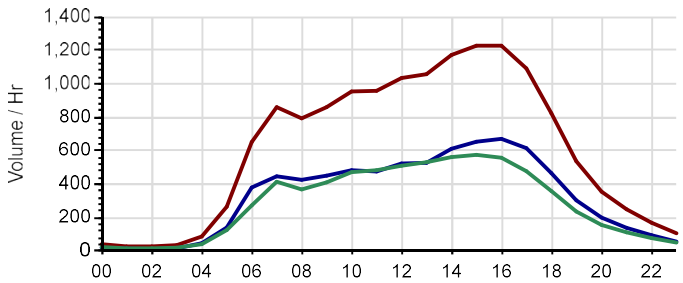

Typical Flow for a Wednesday



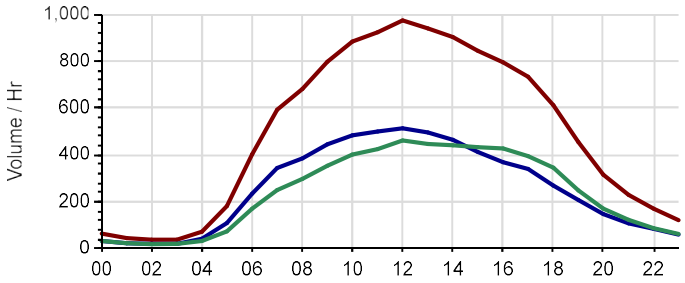

Typical Flow for a Thursday



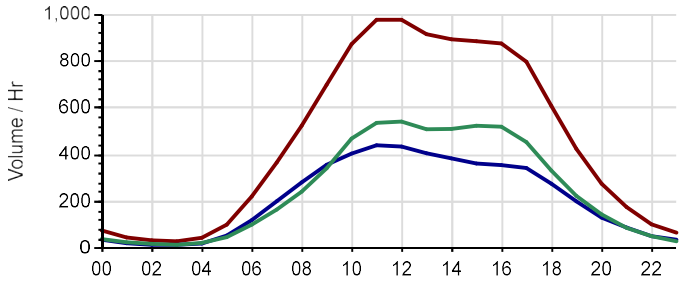

Typical Flow for a Friday



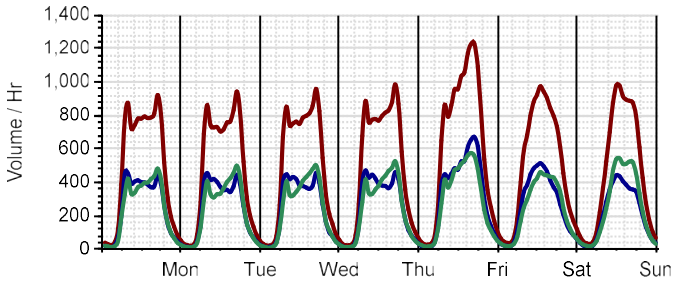

Typical Flow for a Saturday



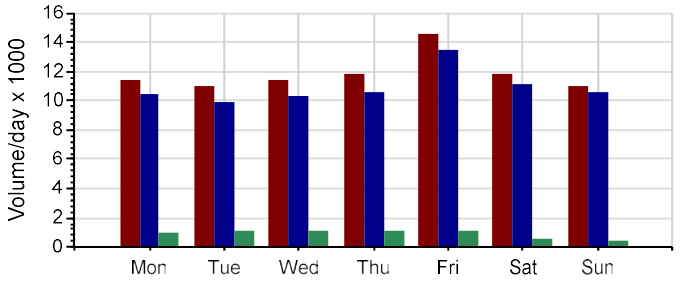

Typical Flow for a Sunday




Typical Flow for a Week




Typical Flow for a Week

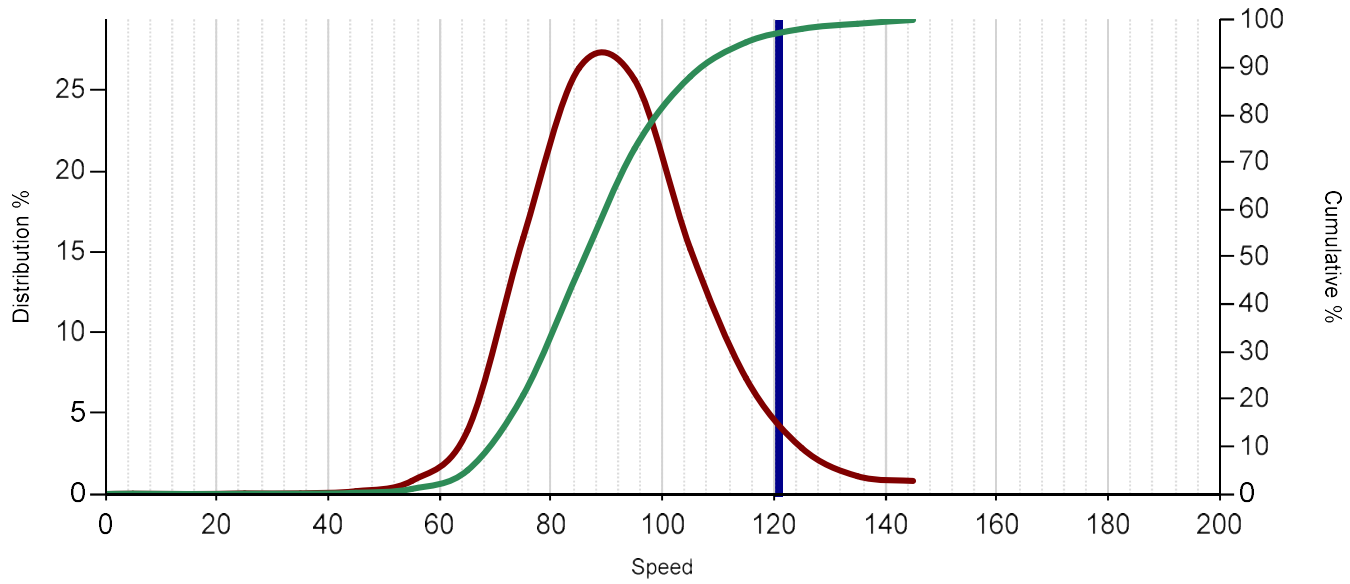


# Station Speed Distribution

| | |
|---|---|
| **Site** | 872 - Kosmos |
| **Speed Limit** | 120 km/hr |
| **Period** | 01 Jan 2023 - 31 Dec 2023 |

Distribution
Cumulative
Speed Limit

**Lane 1 - To Pelindaba**

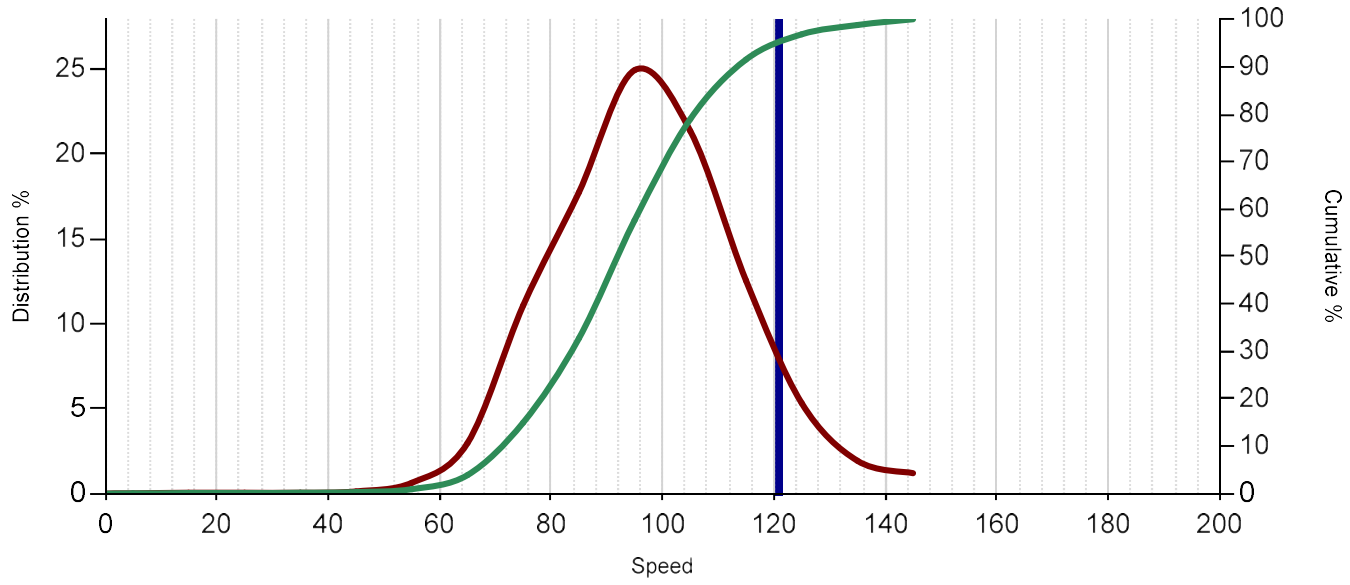



# Station Speed Distribution

| | |
|---|---|
| **Site** | 872 - Kosmos |
| **Speed Limit** | 120 km/hr |
| **Period** | 01 Jan 2023 - 31 Dec 2023 |

Distribution
Cumulative
Speed Limit

**Lane 2 - To Rustenburg**





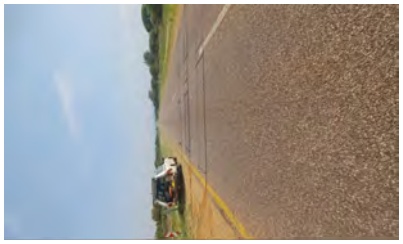

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For queries, contact:
Michelle van der Walt (012) 844 8029 vdwaltm@nra.co.za

# Station Information

| | | | |
|---|---|---|---|
| **Site Number** | 19099 | **Site Identifier** | 25305 |
| **Site Name** | Tamboti | | |
| **Site Description** | Between Thabazimbi and Brits | | |
| **Site Type** | Secondary (Temp) | **Owner** | SANRAL |
| **Physical Lanes** | 2 | **Responsibility** | NON-TOLL |
| **Logical Lanes** | 2 | **Installation Date** | 2015-02-04 |
| **GPS Longitude** | 27.57034 | **Termination Date** | |
| **GPS Lattitude** | -24.97954 | **Status** | In Use |
| **Region** | North | **Companion Site** | |
| **Road** | R511 | **Speed Limit** | 120 |
| **Route** | R511 | **Count Type** | Normal Traffic Counting Station |
| **Section** | 03 | **Distance** | 87.25 |
| **Authority** | SANRAL | **Contract No** | 53000/1002/2021/M-ST/SP/1R/2 |
| **Contract Org** | Mikros Traffic Monitoring (Pty) Ltd | **Station History Type** | Full Site |
| **System Type** | C1 | | |

| Lane No | Lane Description | Stream No | Stream Description | Direction | Reverse Lane No | Pos |
|---|---|---|---|---|---|---|
| 1 | To Thabazimbi | 1 | To Thabazimbi | North | 2 | 1 |
| 2 | To Brits | 2 | To Brits | South | 1 | 1 |

## PHOTO



**Direction 1**

To Thabazimbi

## PHOTO



**Direction 2**

To Brits

## PHOTO



**As Built**

| Traffic Highlights of Site: Tamboti (19099) | |
|---|---|
| Site No | 19099 |
| Site Name | Tamboti |
| Site Description | Between Thabazimbi and Brits |
| Road Description | Route : R511 Section : 03N Distance : 87.25 km |
| GPS Position | Latitude: -24.97954 Longitude: 27.57034 |
| Number of Lanes | 2 |
| Station Type | Secondary (Temp) |

| | |
|---|---|
| Requested Data Period | 01 Jan 2023 - 31 Dec 2023 |
| First and Last Data Dates | 28 Nov 2023 - 01 Dec 2023 |
| Data Available for Requested Period as Percentage | 2% |

| | |
|---|---|
| Last Full Day Count for ADT and ADTT | 01 Jan 0001 |
| Number of Full Days in Requested Period | 0 |

| Highlights per Stream | | Str 1: To Thabazimbi | Str 2: To Brits | Value |
|---|---|---|---|---|
| 1.1 | Total Number of Vehicles | 6,391 | 5,850 | 12,241 |



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For queries, contact:
Michelle van der Walt (012) 844 8029 vdwaltm@nra.co.za

| | | | | |
|---|---|---|---|---|
| 1.2 | Average Daily Traffic (ADT) | | | |
| 1.3 | Average Daily Truck Traffic (ADTT) | | | |
| 1.4 | Percentage of Trucks | 31.9 % | 28.4 % | 30.2 % |
| 1.5 | Truck Split % (Short : Medium : Long) | 19 : 10 : 71 | 26 : 18 : 56 | 22 : 14 : 64 |
| 1.6 | Percentage of Night Traffic [20h00 - 6h00) | 13.7 % | 14.1 % | 13.9 % |
| | | | | |
| 2.1 | Speed Limit | | | 120 |
| 2.2 | Average Speed (km/hr) | 97.4 | 97.4 | 97.4 |
| 2.3 | Average Speed - Light Vehicles (km/hr) | 107.4 | 105.7 | 106.6 |
| 2.4 | Average Speed - Heavy Vehcles (km/hr) | 77.9 | 78.2 | 78.1 |
| 2.5 | Average Night Speed (km/hr) | 86.7 | 89.1 | 87.9 |
| 2.6 | 15th Centile Speed (km/hr) | | | |
| 2.7 | 85th Centile Speed (km/hr) | | | |
| 2.8 | Percentage of Vehicles in Excess of Speed Limit | 44.3 % | 41.5 % | 42.9 % |
| | | | | |
| 3.1 | Percentage Vehicles in Flows Over 600 (vehs/hr) | 0 % | 0 % | 0.00% |
| 3.2 | Percentage of Vehicles less than 2s behind vehicle ahead | 0 % | 0 % | 0 % |
| | | | | |
| 4.1 | Total Number of Heavy Vehicles | 2,040 | 1,659 | 3,699 |
| 4.2 | Estimated Average Number of axles per Truck | 5.9 | 5.3 | 5.6 |
| 4.3 | Estimated Truck Mass (Ton/Truck) | 33.5 | 30.8 | 32.2 |
| 4.4 | Estimated Average E80 / Truck | 2.4 | 2.1 | 2.3 |
| 4.5 | Estimated Daily E80 on the Road | | | 979.0 |
| 4.6 | Estimated Daily E80 in the North Direction | | | 1,620.0 |
| 4.7 | Estimated Daily E80 in the South Direction | | | 1,317.0 |
| 4.8 | Estimated Daily E80 in the Worst North Lane | | | 1,620.0 |
| 4.9 | Estimated Daily E80 in the Worst South Lane | | | 1,317.0 |
| | | | | |
| 5.1 | ASSUMPTION on Axles/Truck (Short:Medium:Long) | | | (2.0 : 5.0 : 7.0) |
| 5.2 | ASSUMPTION on Mass/Truck (Short:Medium:Long) | | | (10.9 : 31.5 : 39.8) |
| 5.3 | ASSUMPTION on E80s/Truck (Short:Medium:Long) | | | (0.4 : 1.3 : 3.1) |

| Traffic Volumes | | Date and Time | Value |
|---|---|---|---|
| 6.1 | Highest Volume on the Road (vehs/hr) | 30 Nov 2023 (16:00 - 17:00) | 294 |
| 6.2 | Highest Volume in the North (vehs/hr) | 28 Nov 2023 (12:00 - 13:00) | 166 |
| 6.3 | Highest Volume in the South (vehs/hr) | 30 Nov 2023 (16:00 - 17:00) | 152 |
| 6.4 | Highest Volume in a Lane (vehs/hr) | 28 Nov 2023 (12:00 - 13:00) | 166 |
| 6.5 | 15th Highest Volume on the Road (vehs/hr) | 29 Nov 2023 (12:00 - 13:00) | 254 |
| 6.6 | 15th Highest Volume in the North Direction (vehs/hr) | 29 Nov 2023 (07:00 - 08:00) | 134 |
| 6.7 | 15th Highest Volume in the South Direction (vehs/hr) | 28 Nov 2023 (13:00 - 14:00) | 120 |
| 6.8 | 30th Highest Volume on the Road (vehs/hr) | 29 Nov 2023 (13:00 - 14:00) | 212 |
| 6.9 | 30th Highest Volume in the North Direction (vehs/hr) | 29 Nov 2023 (11:00 - 12:00) | 108 |

| | | | |
|---|---|---|---|
| 6.10 | 30th Highest Volume in the South Direction (vehs/hr) | 30 Nov 2023 (06:00 - 07:00) | 100 |



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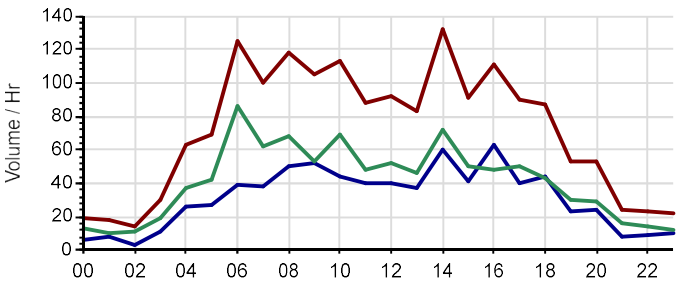
# Station Typical Flow Graphs

| | |
|---|---|
| **Site** | 19099 - Tamboti |
| **Region** | North |
| **Actual Period** | 26 Nov 2023 - 01 Dec 2023 |
| **Classification** | RSA Ext Lgt/Hvy |
| **Day Type** | Normal Day & Fixed Public Holiday+ |

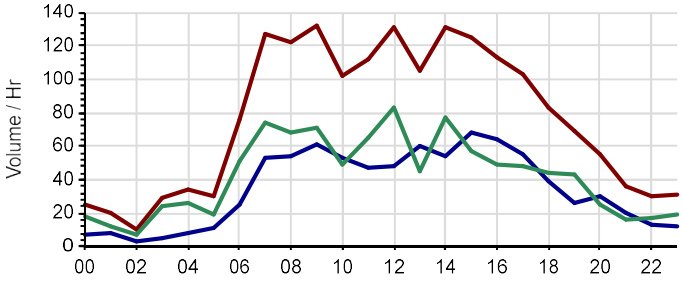
Total
To Brits
To Thabazimbi

Total
Light
Heavy

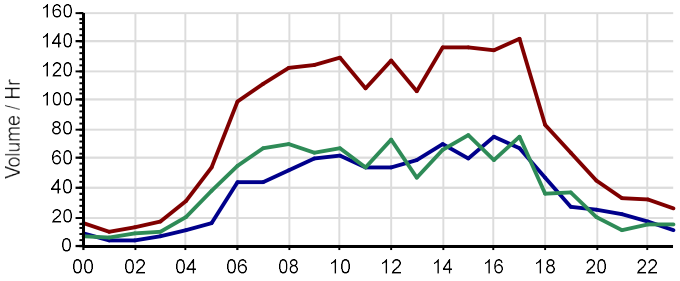
### Typical Flow for a Monday



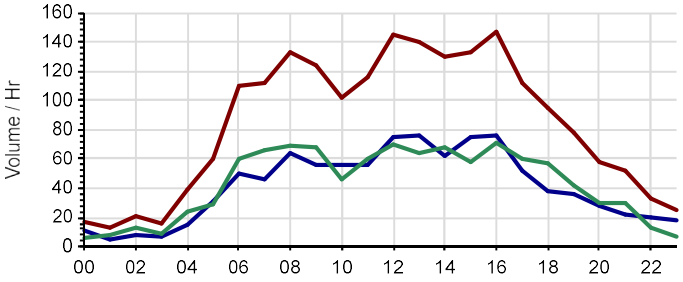

### Typical Flow for a Tuesday



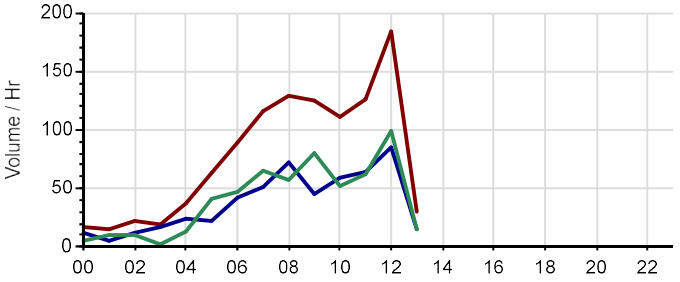

### Typical Flow for a Wednesday




### Typical Flow for a Thursday



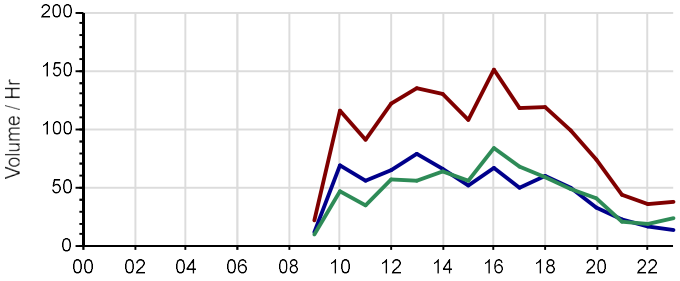

### Typical Flow for a Friday



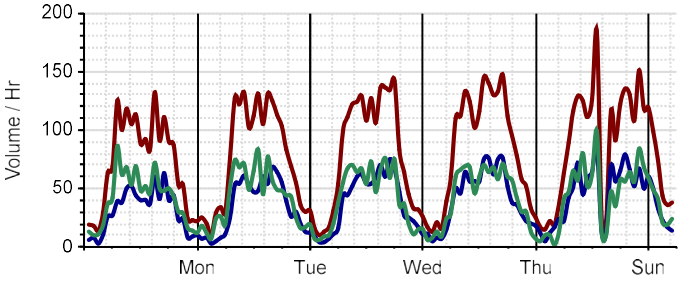

### Typical Flow for a Saturday

No Data Available

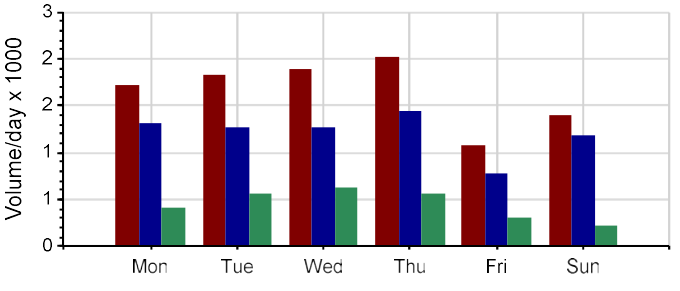
### Typical Flow for a Sunday




### Typical Flow for a Week




### Typical Flow for a Week

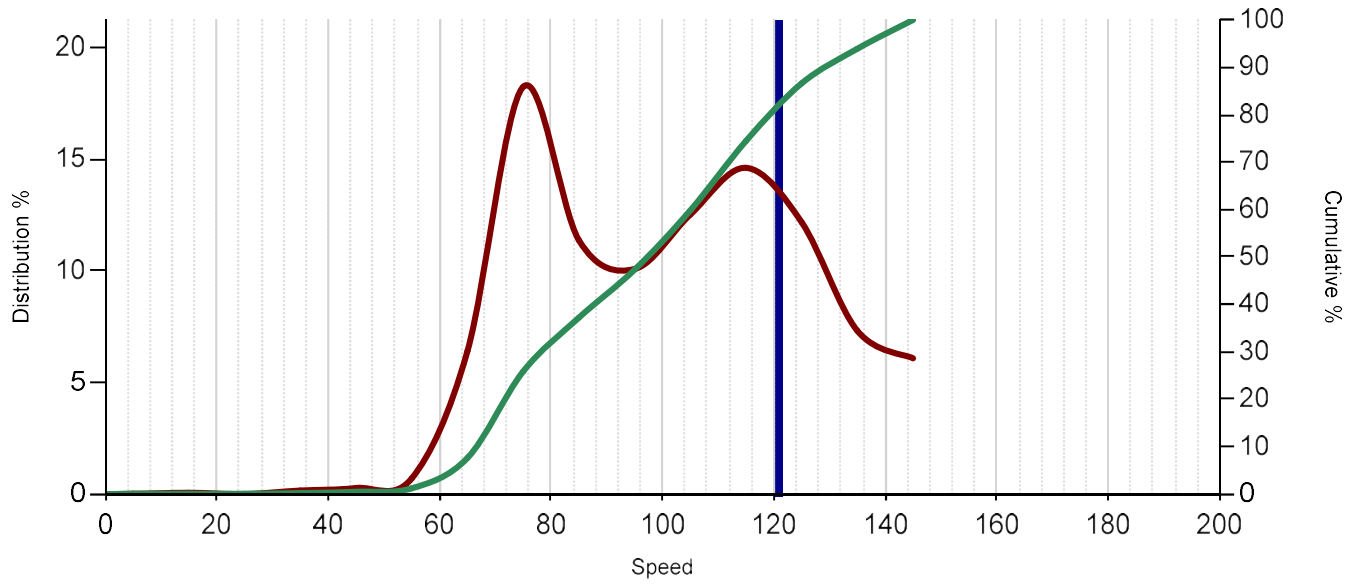


# Station Speed Distribution

| | |
|---|---|
| **Site** | 19099 - Tamboti |
| **Speed Limit** | 120 km/hr |
| **Period** | 01 Jan 2023 - 31 Dec 2023 |

Distribution
Cumulative
Speed Limit

**Lane 1 - To Thabazimbi**

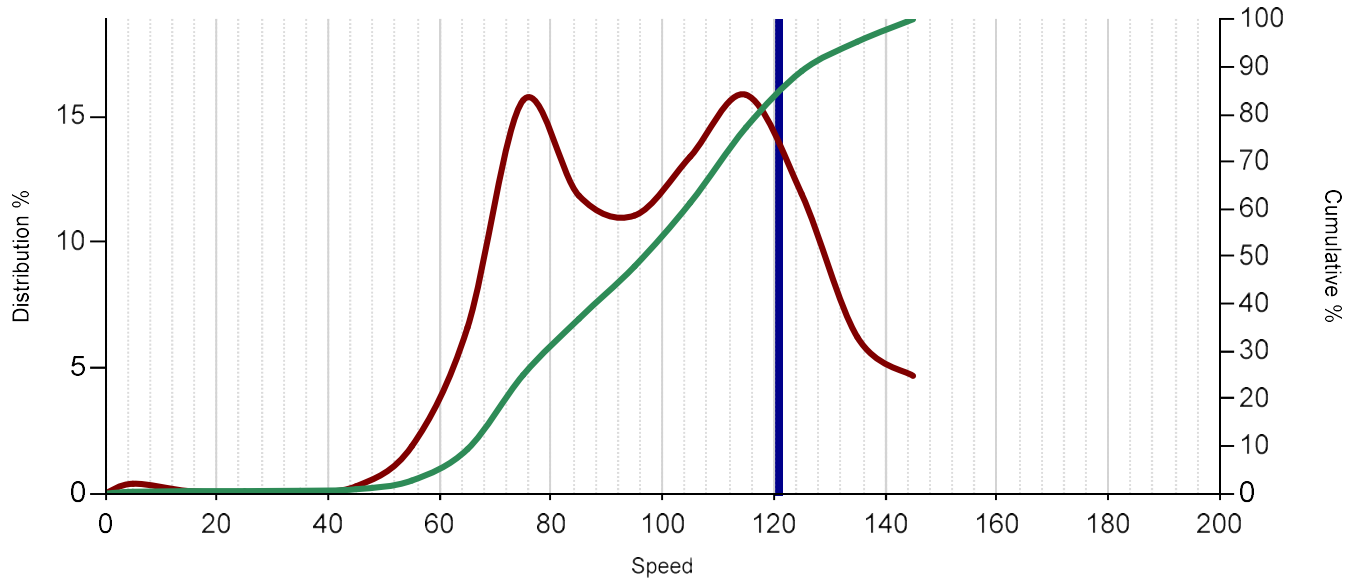



# Station Speed Distribution

| | |
|---|---|
| **Site** | 19099 - Tamboti |
| **Speed Limit** | 120 km/hr |
| **Period** | 01 Jan 2023 - 31 Dec 2023 |

Distribution
Cumulative
Speed Limit

**Lane 2 - To Brits**

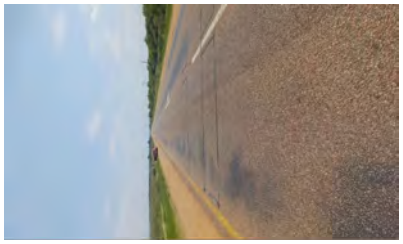


# Station Information

| | | | |
|---|---|---|---|
| **Site Number** | 19169 | **Site Identifier** | 25293 |
| **Site Name** | Doornfontein | | |
| **Site Description** | Between Thabazimbi and Brits | | |
| **Site Type** | Secondary (Temp) | **Owner** | SANRAL |
| **Physical Lanes** | 2 | **Responsibility** | NON-TOLL |
| **Logical Lanes** | 2 | **Installation Date** | 2015-02-04 |
| **GPS Longitude** | 27.4866 | **Termination Date** | |
| **GPS Lattitude** | -24.83899 | **Status** | In Use |
| **Region** | North | **Companion Site** | |
| **Road** | R511 | **Speed Limit** | 120 |
| **Route** | R511 | **Count Type** | Normal Traffic Counting Station |
| **Section** | 03 | **Distance** | 105.73 |
| **Authority** | SANRAL | **Contract No** | 53000/1002/2021/M-ST/SP/1R/2 |
| **Contract Org** | Mikros Traffic Monitoring (Pty) Ltd | **Station History Type** | Full Site |
| **System Type** | C1 | | |

| Lane No | Lane Description | Stream No | Stream Description | Direction | Reverse Lane No | Pos |
|---|---|---|---|---|---|---|
| 1 | To Thabazimbi | 1 | To Thabazimbi | North | 2 | 1 |
| 2 | To Brits | 2 | To Brits | South | 1 | 1 |

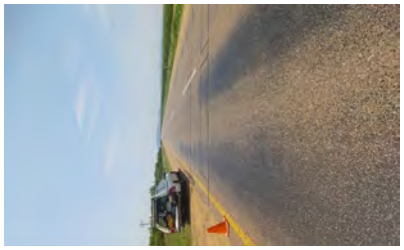
## PHOTO



**Direction 1**

To Thabazimbi

## PHOTO



**Direction 2**

To Brits

## PHOTO



**As Built**

| Traffic Highlights of Site: Doornfontein (19169) | |
|---|---|
| Site No | 19169 |
| Site Name | Doornfontein |
| Site Description | Between Thabazimbi and Brits |
| Road Description | Route : R511 Section : 03N Distance : 105.73 km |
| GPS Position | Latitude: -24.83899 Longitude: 27.4866 |
| Number of Lanes | 2 |
| Station Type | Secondary (Temp) |

| | |
|---|---|
| Requested Data Period | 01 Jan 2023 - 31 Dec 2023 |
| First and Last Data Dates | 26 Nov 2023 - 28 Nov 2023 |
| Data Available for Requested Period as Percentage | 1% |

| | |
|---|---|
| Last Full Day Count for ADT and ADTT | 27 Nov 2023 |
| Number of Full Days in Requested Period | 1 |

| Highlights per Stream | | Str 1: To Thabazimbi | Str 2: To Brits | Value |
|---|---|---|---|---|
| 1.1 | Total Number of Vehicles | 2,336 | 1,864 | 4,200 |

| | | | | |
|---|---|---|---|---|
| 1.2 | Average Daily Traffic (ADT) | 1,290 | 1,111 | 2,401 |
| 1.3 | Average Daily Truck Traffic (ADTT) | 194 | 270 | 464 |
| 1.4 | Percentage of Trucks | 12.7 % | 23.0 % | 17.2 % |
| 1.5 | Truck Split % (Short : Medium : Long) | 23 : 16 : 61 | 29 : 10 : 61 | 26 : 13 : 61 |
| 1.6 | Percentage of Night Traffic [20h00 - 6h00) | 21.3 % | 14.7 % | 18.4 % |
| | | | | |
| 2.1 | Speed Limit | | | 120 |
| 2.2 | Average Speed (km/hr) | 102.6 | 99.9 | 101.3 |
| 2.3 | Average Speed - Light Vehicles (km/hr) | 106.4 | 107.5 | 107.0 |
| 2.4 | Average Speed - Heavy Vehcles (km/hr) | 77.0 | 83.4 | 80.2 |
| 2.5 | Average Night Speed (km/hr) | 95.2 | 93.8 | 94.5 |
| 2.6 | 15th Centile Speed (km/hr) | | | |
| 2.7 | 85th Centile Speed (km/hr) | | | |
| 2.8 | Percentage of Vehicles in Excess of Speed Limit | 43.5 % | 45.3 % | 44.4 % |
| | | | | |
| 3.1 | Percentage Vehicles in Flows Over 600 (vehs/hr) | 0 % | 0 % | 0.00% |
| 3.2 | Percentage of Vehicles less than 2s behind vehicle ahead | 0 % | 0 % | 0 % |
| | | | | |
| 4.1 | Total Number of Heavy Vehicles | 296 | 428 | 724 |
| 4.2 | Estimated Average Number of axles per Truck | 5.5 | 5.4 | 5.5 |
| 4.3 | Estimated Truck Mass (Ton/Truck) | 31.8 | 30.6 | 31.2 |
| 4.4 | Estimated Average E80 / Truck | 2.2 | 2.1 | 2.2 |
| 4.5 | Estimated Daily E80 on the Road | | | 627.0 |
| 4.6 | Estimated Daily E80 in the North Direction | | | 769.0 |
| 4.7 | Estimated Daily E80 in the South Direction | | | 1,112.0 |
| 4.8 | Estimated Daily E80 in the Worst North Lane | | | 1,112.0 |
| 4.9 | Estimated Daily E80 in the Worst South Lane | | | 769.0 |
| | | | | |
| 5.1 | ASSUMPTION on Axles/Truck (Short:Medium:Long) | | | (2.0 : 5.0 : 7.0) |
| 5.2 | ASSUMPTION on Mass/Truck (Short:Medium:Long) | | | (10.9 : 31.5 : 39.8) |
| 5.3 | ASSUMPTION on E80s/Truck (Short:Medium:Long) | | | (0.4 : 1.3 : 3.1) |

| Traffic Volumes | | Date and Time | Value |
|---|---|---|---|
| 6.1 | Highest Volume on the Road (vehs/hr) | 27 Nov 2023 (08:00 - 09:00) | 186 |
| 6.2 | Highest Volume in the North (vehs/hr) | 27 Nov 2023 (08:00 - 09:00) | 110 |
| 6.3 | Highest Volume in the South (vehs/hr) | 26 Nov 2023 (12:00 - 13:00) | 98 |
| 6.4 | Highest Volume in a Lane (vehs/hr) | 27 Nov 2023 (08:00 - 09:00) | 110 |
| 6.5 | 15th Highest Volume on the Road (vehs/hr) | 26 Nov 2023 (17:00 - 18:00) | 141 |
| 6.6 | 15th Highest Volume in the North Direction (vehs/hr) | 27 Nov 2023 (14:00 - 15:00) | 71 |
| 6.7 | 15th Highest Volume in the South Direction (vehs/hr) | 26 Nov 2023 (15:00 - 16:00) | 67 |
| 6.8 | 30th Highest Volume on the Road (vehs/hr) | 27 Nov 2023 (20:00 - 21:00) | 54 |
| 6.9 | 30th Highest Volume in the North Direction (vehs/hr) | 27 Nov 2023 (20:00 - 21:00) | 31 |

| | | | |
|---|---|---|---|
| 6.10 | 30th Highest Volume in the South Direction (vehs/hr) | 27 Nov 2023 (21:00 - 22:00) | 17 |



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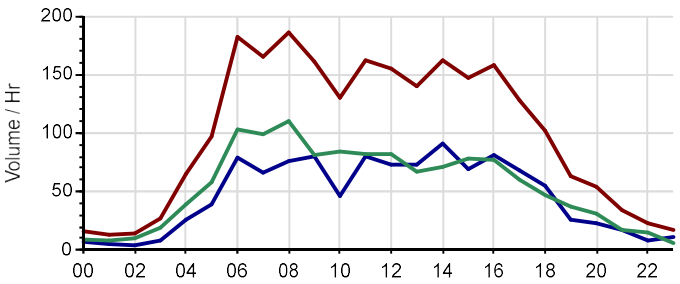
# Station Typical Flow Graphs

| | |
|---|---|
| **Site** | 19169 - Doornfontein |
| **Region** | North |
| **Actual Period** | 26 Nov 2023 - 28 Nov 2023 |
| **Classification** | RSA Ext Lgt/Hvy |
| **Day Type** | Normal Day & Fixed Public Holiday+ |

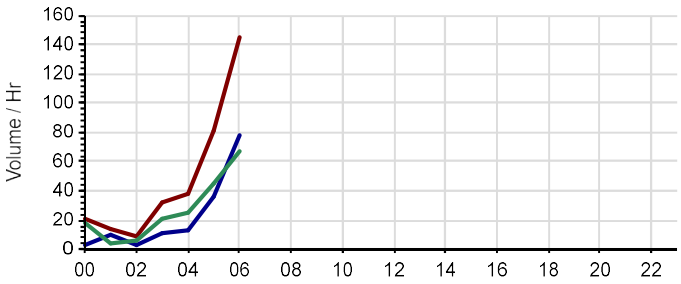
Total
To Brits
To Thabazimbi

Total
Light
Heavy

### Typical Flow for a Monday




### Typical Flow for a Tuesday




### Typical Flow for a Wednesday

No Data Available

### Typical Flow for a Thursday

No Data Available

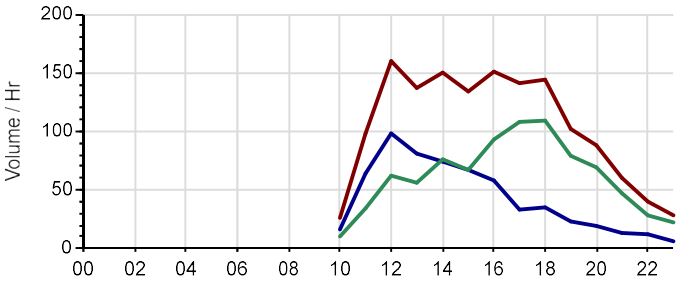
### Typical Flow for a Friday

No Data Available

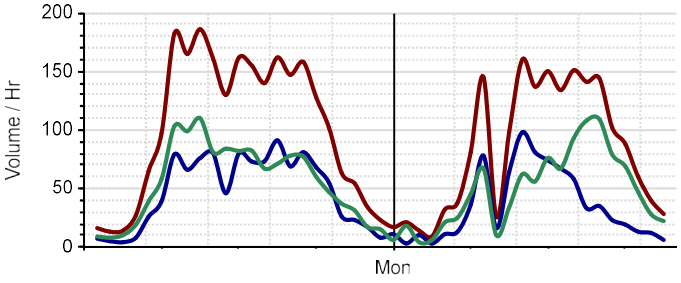
### Typical Flow for a Saturday

No Data Available

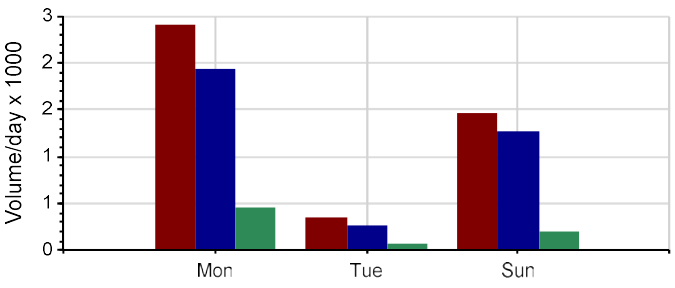
### Typical Flow for a Sunday




### Typical Flow for a Week




### Typical Flow for a Week

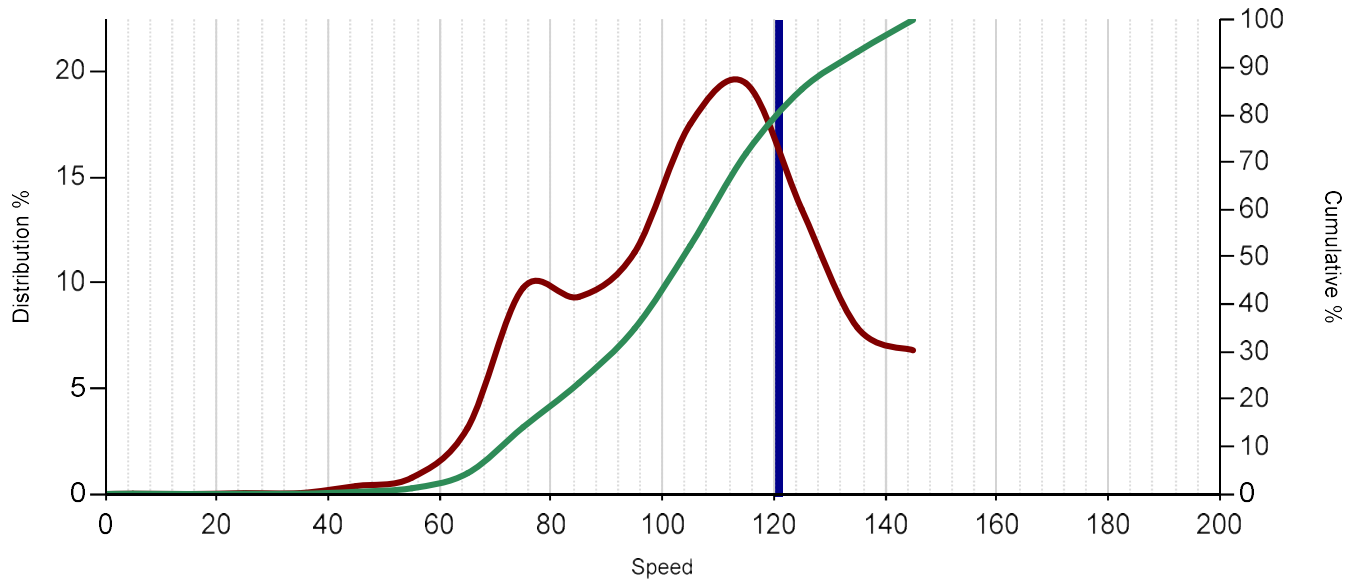


# Station Speed Distribution

| | |
|---|---|
| **Site** | 19169 - Doornfontein |
| **Speed Limit** | 120 km/hr |
| **Period** | 01 Jan 2023 - 31 Dec 2023 |

Distribution
Cumulative
Speed Limit

**Lane 1 - To Thabazimbi**

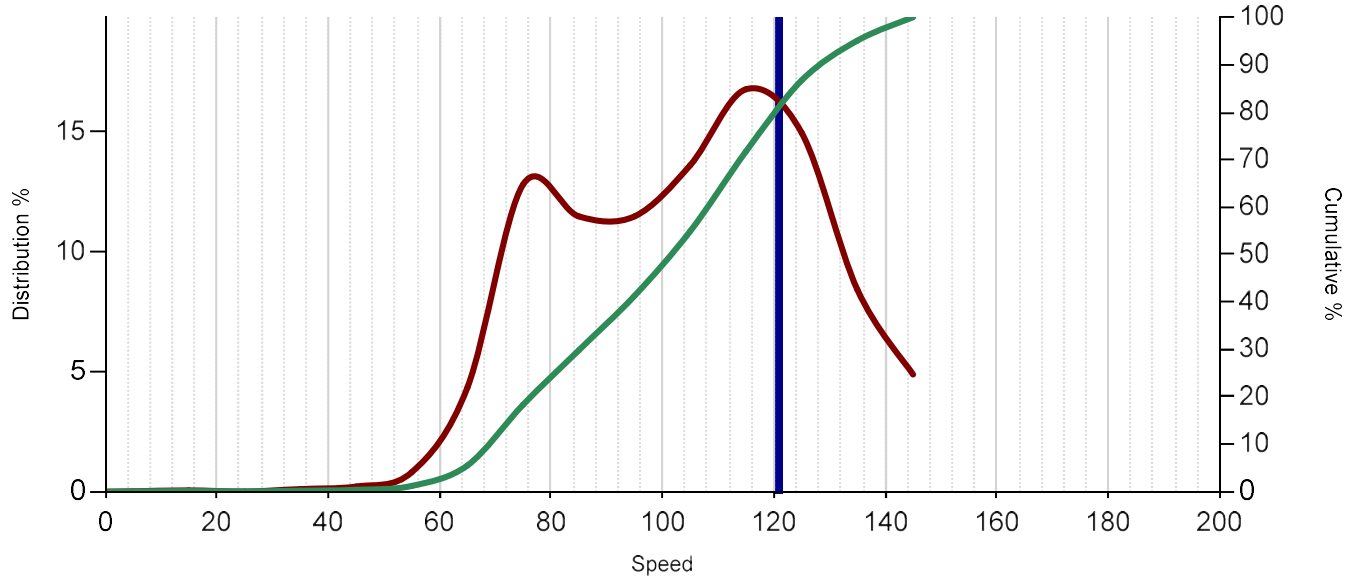



# Station Speed Distribution

| | |
|---|---|
| **Site** | 19169 - Doornfontein |
| **Speed Limit** | 120 km/hr |
| **Period** | 01 Jan 2023 - 31 Dec 2023 |

Distribution
Cumulative
Speed Limit

**Lane 2 - To Brits**



# Station Information

| | | | |
|---|---|---|---|
| **Site Number** | 19241 | **Site Identifier** | 25412 |
| **Site Name** | Langplaas | | |
| **Site Description** | Between Hartbeespoort and Brits | | |
| **Site Type** | Permanent | **Owner** | SANRAL |
| **Physical Lanes** | 2 | **Responsibility** | NON-TOLL |
| **Logical Lanes** | 2 | **Installation Date** | 2015-05-12 |
| **GPS Longitude** | 27.78389 | **Termination Date** | |
| **GPS Lattitude** | -25.67901 | **Status** | In Use |
| **Region** | North | **Companion Site** | |
| **Road** | R512 | **Speed Limit** | 100 |
| **Route** | R512 | **Count Type** | Normal Traffic Counting Station |
| **Section** | 03 | **Distance** | 4.693 |
| **Authority** | SANRAL | **Contract No** | NRA 53000/141/2 |
| **Contract Org** | TES Trust | **Station History Type** | Full Site |
| **System Type** | C1 | | |

| Lane No | Lane Description | Stream No | Stream Description | Direction | Reverse Lane No | Pos |
|---|---|---|---|---|---|---|
| 1 | To Brits | 1 | To Brits | North | 2 | 1 |
| 2 | To Hartbeespoort | 2 | To Hartbeespoort | South | 1 | 1 |

## PHOTO



**Direction 1**

To Brits

## PHOTO



**Direction 2**

To Hartbeespoort

## PHOTO



**As Built**

| Traffic Highlights of Site: Langplaas (19241) | |
|---|---|
| Site No | 19241 |
| Site Name | Langplaas |
| Site Description | Between Hartbeespoort and Brits |
| Road Description | Route : R512 Section : 03N Distance : 4.693 km |
| GPS Position | Latitude: -25.67901 Longitude: 27.78389 |
| Number of Lanes | 2 |
| Station Type | Permanent |

| | |
|---|---|
| Requested Data Period | 01 Jan 2019 - 31 Dec 2019 |
| First and Last Data Dates | 01 Jan 2019 - 31 Oct 2019 |
| Data Available for Requested Period as Percentage | 83% |

| | |
|---|---|
| Last Full Day Count for ADT and ADTT | 31 Oct 2019 |
| Number of Full Days in Requested Period | 303 |

| Highlights per Stream | | Str 1: To Brits | Str 2: To Hartbeespoort | Value |
|---|---|---|---|---|
| 1.1 | Total Number of Vehicles | 1,426,661 | 815,203 | 2,241,864 |
| 1.2 | Average Daily Traffic (ADT) | 4,701 | 2,690 | 7,391 |
| 1.3 | Average Daily Truck Traffic (ADTT) | 377 | 254 | 631 |
| 1.4 | Percentage of Trucks | 8.0 % | 9.5 % | 8.5 % |
| 1.5 | Truck Split % (Short : Medium : Long) | 38 : 10 : 52 | 36 : 13 : 51 | 37 : 12 : 52 |
| 1.6 | Percentage of Night Traffic [20h00 - 6h00) | 10.1 % | 13.6 % | 11.4 % |
| | | | | |
| 2.1 | Speed Limit | | | 100 |
| 2.2 | Average Speed (km/hr) | 65.7 | 57.5 | 61.6 |
| 2.3 | Average Speed - Light Vehicles (km/hr | 66.7 | 58.5 | 62.6 |
| 2.4 | Average Speed - Heavy Vehicles (km/hr) | 56.5 | 46.1 | 51.3 |
| 2.5 | Average Night Speed (km/hr) | 66.7 | 60.2 | 63.5 |
| 2.6 | 15th Centile Speed (km/hr) | 51.6 | 44.5 | 48.1 |
| 2.7 | 85th Centile Speed (km/hr) | 77.7 | 69.1 | 73.4 |
| 2.8 | Percentage of Vehicles in Excess of Speed Limit | 44.5 % | 37.6 % | 41.0 % |
| | | | | |
| 3.1 | Percentage Vehicles in Flows Over 600 (vehs/hr) | 6.2 % | 0.7 % | 53.88% |
| 3.2 | Percentage of Vehicles less than 2s behind vehicle ahead | 0 % | 0 % | 0 % |

| | | | | |
|---|---|---|---|---|
| 4.1 | Total Number of Heavy Vehicles | 114,267 | 77,047 | 191,314 |
| 4.2 | Estimated Average Number of axles per Truck | 4.9 | 4.9 | 4.9 |
| 4.3 | Estimated Truck Mass (Ton/Truck) | 28.0 | 28.3 | 28.2 |
| 4.4 | Estimated Average E80 / Truck | 2.4 | 2.4 | 2.40 |
| 4.5 | Estimated Daily E80 on the Road | | | 1,390.0 |
| 4.6 | Estimated Daily E80 in the North Direction | | | 2,490.0 |
| 4.7 | Estimated Daily E80 in the South Direction | | | 1,679.0 |
| 4.8 | Estimated Daily E80 in the Worst North Lane | | | 2,490.0 |
| 4.9 | Estimated Daily E80 in the Worst South Lane | | | 1,679.0 |
| | | | | |
| 5.1 | ASSUMPTION on Axles/Truck (Short:Medium:Long) | | | (2.0 : 5.0 : 7.0) |
| 5.2 | ASSUMPTION on Mass/Truck (Short:Medium:Long) | | | (10.9 : 31.5 : 39.8) |
| 5.3 | ASSUMPTION on E80s/Truck (Short:Medium:Long) | | | (0.5 : 2.1 : 3.9) |

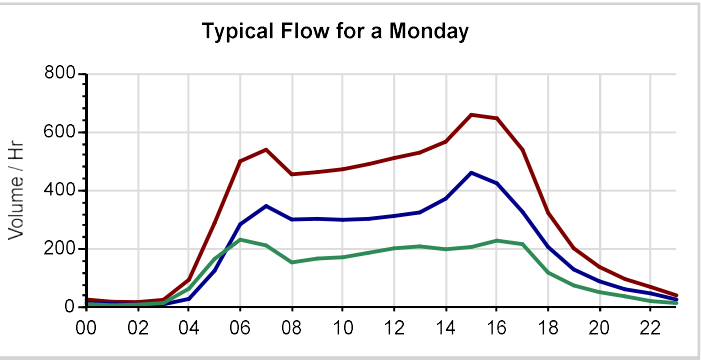
| Traffic Volumes | | Date and Time | Value |
|---|---|---|---|
| 6.1 | Highest Volume on the Road (vehs/hr) | 29 Mar 2019 (15:00 - 16:00) | 1,393 |
| 6.2 | Highest Volume in the North (vehs/hr) | 25 Jan 2019 (14:00 - 15:00) | 815 |
| 6.3 | Highest Volume in the South (vehs/hr) | 01 Mar 2019 (16:00 - 17:00) | 629 |
| 6.4 | Highest Volume in a Lane (vehs/hr) | 25 Jan 2019 (14:00 - 15:00) | 815 |
| 6.5 | 15th Highest Volume on the Road (vehs/hr) | 05 Apr 2019 (15:00 - 16:00) | 1,302 |
| 6.6 | 15th Highest Volume in the North Direction (vehs/hr) | 01 Feb 2019 (15:00 - 16:00) | 732 |
| 6.7 | 15th Highest Volume in the South Direction (vehs/hr) | 08 Mar 2019 (14:00 - 15:00) | 584 |
| 6.8 | 30th Highest Volume on the Road (vehs/hr) | 28 Feb 2019 (16:00 - 17:00) | 1,235 |
| 6.9 | 30th Highest Volume in the North Direction (vehs/hr) | 01 Feb 2019 (13:00 - 14:00) | 695 |
| 6.10 | 30th Highest Volume in the South Direction (vehs/hr) | 15 Mar 2019 (17:00 - 18:00) | 567 |

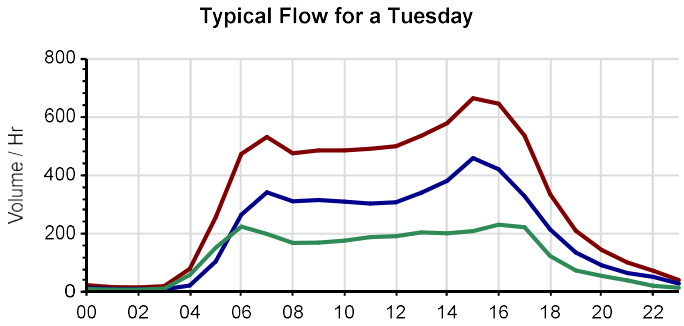
# Station Typical Flow Graphs

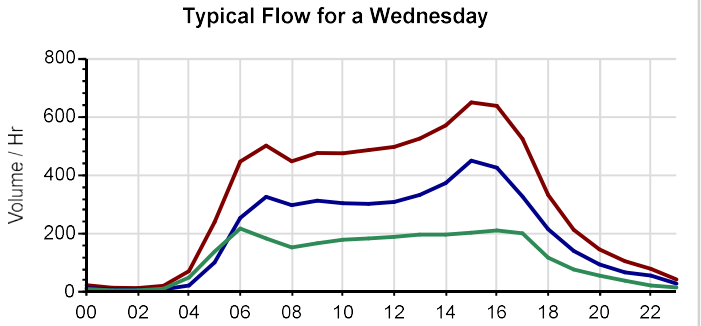
| | |
|---|---|
| **Site** | 19241 - Langplaas |
| **Region** | North |
| **Actual Period** | 01 Jan 2019 - 31 Oct 2019 |
| **Classification** | RSA Ext Lgt/Hvy |
| **Day Type** | Normal Day & Fixed Public Holiday+ |

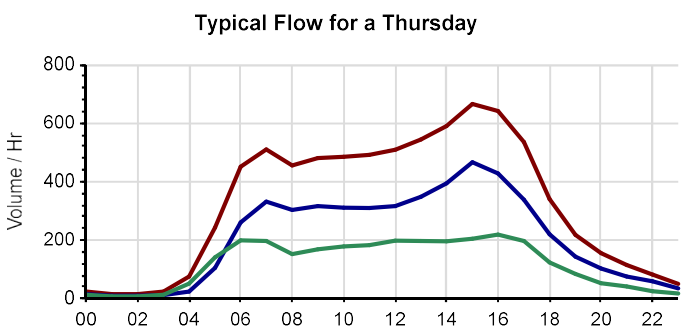
Total
To Brits
To Hartbeespoort

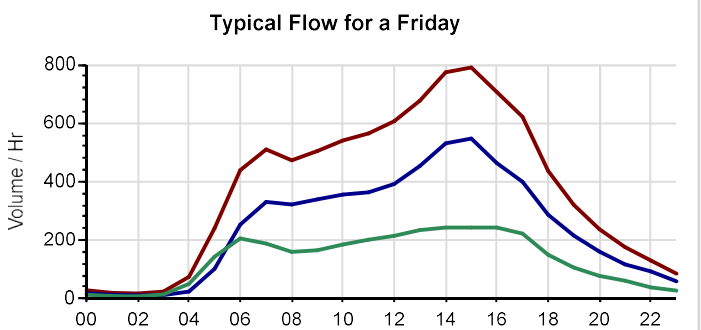
Total
Light
Heavy

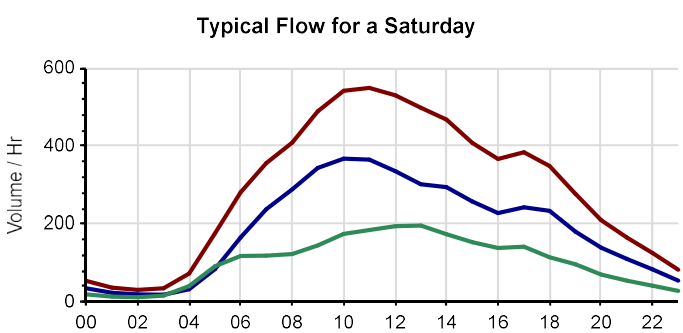


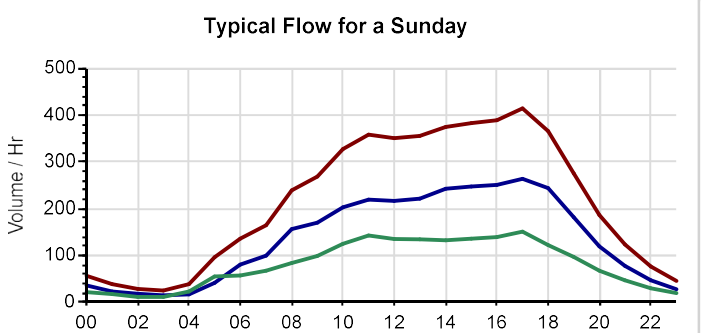



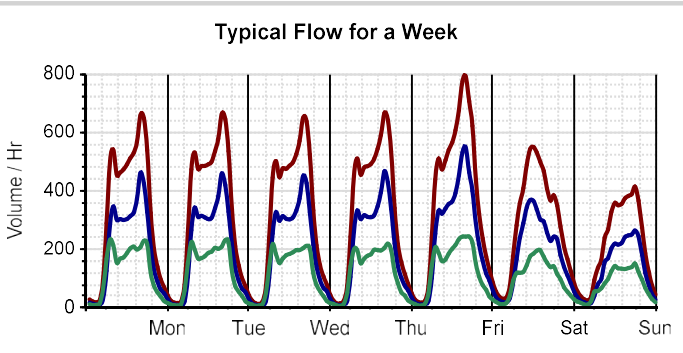



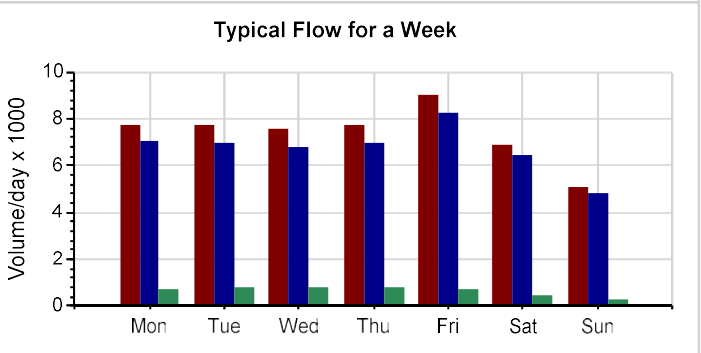



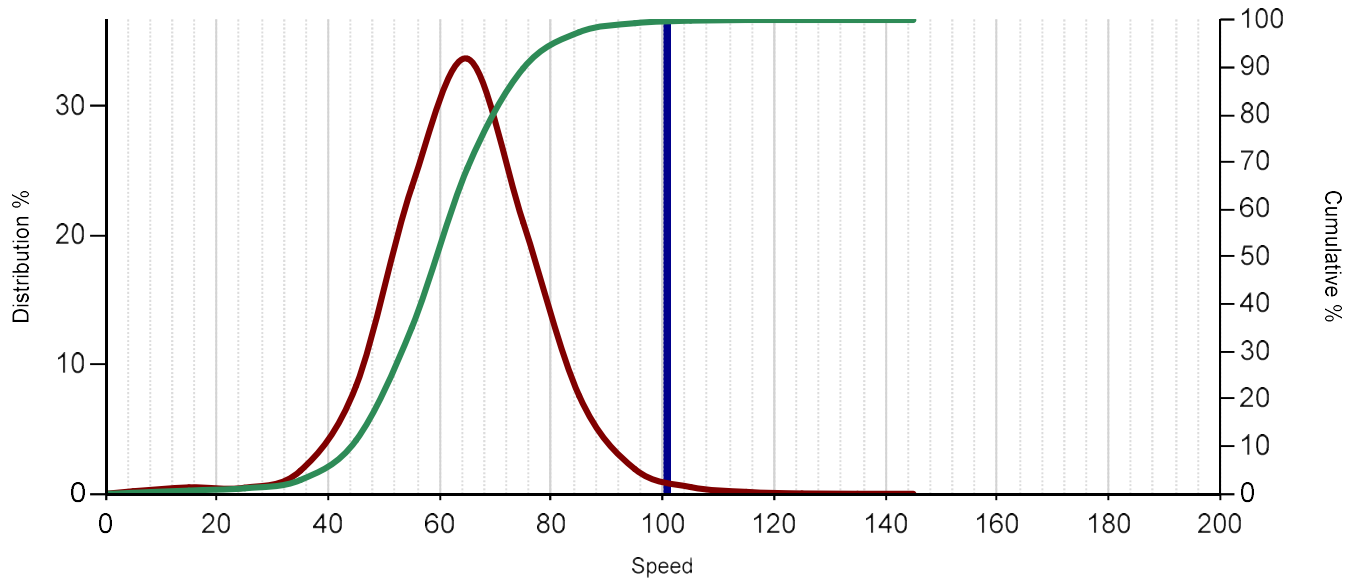



# Station Speed Distribution

| | |
|---|---|
| **Site** | 19241 - Langplaas |
| **Speed Limit** | 100 km/hr |
| **Period** | 01 Jan 2019 - 31 Dec 2019 |

Distribution
Cumulative
Speed Limit

**Lane 1 - To Brits**

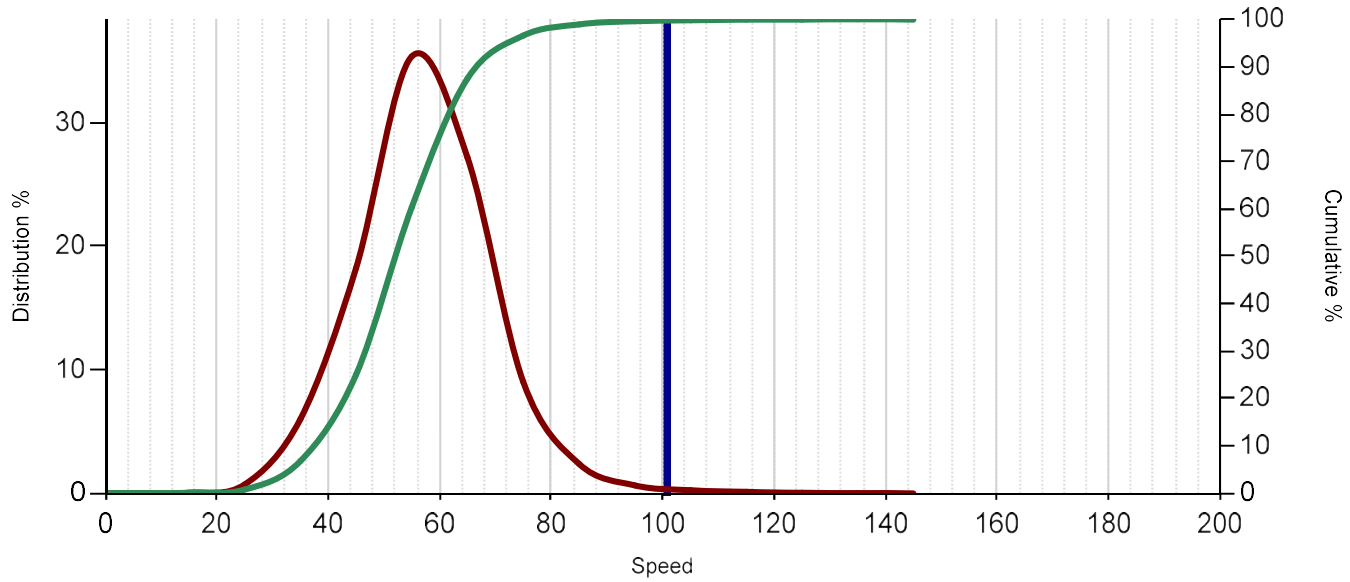



# Station Speed Distribution

| | |
|---|---|
| **Site** | 19241 - Langplaas |
| **Speed Limit** | 100 km/hr |
| **Period** | 01 Jan 2019 - 31 Dec 2019 |

Distribution
Cumulative
Speed Limit

**Lane 2 - To Hartbeespoort**

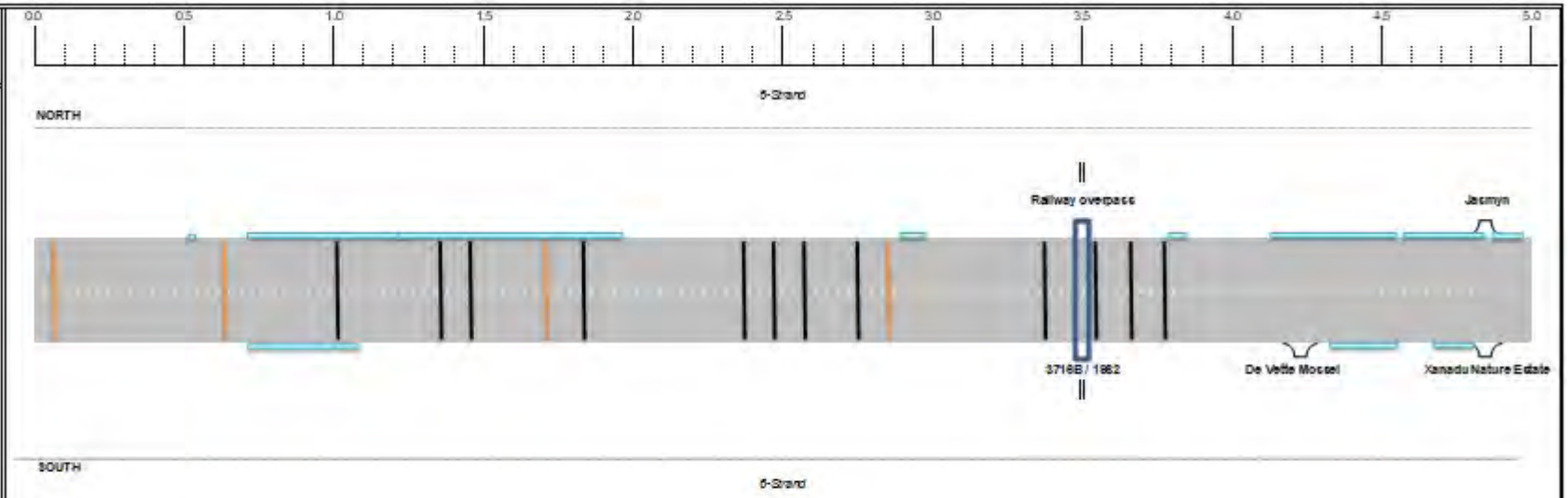


# ANNEXURE B - SECTIONAL STRIP MAPS

**Date: March-26**

**Route:** R511 **Section:** 2
**Start km:** 0 **End km:** 5
**Direction:** NORTH

LEGEND
- = Severe
- = Warning
- = Sound
- = Resolved
- Farm entrance
- Intersection
- Head Intersection
- Rest Areas
- River
- Reserve Fence
- Pipe Culvert
- Box culvert
- Private access
- Camp access
- Guardrails
- Traffic signs North
- Traffic signs South
- Bridges
- Gate

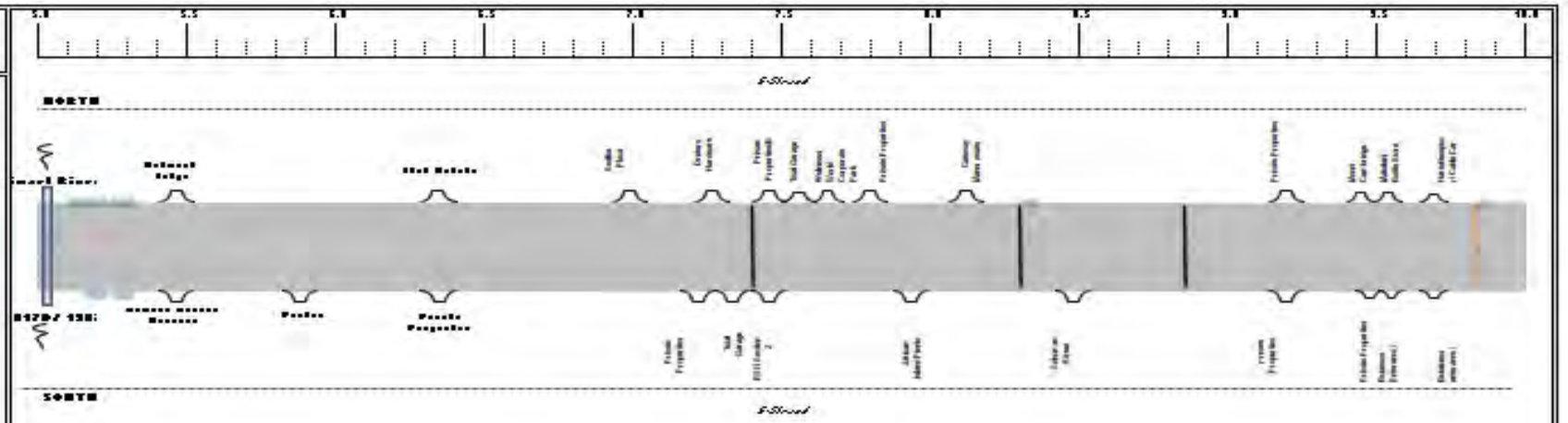



| Interchange/Intersection Name | | |

**Date: March-26**

**Route:** R511 **Sectio** 2
**Start l** 5 **End ka** 10
**Direct** NORTH

LEGEND
- Severe
- Warning
- Sound
- Reralvec
- Farm entrance
- Intersection
- Head Intersection
- Rest Arear
- River
- Reserve Fence
- Pipe Culvert
- Box culvert
- Private accesr
- Camp accesr
- Guardrailr
- Trafficrigns North
- Trafficrigns South
- Bridger
- Gate



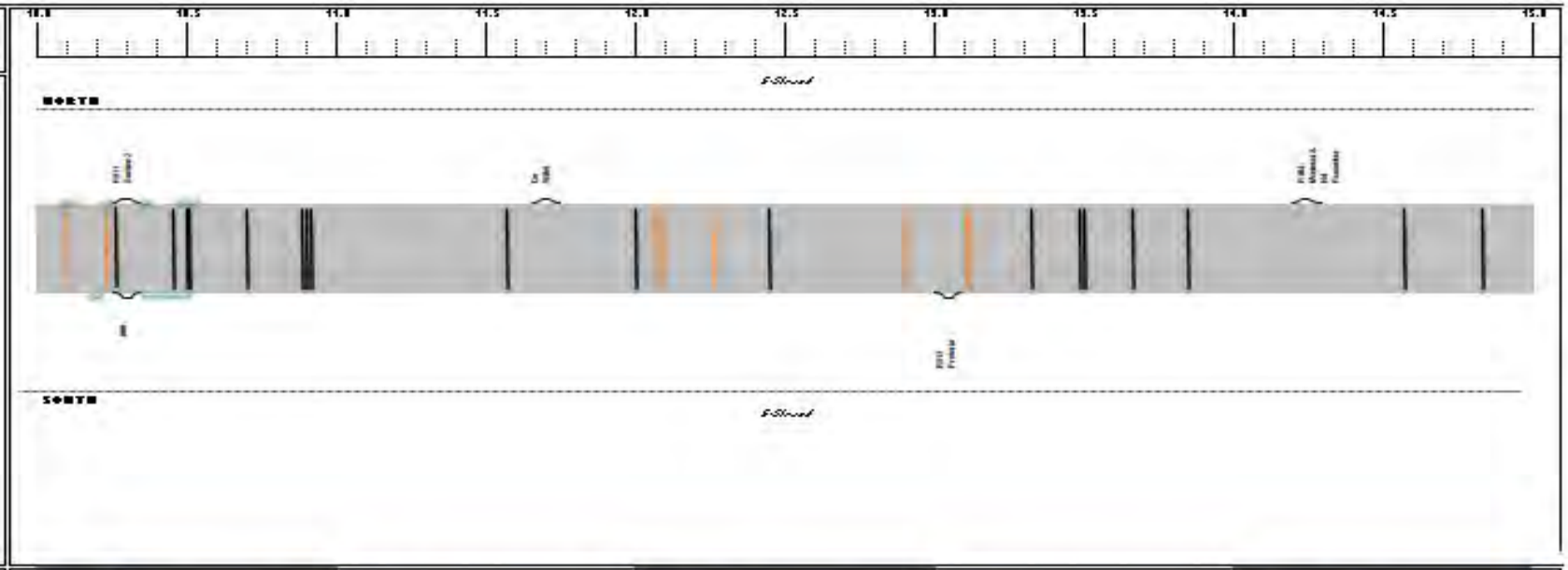

Interchange/Intersection Name

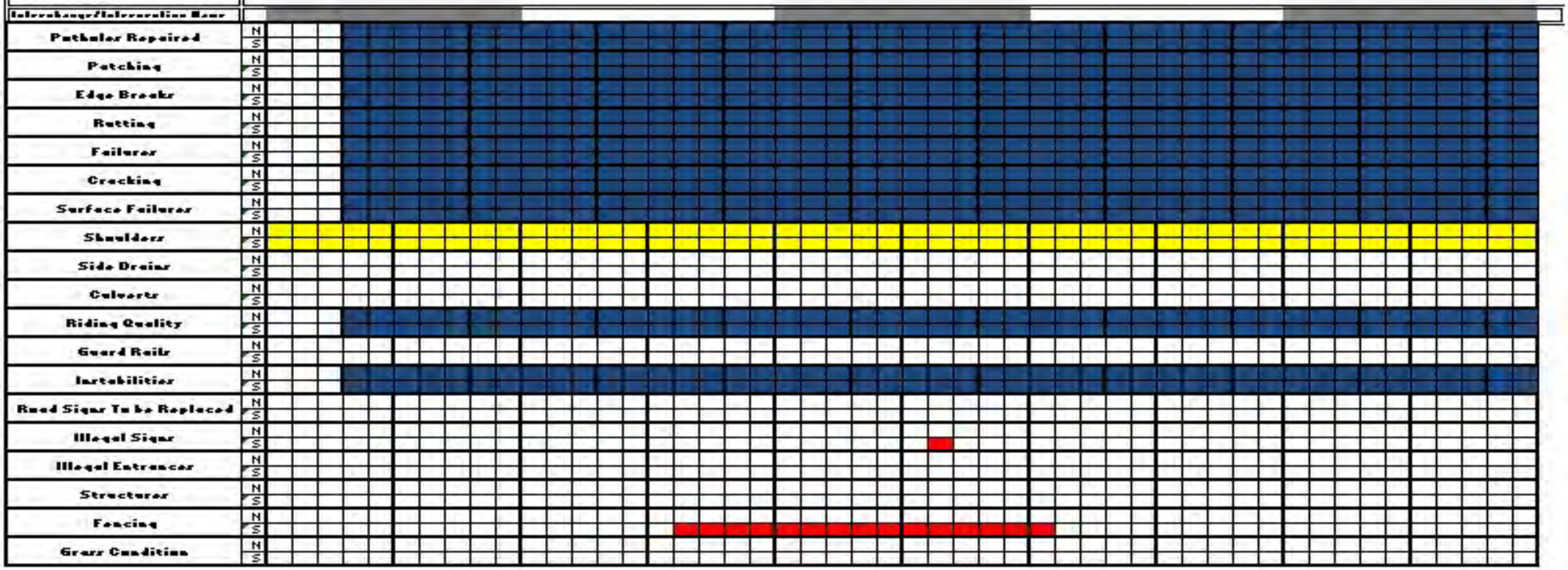
| | |
|---|---|
| Potholes Repaired | N S |
| Patching | N S |
| Edge Breaks | N S |
| Rutting | N S |
| Failures | N S |
| Cracking | N S |
| Surface Failures | N S |
| Shoulders | N S |
| Side Drains | N S |
| Culverts | N S |
| Riding Quality | N S |
| Guard Rails | N S |
| Instabilities | N S |
| Road Signs To be Replaced | N S |
| Illegal Signs | N S |
| Illegal Entrances | N S |
| Structures | N S |
| Fencing | N S |
| Grass Conditions | N S |

**Date: March-26**

**Route:** R511 **Sectio** 2
**Start l** 10 **End ka** 15
**Direct** NORTH

LEGEND
- Severe
- Warning
- Sound
- Resolvec
- Farm entrance
- Intersection
- Head Intersection
- Rest Arear
- River
- Reserve Fence
- Pipe Culvert
- Box culvert
- Private accerr
- Camp accerr
- Guardrailr
- Trafficrignr North
- Trafficrignr South
- Bridger
- Gate

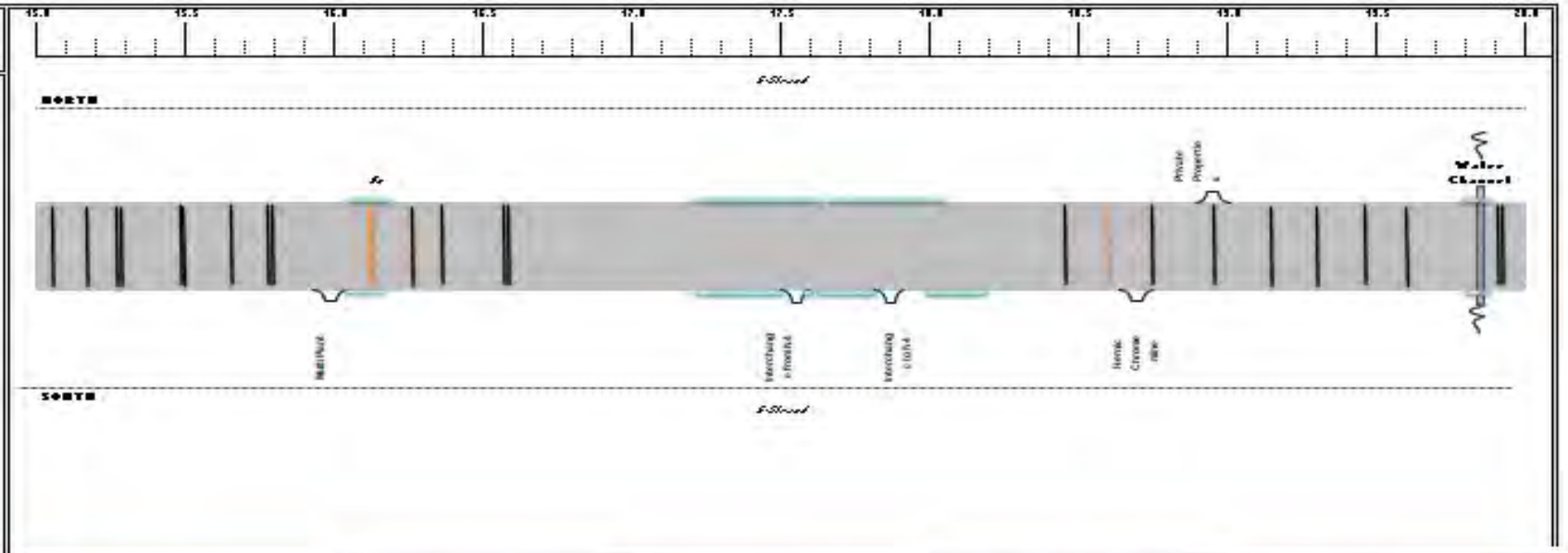


**Date: March-26**

**Route:** R511 **Sectio** 2
**Start l** 15 **End ka** 20
**Direct** NORTH

LEGEND
- Severe
- Warning
- Sound
- Resolved
- Farm entrance
- Intersection
- Head Intersection
- Rest Area
- River
- Reserve Fence
- Pipe Culvert
- Box culvert
- Private access
- Camp access
- Guardrail
- Trafficsign North
- Trafficsign South
- Bridge
- Gate



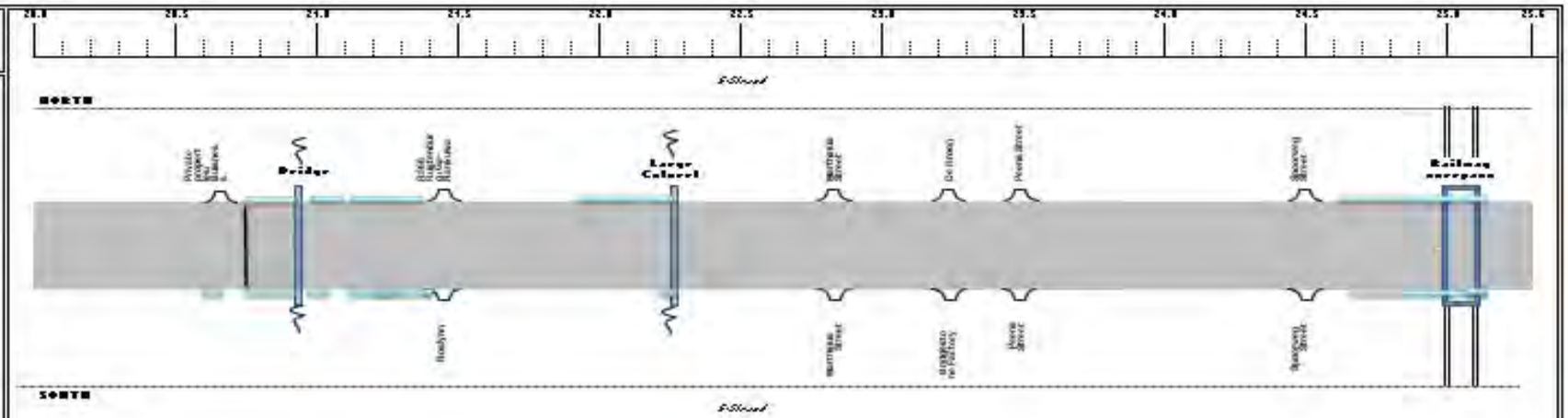

Interchange/Intersection Name

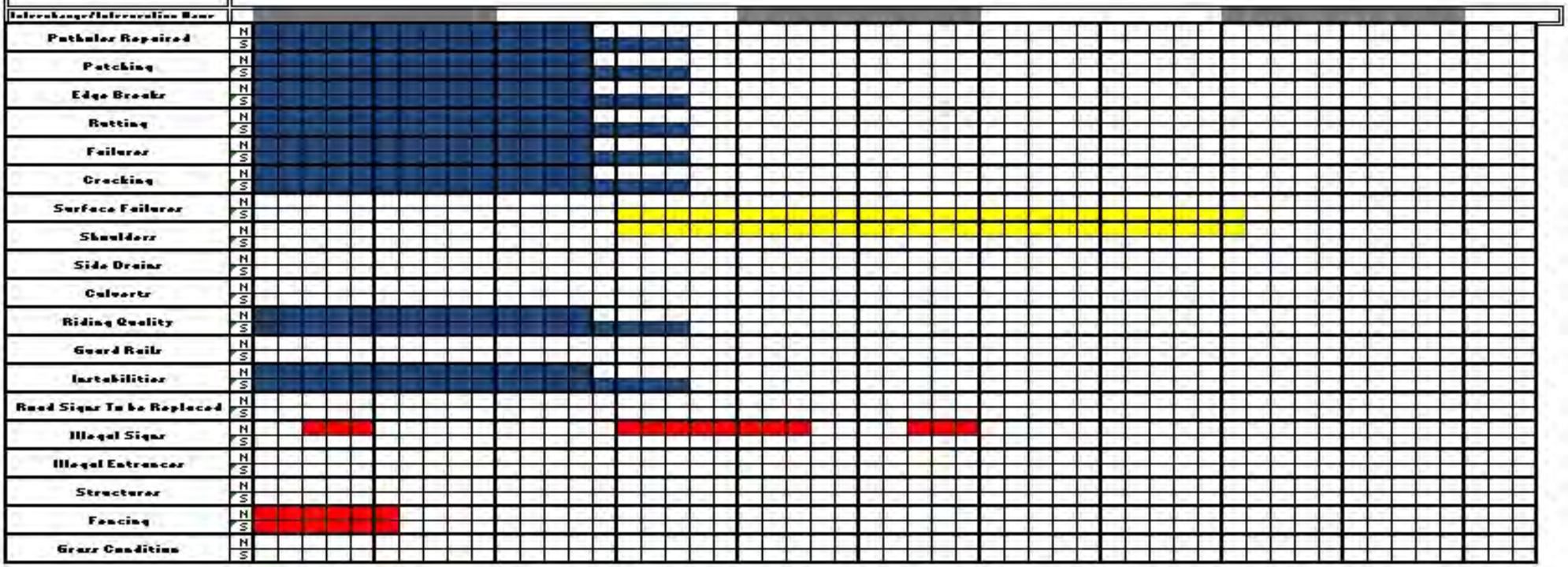
| | N/S | |
|---|---|---|
| Potholes Repaired | N | |
| | S | |
| Patching | N | |
| | S | |
| Edge Breaks | N | |
| | S | |
| Rutting | N | |
| | S | |
| Failures | N | |
| | S | |
| Cracking | N | |
| | S | |
| Surface Failures | N | |
| | S | |
| Shoulders | N | |
| | S | |
| Side Drains | N | |
| | S | |
| Culverts | N | |
| | S | |
| Riding Quality | N | |
| | S | |
| Guard Rails | N | |
| | S | |
| Instabilities | N | |
| | S | |
| Road Signs To be Replaced | N | |
| | S | |
| Illegal Signs | N | |
| | S | |
| Illegal Entrances | N | |
| | S | |
| Structures | N | |
| | S | |
| Fencing | N | |
| | S | |
| Grass Conditions | N | |
| | S | |

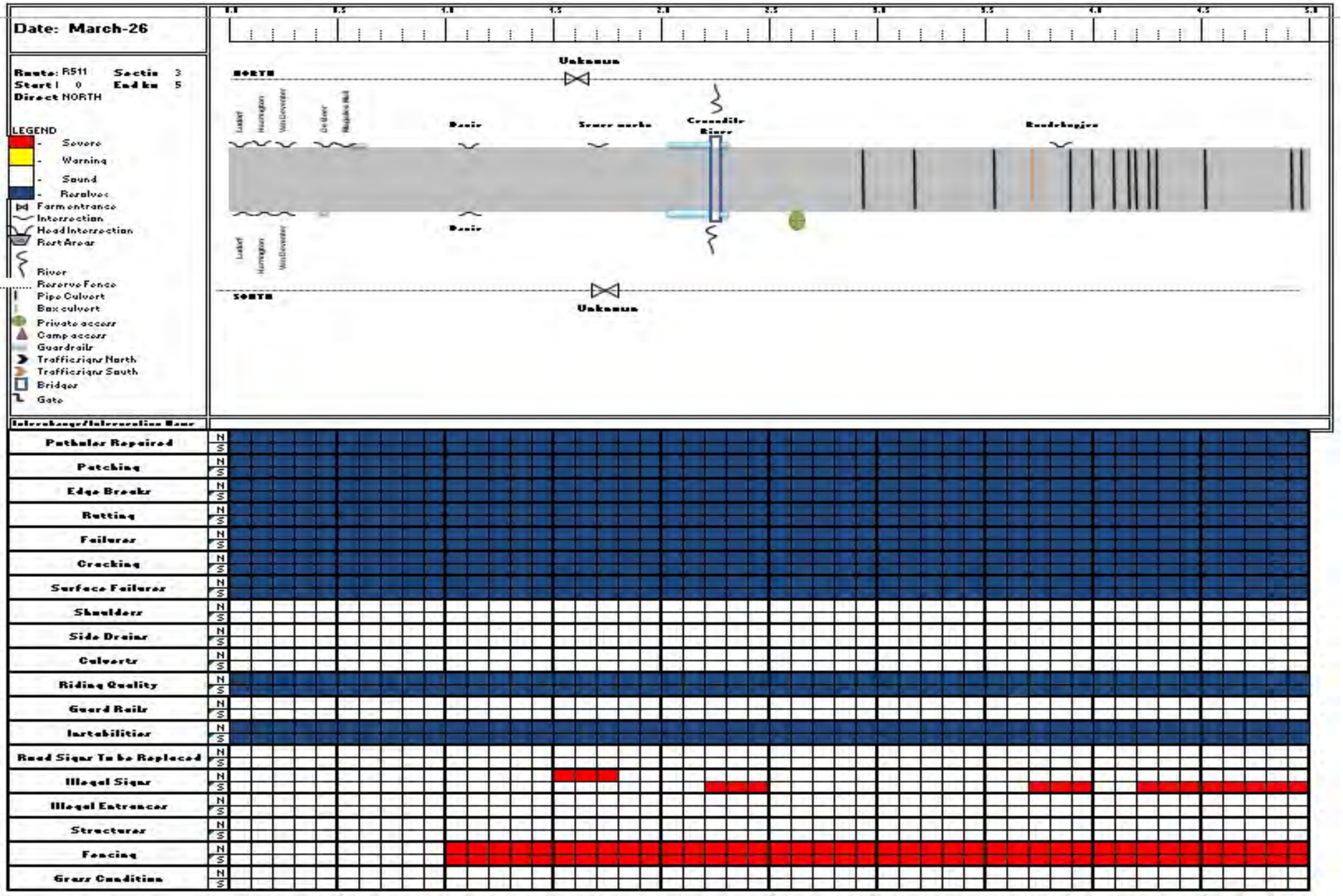
**Date: March-26**

**Route:** R511 **Sectio** 2
**Start l** 20 **End ka** 25.6
**Direct** NORTH

LEGEND
- Severe
- Warning
- Sound
- Resolved
- Farm entrance
- Intersection
- Head Intersection
- Rest Area
- River
- Reserve Fence
- Pipe Culvert
- Box culvert
- Private access
- Camp access
- Guardrails
- Traffic signs North
- Traffic signs South
- Bridges
- Gate



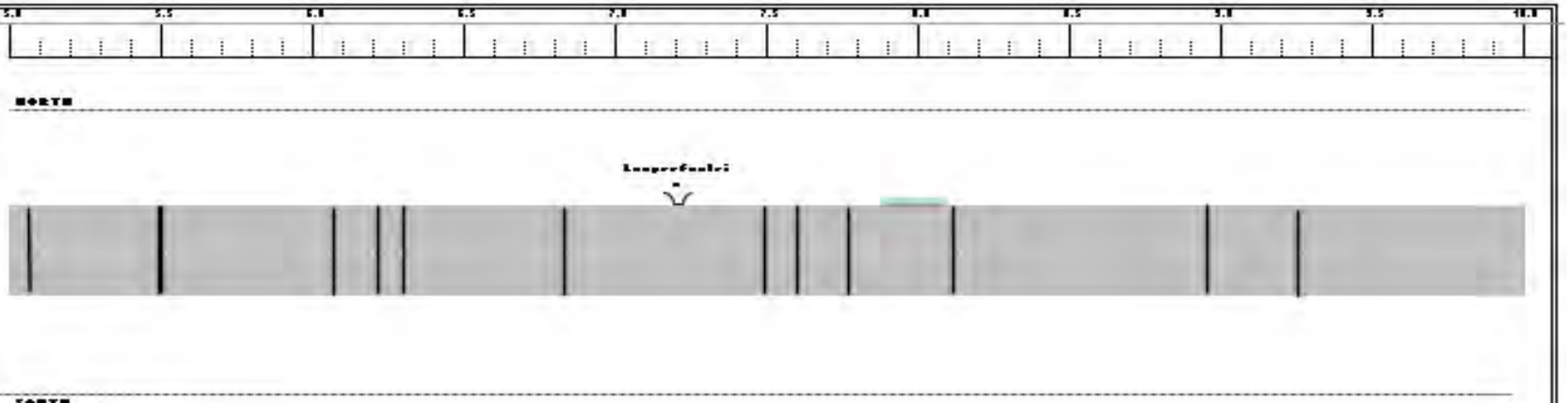




Date: March-26
Route: R511 Sectio 3
Start l 0 End ka 5
Direct NORTH
LEGEND
- Severe
- Warning
- Sound
- Resolved
Farm entrance
Intersection
Head Intersection
Rest Area
River
Reserve Fence
Pipe Culvert
Box culvert
Private access
Camp access
Guardrails
Trafficsign North
Trafficsign South
Bridges
Gate
Interchange/Intersection Name
NORTH
SOUTH
Unknown
Unknown
Dwsir
Dwsir
Severe cracks
Crocodile River
Roadshoppe
Potholes Repaired
Patching
Edge Breaks
Rutting
Failures
Cracking
Surface Failures
Shoulders
Side Drains
Culverts
Riding Quality
Guard Rails
Instabilities
Road Signs To be Replaced
Illegal Signs
Illegal Entrances
Structures
Fencing
Grass Condition
N
S

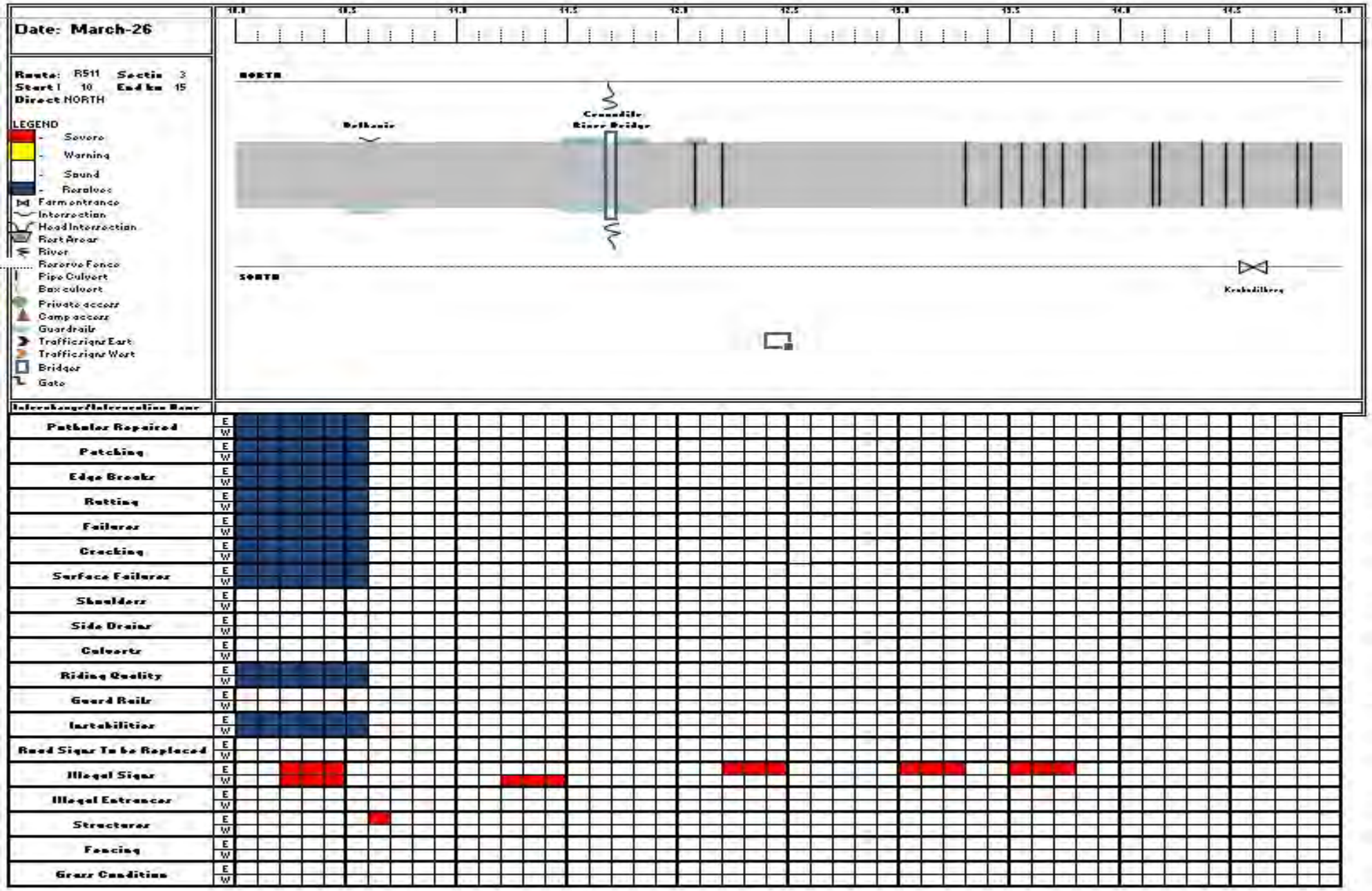
**Date: March-26**

**Route:** R511 **Sectio** 3
**Start l** 5 **End ko** 10
**Direct** NORTH

LEGEND
- Severe
- Warning
- Sound
- Resolved
- Farm entrance
- Intersection
- Head Intersection
- Rest Area
- River
- Reserve Fence
- Pipe Culvert
- Box culvert
- Private access
- Camp access
- Guardrail
- Traffic signs North
- Traffic signs South
- Bridges
- Gate



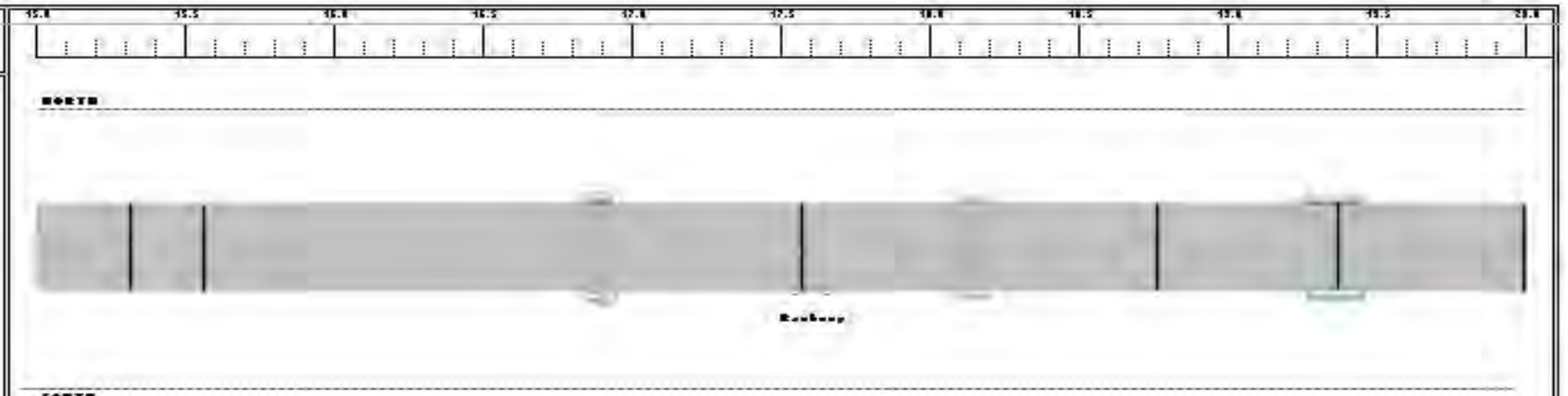

| | | |
|---|---|---|
| Potholes Repaired | N | |
| | S | |
| Patching | N | |
| | S | |
| Edge Breaks | N | |
| | S | |
| Rutting | N | |
| | S | |
| Failures | N | |
| | S | |
| Cracking | N | |
| | S | |
| Surface Failures | N | |
| | S | |
| Shoulders | N | |
| | S | |
| Side Drains | N | |
| | S | |
| Culverts | N | |
| | S | |
| Riding Quality | N | |
| | S | |
| Guard Rails | N | |
| | S | |
| Instabilities | N | |
| | S | |
| Road Signs To be Replaced | N | |
| | S | |
| Illegal Signs | N | |
| | S | |
| Illegal Entrances | N | |
| | S | |
| Structures | N | |
| | S | |
| Fencing | N | |
| | S | |
| Grass Conditions | N | |
| | S | |


Date: March-26
Route: R511 Sectio 3
Start l 10 End km 15
Direct NORTH
LEGEND
- Severe
- Warning
- Sound
- Reralves
Farm entrance
Intersection
Head Intersection
Rest Area
River
Reserve Fence
Pipe Culvert
Box culvert
Private access
Camp access
Guardrail
Traffic sign East
Traffic sign West
Bridge
Gate
NORTH
Crocodile River Bridge
SOUTH
Pothole Repaired
Patching
Edge Breaks
Rutting
Failures
Cracking
Surface Failures
Shoulders
Side Drains
Culverts
Riding Quality
Guard Rails
Instabilities
Road Sign To be Replaced
Illegal Signs
Illegal Entrances
Structures
Fencing
Grass Condition
E
W

**Date: March-26**

**Route:** R511 **Sectio** 3
**Start** 15 **End ko** 20
**Direct** NORTH

LEGEND
- Severe
- Warning
- Sound
- Resolved
- Farm entrance
- Intersection
- Head Intersection
- Rest Area
- River
- Reserve Fence
- Pipe Culvert
- Box culvert
- Private access
- Camp access
- Guardrails
- Traffic sign North
- Traffic sign South
- Bridges
- Gate

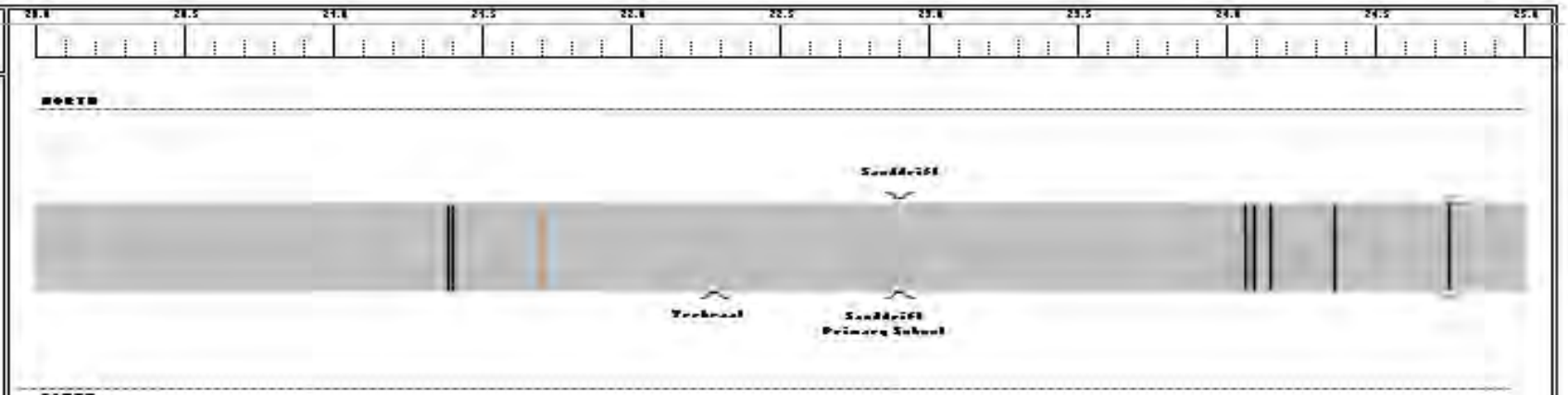



| | |
|---|---|
| Interchange/Intersection Name | |
| Potholes Repaired | N S |
| Patching | N S |
| Edge Breaks | N S |
| Rutting | N S |
| Failures | N S |
| Cracking | N S |
| Surface Failures | N S |
| Shoulders | N S |
| Side Drains | N S |
| Culverts | N S |
| Riding Quality | N S |
| Guard Rails | N S |
| Instabilities | N S |
| Road Signs To be Replaced | N S |
| Illegal Signs | N S |
| Illegal Entrances | N S |
| Structures | N S |
| Fencing | N S |
| Grass Conditions | N S |

**Date: March-26**

**Route:** R511 **Sectio** 3
**Start l** 20 **End to** 25
**Direct** NORTH

LEGEND
- Severe
- Warning
- Sound
- Reralve<
- Farm entrance
- Intersection
- Head Intersection
- Rest Area
- River
- Reserve Fence
- Pipe Culvert
- Box culvert
- Private access
- Camp access
- Guardrails
- Traffic signs North
- Traffic signs South
- Bridges
- Gate



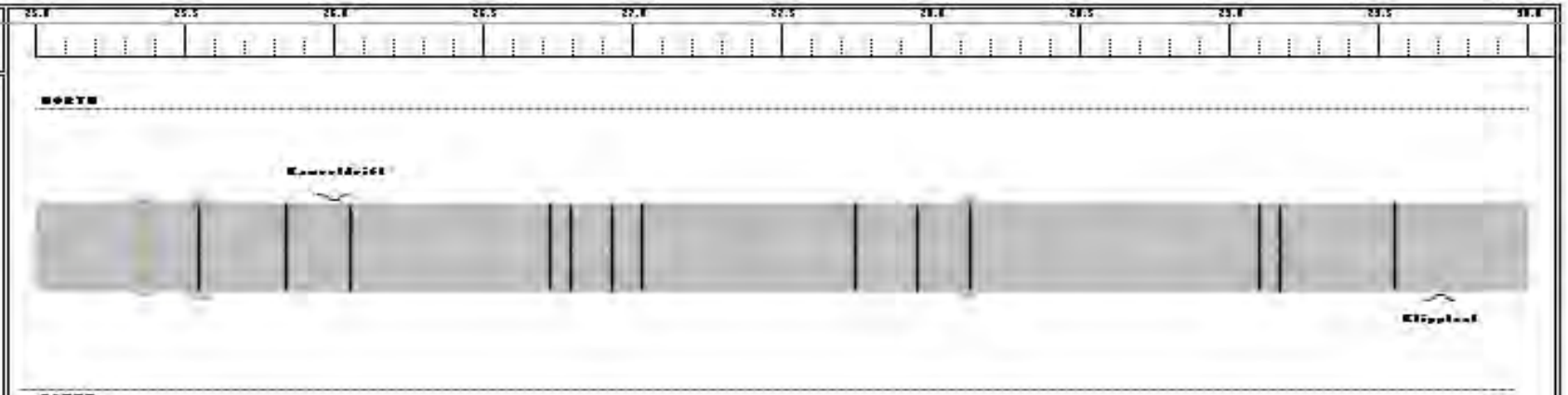

Interchange/Intersection Zone

| | |
|---|---|
| Pothole Repaired | N S |
| Patching | N S |
| Edge Breaks | N S |
| Rutting | N S |
| Failures | N S |
| Cracking | N S |
| Surface Failures | N S |
| Shoulders | N S |
| Side Drains | N S |
| Culverts | N S |
| Riding Quality | N S |
| Guard Rails | N S |
| Instabilities | N S |
| Road Signs To be Replaced | N S |
| Illegal Signs | N S |
| Illegal Entrances | N S |
| Structures | N S |
| Fencing | N S |
| Grass Condition | N S |

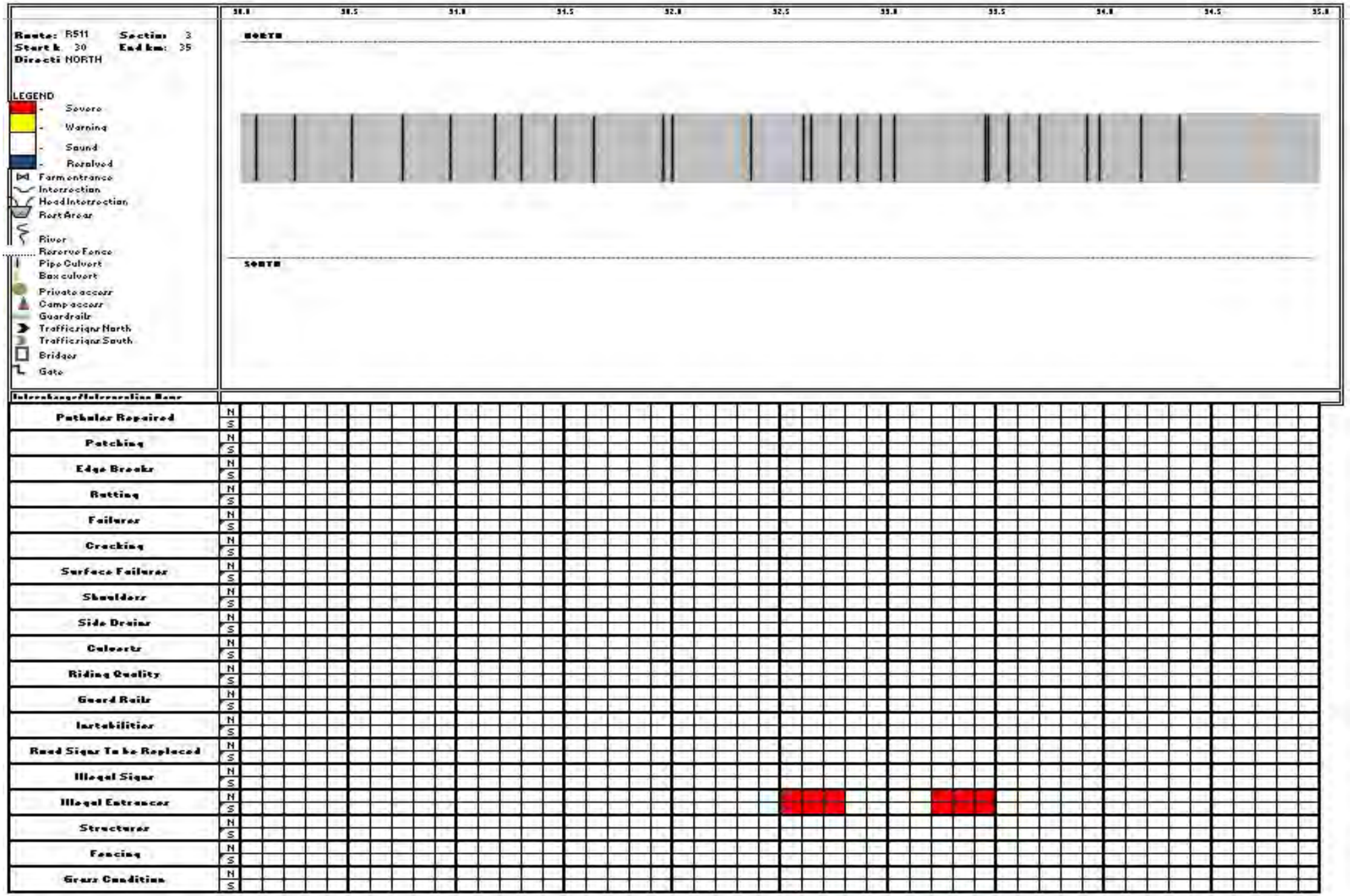
**Date: March-26**

**Route:** R511 **Sectio** 3
**Start l** 25 **End km** 30
**Direct** NORTH

LEGEND
- Severe
- Warning
- Sound
- Resolved
- Farm entrance
- Intersection
- Head Intersection
- Rest Area
- River
- Reserve Fence
- Pipe Culvert
- Box culvert
- Private access
- Camp access
- Guardrail
- Traffic sign North
- Traffic sign South
- Bridge
- Gate



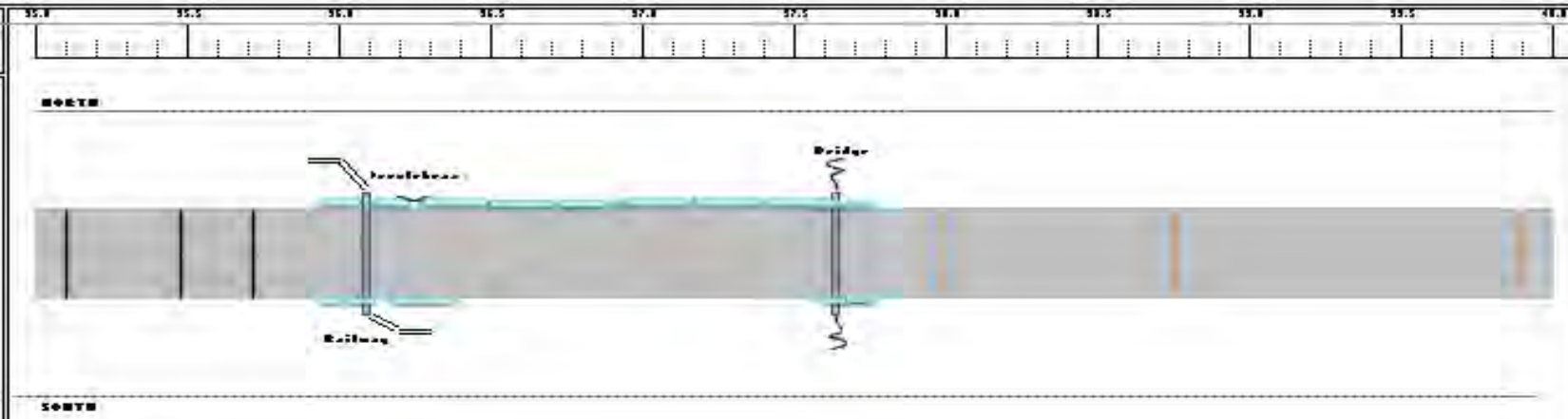

| Interchange/Intersection Name | | |
|---|---|---|
| Potholes Repaired | N | |
| | S | |
| Patching | N | |
| | S | |
| Edge Breaks | N | |
| | S | |
| Rutting | N | |
| | S | |
| Failures | N | |
| | S | |
| Cracking | N | |
| | S | |
| Surface Failures | N | |
| | S | |
| Shoulders | N | |
| | S | |
| Side Drains | N | |
| | S | |
| Culverts | N | |
| | S | |
| Riding Quality | N | |
| | S | |
| Guard Rails | N | |
| | S | |
| Instabilities | N | |
| | S | |
| Road Signs To be Replaced | N | |
| | S | |
| Illegal Signs | N | |
| | S | |
| Illegal Entrances | N | |
| | S | |
| Structures | N | |
| | S | |
| Fencing | N | |
| | S | |
| Grass Conditions | N | |
| | S | |


Route: R511 Section: 3
Start k 30 End km: 35
Directi NORTH
LEGEND
Severe
Warning
Sound
Resolved
Farm entrance
Intersection
Head Intersection
Rest Area
River
Reserve Fence
Pipe Culvert
Box culvert
Private access
Camp access
Guardrail
Traffic sign North
Traffic sign South
Bridge
Gate
NORTH
SOUTH
Interchange/Intersection Name
Pothole Repaired
Patching
Edge Break
Rutting
Failures
Cracking
Surface Failures
Shoulders
Side Drain
Culverts
Riding Quality
Guard Rail
Instabilities
Road Signs To be Replaced
Illegal Sign
Illegal Entrances
Structures
Fencing
Grass Condition
N
S

**Date: March-26**

**Route:** R511 **Sectio** 3
**Start l** 35 **End ka** 40
**Direct** NORTH

LEGEND
- Severe
- Warning
- Sound
- Renalvac
- Farm entrance
- Intersection
- Head Intersection
- Rest Area
- River
- Reserve Fence
- Pipe Culvert
- Box culvert
- Private access
- Camp access
- Guardrail
- Traffic sign North
- Traffic sign South
- Bridge
- Gate



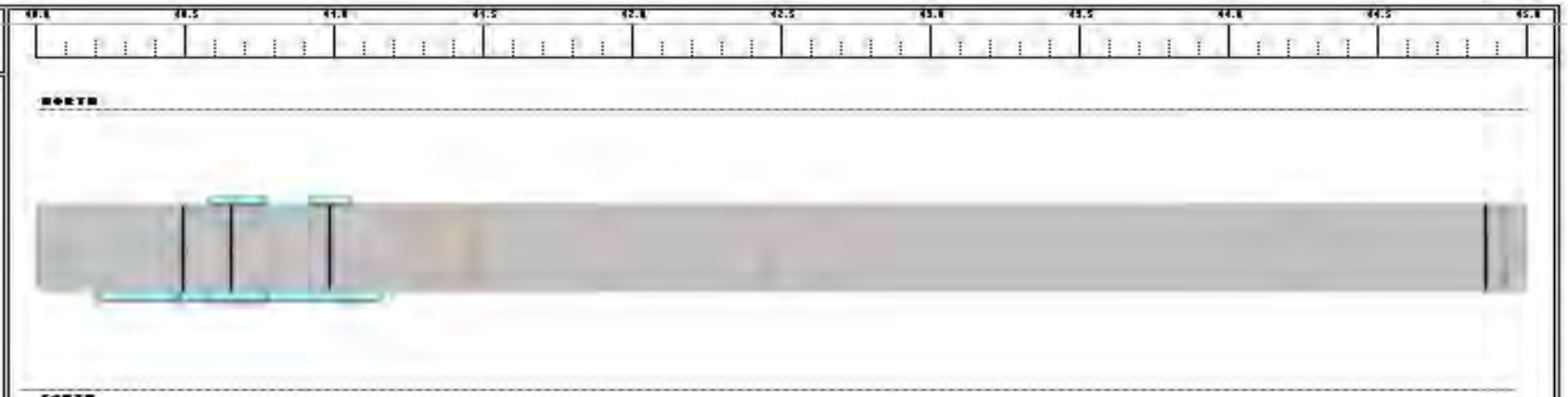

Interchange/Intersection Name

| | |
|---|---|
| Potholes Repaired | N S |
| Patching | N S |
| Edge Breaks | N S |
| Rutting | N S |
| Failures | N S |
| Cracking | N S |
| Surface Failures | N S |
| Shoulders | N S |
| Side Drains | N S |
| Culverts | N S |
| Riding Quality | N S |
| Guard Rails | N S |
| Instabilities | N S |
| Road Signs To be Replaced | N S |
| Illegal Signs | N S |
| Illegal Entrances | N S |
| Structures | N S |
| Fencing | N S |
| Grass Condition | N S |

**Date: March-26**

**Route:** R511 **Sectio** 3
**Start l** 40 **End ko** 45
**Direct** NORTH

LEGEND
- Severe
- Warning
- Sound
- Resolved
- Farm entrance
- Intersection
- Head Intersection
- Rest Area
- River
- Reserve Fence
- Pipe Culvert
- Box culvert
- Private access
- Camp access
- Guardrails
- Traffic sign North
- Traffic sign South
- Bridges
- Gate

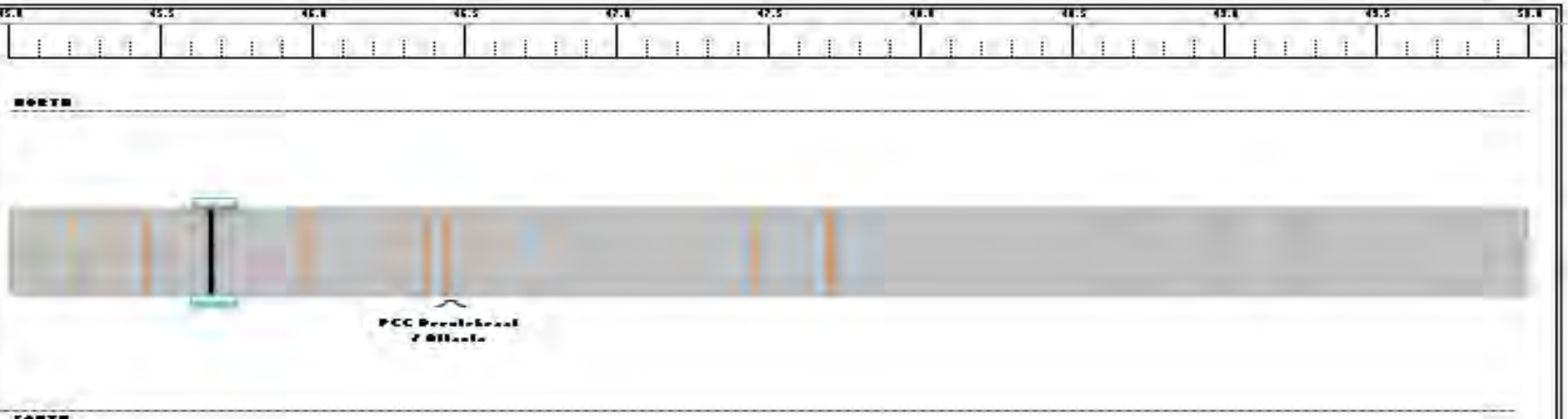



| Interchange/Intersection Name | | |
|---|---|---|
| Potholes Repaired | N | |
| | S | |
| Patching | N | |
| | S | |
| Edge Breaks | N | |
| | S | |
| Rutting | N | |
| | S | |
| Failures | N | |
| | S | |
| Cracking | N | |
| | S | |
| Surface Failures | N | |
| | S | |
| Shoulders | N | |
| | S | |
| Side Drains | N | |
| | S | |
| Culverts | N | |
| | S | |
| Riding Quality | N | |
| | S | |
| Guard Rails | N | |
| | S | |
| Instabilities | N | |
| | S | |
| Road Signs To be Replaced | N | |
| | S | |
| Illegal Signs | N | |
| | S | |
| Illegal Entrances | N | |
| | S | |
| Structures | N | |
| | S | |
| Fencing | N | |
| | S | |
| Grass Conditions | N | |
| | S | |

**Date: March-26**

**Route:** R511 **Sectio** 3
**Start** 45 **End km** 50
**Direct** NORTH

LEGEND
- Severe
- Warning
- Sound
- Resolved
- Farm entrance
- Intersection
- Head Intersection
- Rest Area
- River
- Reserve Fence
- Pipe Culvert
- Box culvert
- Private access
- Camp access
- Guardrail
- Traffic sign North
- Traffic sign South
- Bridge
- Gate

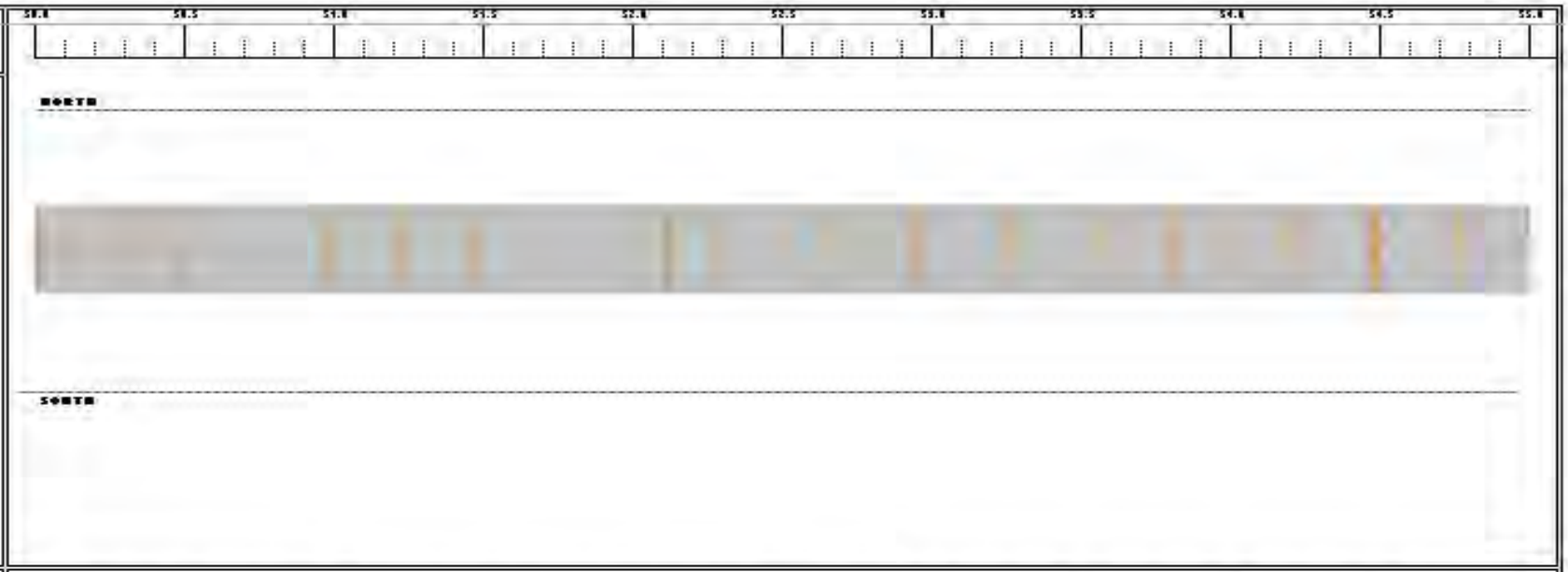



| Interchange/Intersection Name | | |
|---|---|---|
| Potholes Repaired | N | |
| | S | |
| Patching | N | |
| | S | |
| Edge Breaks | N | |
| | S | |
| Rutting | N | |
| | S | |
| Failures | N | |
| | S | |
| Cracking | N | |
| | S | |
| Surface Failures | N | |
| | S | |
| Shoulders | N | |
| | S | |
| Side Drains | N | |
| | S | |
| Culverts | N | |
| | S | |
| Riding Quality | N | |
| | S | |
| Guard Rails | N | |
| | S | |
| Instabilities | N | |
| | S | |
| Road Signs To be Replaced | N | |
| | S | |
| Illegal Signs | N | |
| | S | |
| Illegal Entrances | N | |
| | S | |
| Structures | N | |
| | S | |
| Fencing | N | |
| | S | |
| Grass Condition | N | |
| | S | |

**Date: March-26**

**Route:** R511 **Sectio** 3
**Start l** 50 **End km** 55
**Direct** NORTH

LEGEND
- Severe
- Warning
- Sound
- Resolved
- Farm entrance
- Intersection
- Head Intersection
- Rest Area
- River
- Reserve Fence
- Pipe Culvert
- Box culvert
- Private access
- Camp access
- Guardrail
- Trafficsign North
- Trafficsign South
- Bridge
- Gate

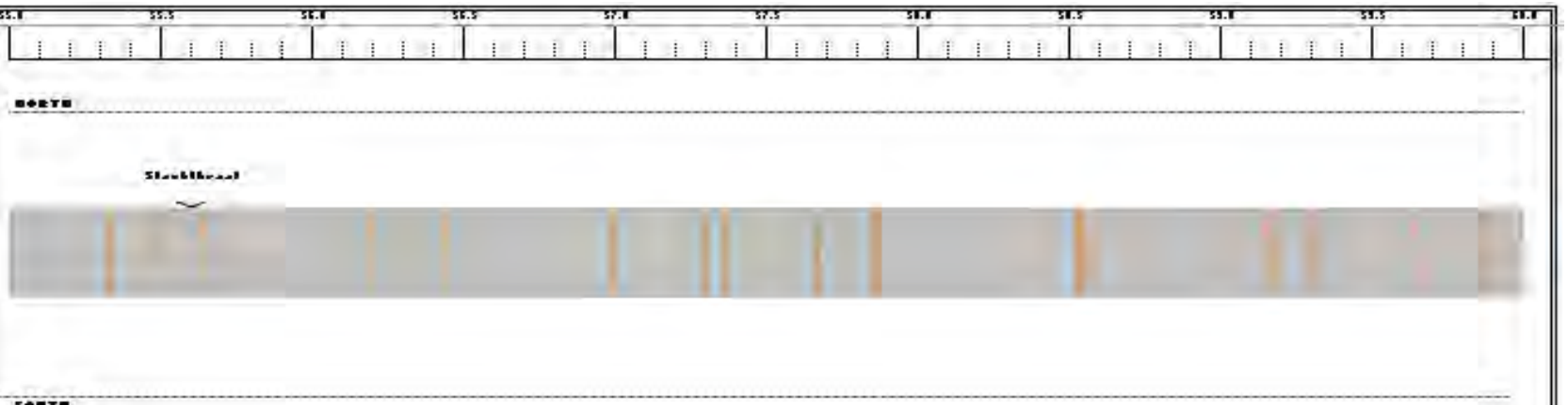



| Interchange/Intersection Name | | |
|---|---|---|
| Pothole Repaired | N | |
| | S | |
| Patching | N | |
| | S | |
| Edge Break | N | |
| | S | |
| Rutting | N | |
| | S | |
| Failures | N | |
| | S | |
| Cracking | N | |
| | S | |
| Surface Failures | N | |
| | S | |
| Shoulders | N | |
| | S | |
| Side Drains | N | |
| | S | |
| Culverts | N | |
| | S | |
| Riding Quality | N | |
| | S | |
| Guard Rails | N | |
| | S | |
| Instabilities | N | |
| | S | |
| Road Signs To be Replaced | N | |
| | S | |
| Illegal Signs | N | |
| | S | |
| Illegal Entrances | N | |
| | S | |
| Structures | N | |
| | S | |
| Fencing | N | |
| | S | |
| Grass Condition | N | |
| | S | |

**Date: March-26**

**Route:** R511 **Sectio** 3
**Start** 55 **End km** 60
**Direct** NORTH

LEGEND
- Severe
- Warning
- Sound
- Resolved
- Farm entrance
- Intersection
- Head Intersection
- Rest Area
- River
- Reserve Fence
- Pipe Culvert
- Box culvert
- Private access
- Comp access
- Guardrails
- Traffic sign North
- Traffic sign South
- Bridges
- Gate



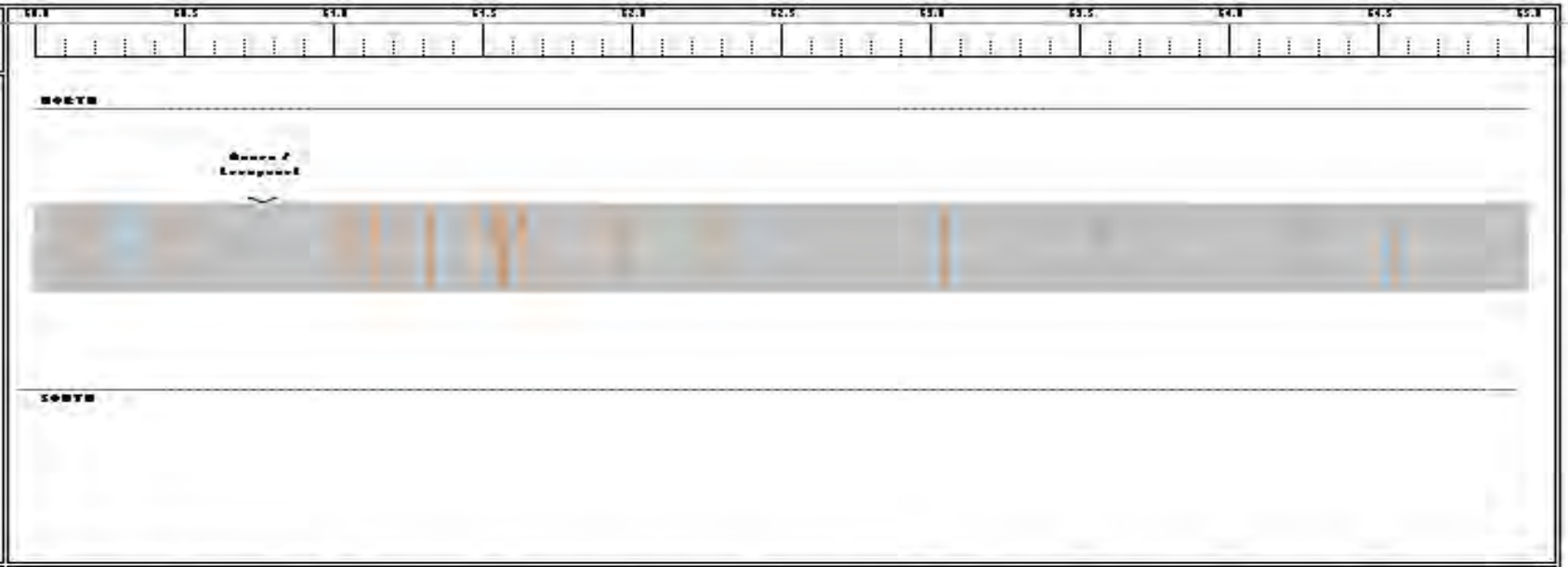

Intersection/Intersection Name

| | N | 55.0 | 55.5 | 56.0 | 56.5 | 57.0 | 57.5 | 58.0 | 58.5 | 59.0 | 59.5 | 60.0 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Potholes Repaired** | S | | | | | | | | | | | |
| **Patching** | N | | | | | | | | | | | |
| | S | | | | | | | | | | | |
| **Edge Breaks** | N | | | | | | | | | | | |
| | S | | | | | | | | | | | |
| **Rutting** | N | | | | | | | | | | | |
| | S | | | | | | | | | | | |
| **Failures** | N | | | | | | | | | | | |
| | S | | | | | | | | | | | |
| **Cracking** | N | | | | | | | | | | | |
| | S | | | | | | | | | | | |
| **Surface Failures** | N | | | | | | | | | | | |
| | S | | | | | | | | | | | |
| **Shoulders** | N | | | | | | | | | | | |
| | S | | | | | | | | | | | |
| **Side Drains** | N | | | | | | | | | | | |
| | S | | | | | | | | | | | |
| **Culverts** | N | | | | | | | | | | | |
| | S | | | | | | | | | | | |
| **Riding Quality** | N | | | | | | | | | | | |
| | S | | | | | | | | | | | |
| **Guard Rails** | N | | | | | | | | | | | |
| | S | | | | | | | | | | | |
| **Instabilities** | N | | | | | | | | | | | |
| | S | | | | | | | | | | | |
| **Road Signs To be Replaced** | N | | | | | | | | | | | |
| | S | | | | | | | | | | | |
| **Illegal Signs** | N | | | | | | | | | | | |
| | S | | | | | | | | | | | |
| **Illegal Entrances** | N | | | | | | | | | | | |
| | S | | | | | | | | | | | |
| **Structures** | N | | | | | | | | | | | |
| | S | | | | | | | | | | | |
| **Fencing** | N | | | | | | | | | | | |
| | S | | | | | | | | | | | |
| **Grass Condition** | N | | | | | | | | | | | |
| | S | | | | | | | | | | | |

**Date: March-26**

**Route:** R511 **Sectio** 3
**Start l** 60 **End ka** 65
**Direct** NORTH

LEGEND
- Severe
- Warning
- Sound
- Resolvec
- Farm entrance
- Intersection
- Head Intersection
- Rest Area
- River
- Reserve Fence
- Pipe Culvert
- Box culvert
- Private access
- Camp access
- Guardrails
- Traffic sign North
- Traffic sign South
- Bridges
- Gate

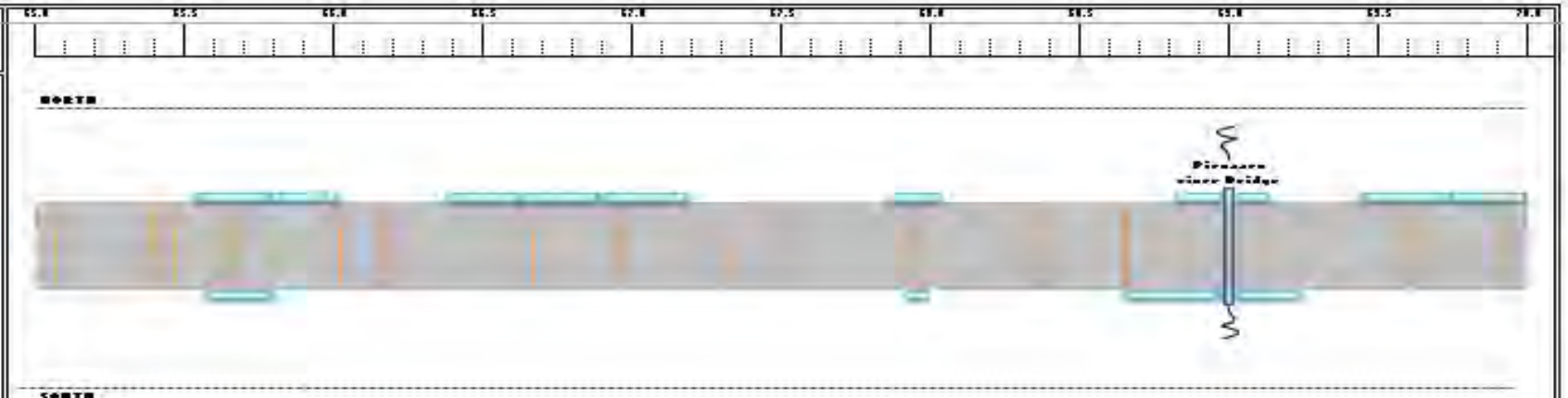



| Interchange/Intersection Name | | |

**Date: March-26**

**Route:** R511 **Sectio** 3
**Start l** 65 **End ko** 70
**Direct** NORTH

LEGEND
- Severe
- Warning
- Sound
- Reralves
- Farmentrance
- Interrection
- Head Interrection
- Rest Arear
- River
- Rererve Fence
- Pipe Culvert
- Box culvert
- Private accerr
- Camp accerr
- Guardrailr
- Trafficrignr North
- Trafficrignr South
- Bridger
- Gate

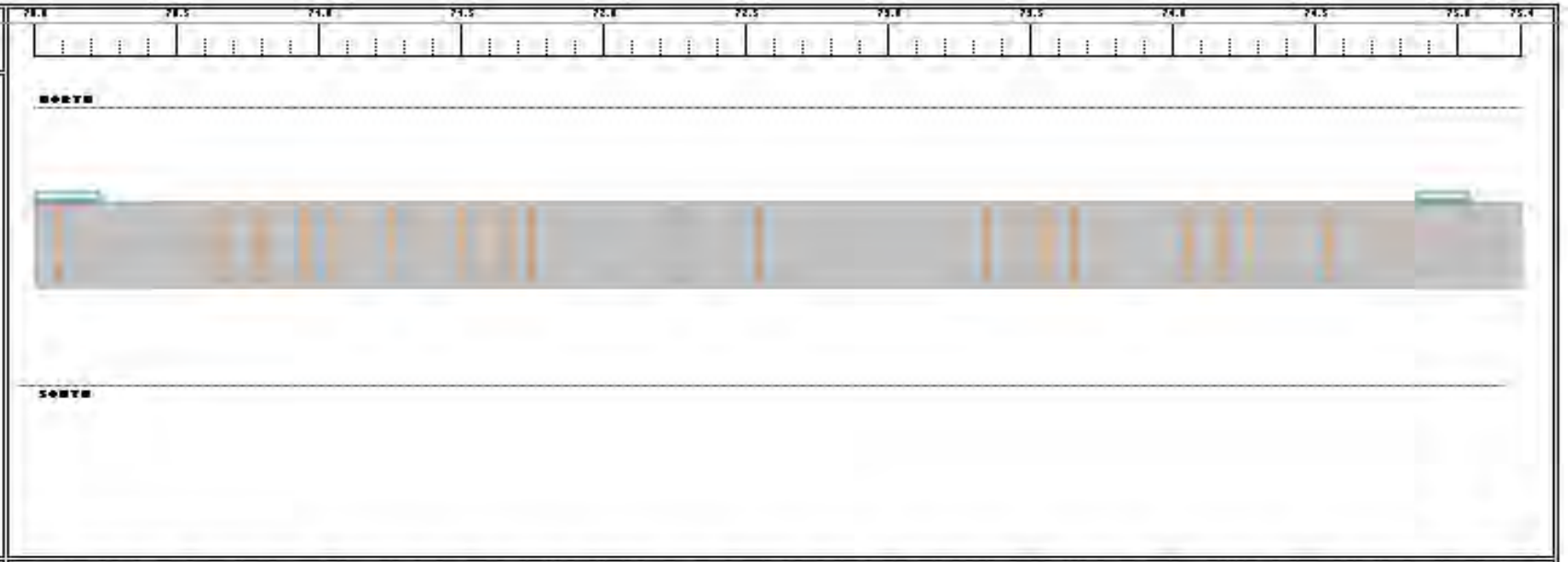



| Intersharge/Intersection Rear | | |
|---|---|---|
| Pothalar Repaired | N | |
| | S | |
| Patching | N | |
| | S | |
| Edge Breakr | N | |
| | S | |
| Rutting | N | |
| | S | |
| Failurer | N | |
| | S | |
| Cracking | N | |
| | S | |
| Surface Failurer | N | |
| | S | |
| Shoulderr | N | |
| | S | |
| Side Drainr | N | |
| | S | |
| Culvertr | N | |
| | S | |
| Riding Quality | N | |
| | S | |
| Guard Railr | N | |
| | S | |
| Instabilitier | N | |
| | S | |
| Road Signr To be Replaced | N | |
| | S | |
| Illegal Signr | N | |
| | S | |
| Illegal Entrancer | N | |
| | S | |
| Structurer | N | |
| | S | |
| Fencing | N | |
| | S | |
| Grarr Conditinn | N | |
| | S | |

**Date: March-26**

**Route:** R511 **Sectio** 3
**Start** 70 **End km** 75.4
**Direct** NORTH

LEGEND
- Severe
- Warning
- Sound
- Resolved
- Farm entrance
- Intersection
- Head Intersection
- Rest Area
- River
- Reserve Fence
- Pipe Culvert
- Box culvert
- Private access
- Camp access
- Guardrail
- Traffic sign North
- Traffic sign South
- Bridge
- Gate

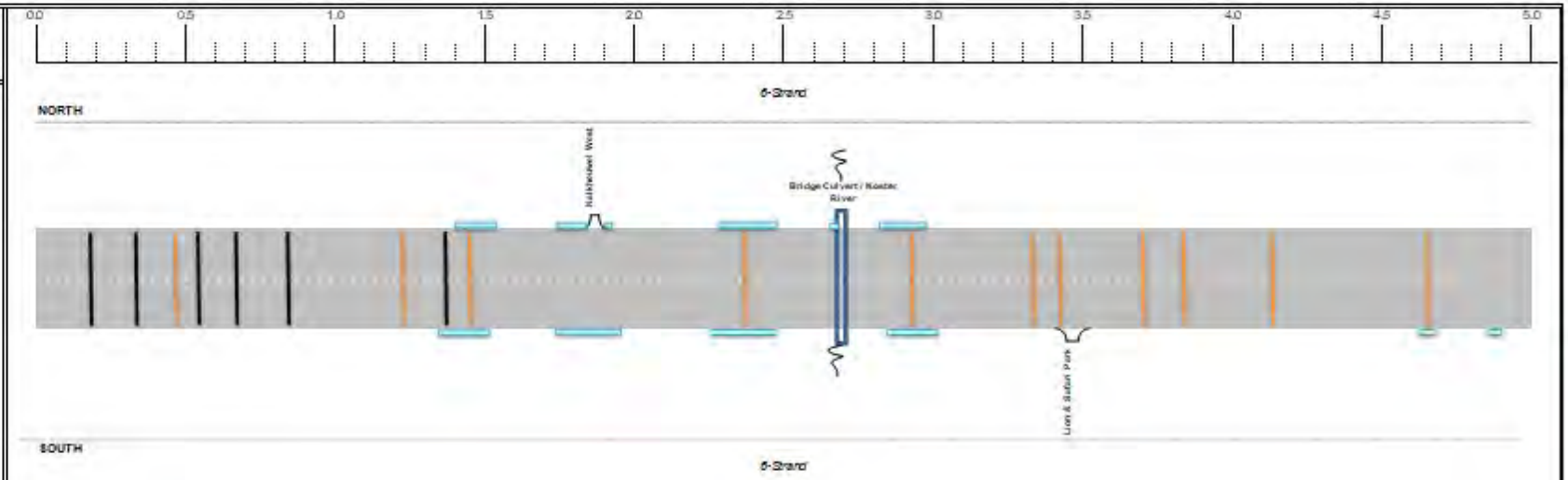



| Interchange/Intersection Name | | |
|---|---|---|
| Pothole Repaired | N | |
| | S | |
| Patching | N | |
| | S | |
| Edge Break | N | |
| | S | |
| Rutting | N | |
| | S | |
| Failure | N | |
| | S | |
| Cracking | N | |
| | S | |
| Surface Failure | N | |
| | S | |
| Shoulder | N | |
| | S | |
| Side Drain | N | |
| | S | |
| Culvert | N | |
| | S | |
| Riding Quality | N | |
| | S | |
| Guard Rail | N | |
| | S | |
| Instabilities | N | |
| | S | |
| Road Sign To be Replaced | N | |
| | S | |
| Illegal Sign | N | |
| | S | |
| Illegal Entrance | N | |
| | S | |
| Structure | N | |
| | S | |
| Fencing | N | |
| | S | |
| Grass Condition | N | |
| | S | |

**Date: March-26**

**Route:** R512 **Section:** 2
**Start km:** 0 **End km:** 5
**Direction:** NORTH

LEGEND
- = Severe
- = Warning
- = Sound
- = Resolved
- Farm entrance
- Intersection
- Head Intersection
- Rest Areas
- River
- Reserve Fence
- Pipe Culvert
- Box culvert
- Private access
- Camp access
- Guardrails
- Traffic signs North
- Traffic signs South
- Bridges
- Gate



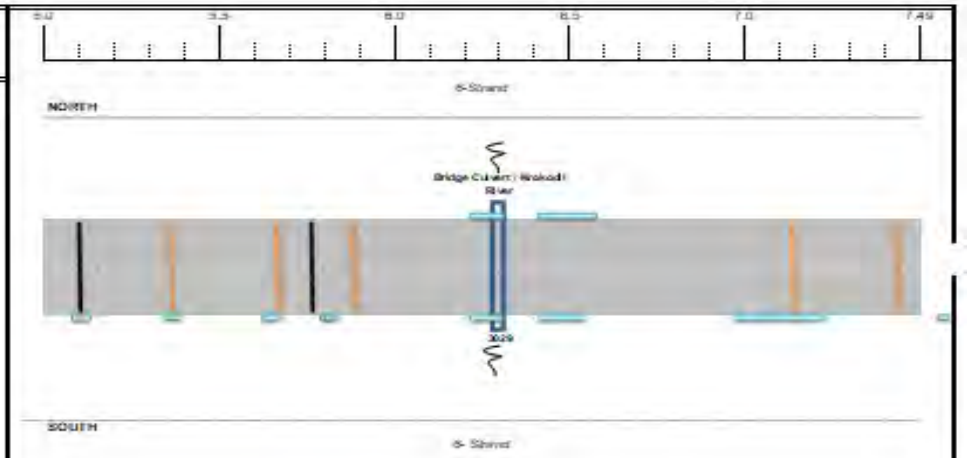

Interchange/Intersection Name

| | | 0.0–0.5 | 0.5–1.0 | 1.0–1.5 | 1.5–2.0 | 2.0–2.5 | 2.5–3.0 | 3.0–3.5 | 3.5–4.0 | 4.0–4.5 | 4.5–5.0 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Potholes Repaired | N | | | | | | | | | | |
| | S | | | | | | | | | | |
| Patching | N | | | | | | | | | | |
| | S | | | | | | | | | | |
| Edge Breaks | N | | | | | | | | | | |
| | S | | | | | | | | | | |
| Rutting | N | | | | | | | | | | |
| | S | | | | | | | | | | |
| Failures | N | | | | | | | | | | |
| | S | | | | | | | | | | |
| Cracking | N | | | | | | | | | | |
| | S | | | | | | | | | | |
| Surface Failures | N | | | | | | | | | | |
| | S | | | | | | | | | | |
| Shoulders | N | | | | | | | | | | |
| | S | | | | | | | | | | |
| Side Drains | N | | | | | | | | | | |
| | S | | | | | | | | | | |
| Culverts | N | | | | | | | | | | |
| | S | | | | | | | | | | |
| Riding Quality | N | | | | | | | | | | |
| | S | | | | | | | | | | |
| Guard Rails | N | | | | | | | | | | |
| | S | | | | | | | | | | |
| Instabilities | N | | | | | | | | | | |
| | S | | | | | | | | | | |
| Road Signs To be Replaced | N | | | | | | | | | | |
| | S | | | | | | | | | | |
| Illegal Signs | N | | | | | | | | | | |
| | S | | | | | | | | | | |

**Date: March-26**

**Route:** R512 **Section:** 2
**Start km:** 0 **End km:** 7.49
**Direction:** NORTH

LEGEND
- = Severe
- = Warning
- = Sound
- = Resolved
- Farm entrance
- Intersection
- Head Intersection
- Rest Areas
- River
- Reserve Fence
- Pipe Culvert
- Box culvert
- Private access
- Camp access
- Guardrails
- Traffic signs North
- Traffic signs South
- Bridges
- Gate



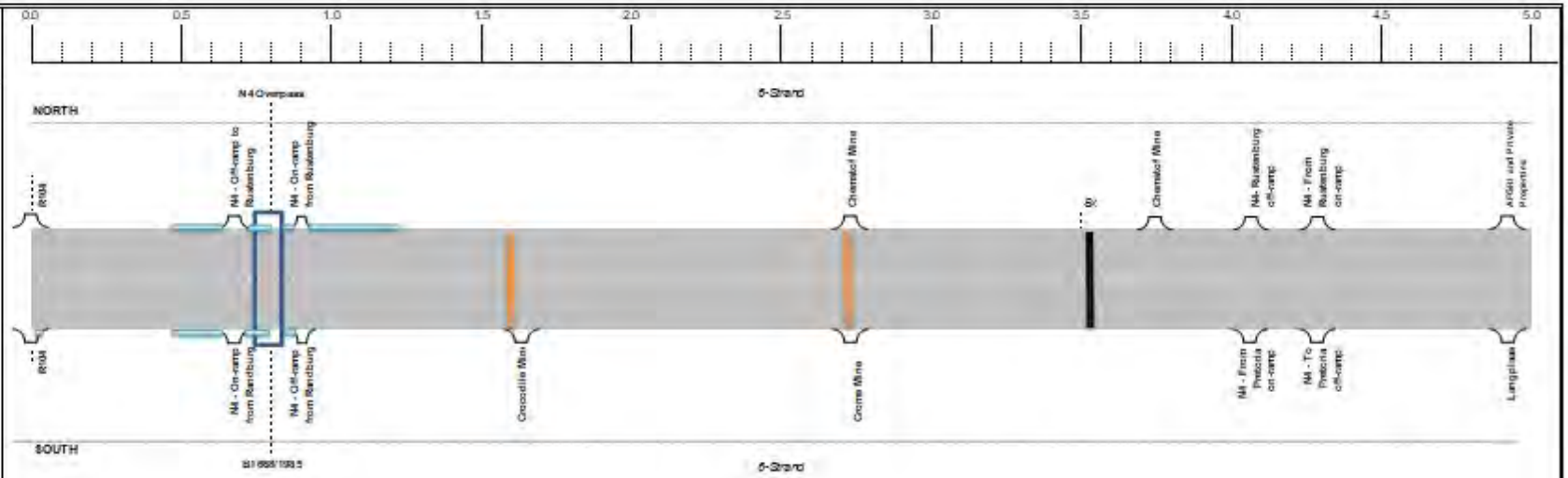

Interchange/Intersection Name

| | | |
|---|---|---|
| Potholes Repaired | N | |
| | S | |
| Patching | N | |
| | S | |
| Edge Breaks | N | |
| | S | |
| Rutting | N | |
| | S | |
| Failures | N | |
| | S | |
| Cracking | N | |
| | S | |
| Surface Failures | N | |
| | S | |
| Shoulders | N | |
| | S | |
| Side Drains | N | |
| | S | |
| Culverts | N | |
| | S | |
| Riding Quality | N | |
| | S | |
| Guard Rails | N | |
| | S | |
| Instabilities | N | |
| | S | |
| Road Signs To be Replaced | N | |
| | S | |
| Illegal Signs | N | |
| | S | |
| Illegal Entrances | N | |
| | S | |
| Structures | N | |
| | S | |
| Fencing | N | |
| | S | |
| Grass Condition | N | |
| | S | |

**Date: March-26**

**Route:** R512 **Section:** 3
**Start km:** 0 **End km:** 5
**Direction:** NORTH

LEGEND
- = Severe
- = Warning
- = Sound
- = Resolved
- Farm entrance
- Intersection
- Head Intersection
- Rest Areas
- River
- Reserve Fence
- Pipe Culvert
- Box culvert
- Private access
- Camp access
- Guardrails
- Traffic signs North
- Traffic signs South
- Bridges
- Gate

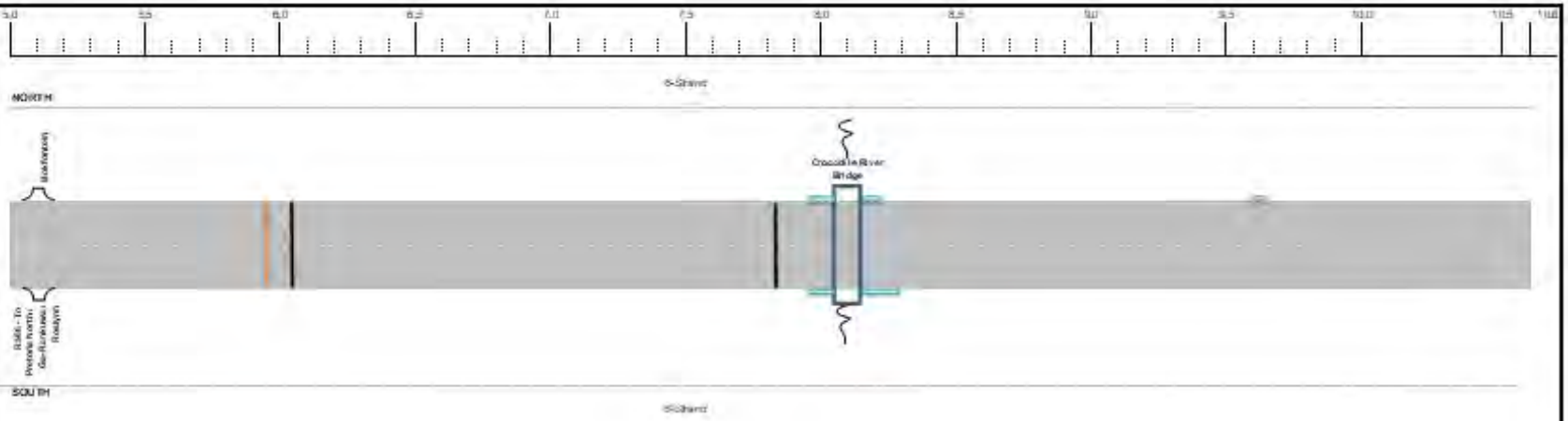



| Interchange/Intersection Name | | |

Date: March-26

Route: R512 Section: 3
Start km: 5 End km: 10
Direction: NORTH

LEGEND
= Severe
= Warning
= Sound
= Resolved
Farm entrance
Intersection
Head intersection
Rest Areas
River
Reserve Fence
Pipe Culvert
Box culvert
Private access
Camp access
Guardrails
Traffic signs North
Traffic signs South
Bridges
Gate



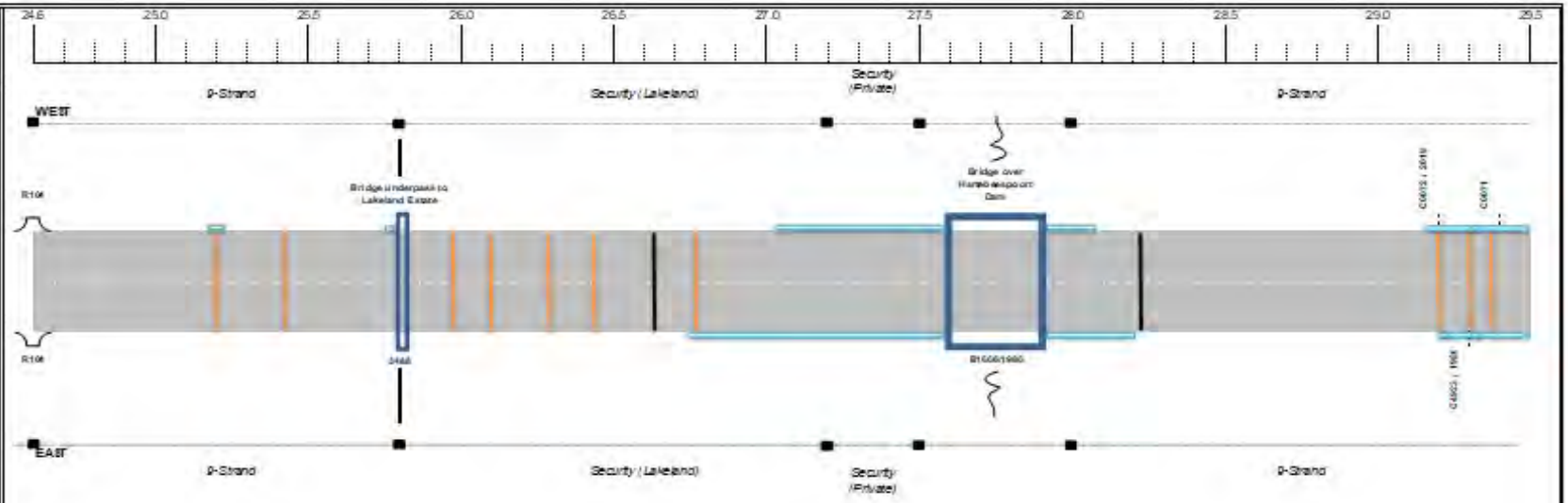

Interchange/Intersection Name

| | | |
|---|---|---|
| Potholes Repaired | N | |
| | S | |
| Patching | N | |
| | S | |
| Edge Breaks | N | |
| | S | |
| Rutting | N | |
| | S | |
| Failures | N | |
| | S | |
| Cracking | N | |
| | S | |
| Surface Failures | N | |
| | S | |
| Shoulders | N | |
| | S | |
| Side Drains | N | |
| | S | |
| Culverts | N | |
| | S | |
| Riding Quality | N | |
| | S | |
| Guard Rails | N | |
| | S | |
| Instabilities | N | |
| | S | |
| Road Signs To be Replaced | N | |
| | S | |
| Illegal Signs | N | |
| | S | |
| Illegal Entrances | N | |
| | S | |
| Structures | N | |
| | S | |
| Fencing | N | |
| | S | |
| Grass Condition | N | |
| | S | |

**Date: March-26**

**Route:** N4 **Section:** 12 W
**Start km:** 24.6 **End km:** 29.5
**Direction:** WEST

LEGEND
- = Severe
- = Warning
- = Sound
- = Resolved
- Farm entrance
- Intersection
- Head Intersection
- Rest Areas
- River
- Reserve Fence
- Pipe Culvert
- Box culvert
- Private access
- Camp access
- Guardrails
- Traffic signs North
- Traffic signs South
- Bridges
- Gate



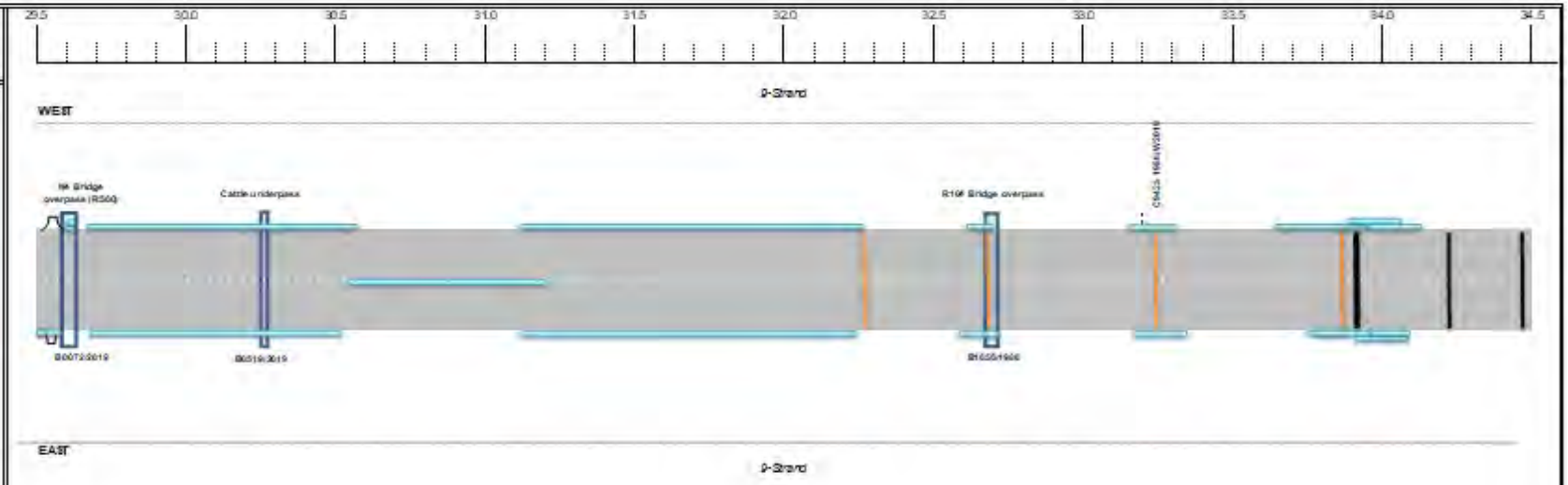

Interchange/Intersection Name

| | | |
|---|---|---|
| Potholes Repaired | W | |
| | E | |
| Patching | W | |
| | E | |
| Edge Breaks | W | |
| | E | |
| Rutting | W | |
| | E | |
| Failures | W | |
| | E | |
| Cracking | W | |
| | E | |
| Surface Failures | W | |
| | E | |
| Shoulders | W | |
| | E | |
| Side Drains | W | |
| | E | |
| Culverts | W | |
| | E | |
| Riding Quality | W | |
| | E | |
| Guard Rails | W | |
| | E | |
| Instabilities | W | |
| | E | |
| Road Signs To be Replaced | W | |
| | E | |
| Illegal Signs | W | |
| | E | |

**Date: March-26**

**Route:** N4 **Section:** 12 W
**Start km:** 29.5 **End km:** 34.5
**Direction:** WEST

LEGEND
- = Severe
- = Warning
- = Sound
- = Resolved
- Farm entrance
- Intersection
- Head Intersection
- Rest Areas
- River
- Reserve Fence
- Pipe Culvert
- Box culvert
- Private access
- Camp access
- Guardrails
- Traffic signs North
- Traffic signs South
- Bridges
- Gate




Interchange/Intersection Name

| | | |
|---|---|---|
| Potholes Repaired | W | |
| | E | |
| Patching | W | |
| | E | |
| Edge Breaks | W | |
| | E | |
| Rutting | W | |
| | E | |
| Failures | W | |
| | E | |
| Cracking | W | |
| | E | |
| Surface Failures | W | |
| | E | |
| Shoulders | W | |
| | E | |
| Side Drains | W | |
| | E | |
| Culverts | W | |
| | E | |
| Riding Quality | W | |
| | E | |
| Guard Rails | W | |
| | E | |
| Instabilities | W | |
| | E | |
| Road Signs To be Replaced | W | |
| | E | |
| Illegal Signs | W | |
| | E | |

Date: March-26

Route: N4 Section: 12 W

Start km: 29.5 End km: 34.5

Direction: WEST

LEGEND

= Severe

= Warning

= Sound

= Resolved

Farm entrance

Intersection

Head Intersection

Rest Areas

River

Reserve Fence

Pipe Culvert

Box culvert

Private access

Camp access

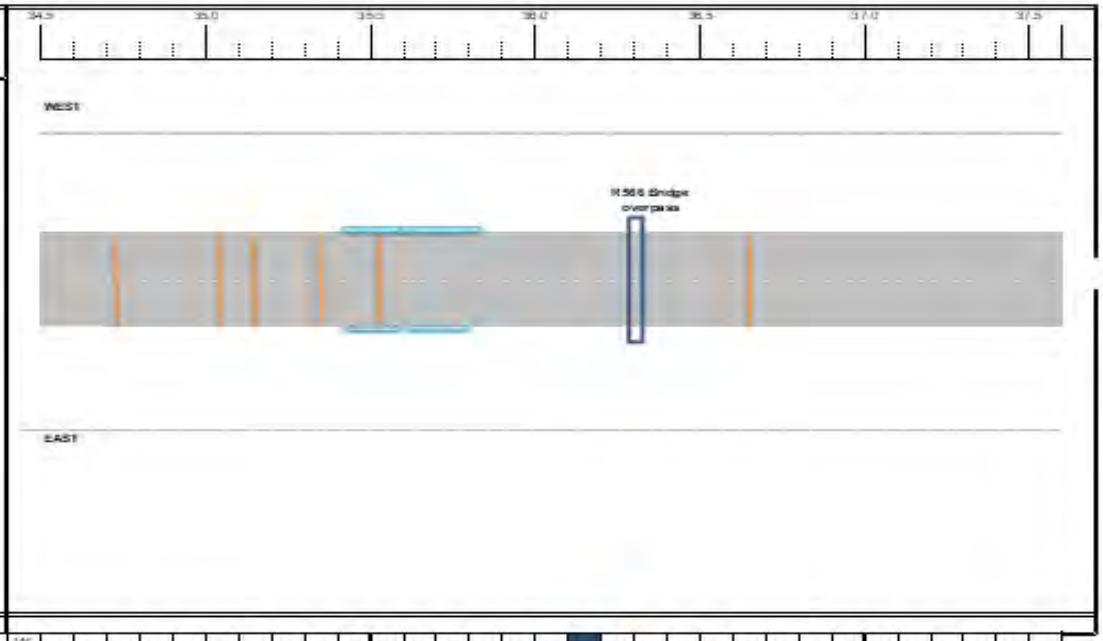
Guardrails

Traffic signs North

Traffic signs South

Bridges

Gate




Enter change into section Name

| | |
|---|---|
| Potholes Repaired | W / E |
| Patching | W / E |
| Edge Breaks | W / E |
| Rutting | W / E |
| Failures | W / E |
| Cracking | W / E |
| Surface Failures | W / E |
| Shoulders | W / E |
| Side Drains | W / E |
| Culverts | W / E |
| Riding Quality | W / E |
| Guard Rails | W / E |
| Instabilities | W / E |
| Road Signs To be Replaced | W / E |
| Illegal Signs | W / E |
| Illegal Entrances | W / E |
| Structures | W / E |
| Fencing | W / E |
| Grass Condition | W / E |