



# transport

Department:  
Transport

**PROVINCE OF KWAZULU-NATAL**

**“A Call to Service”**

## **KZN Department of Transport Road Condition**

**23 June 2022**



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**ROAD SAFETY**



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# CORPORATE INFORMATION

## Vision and Mission

***“ Transportation enabling the Province of KwaZulu-Natal to be the Gateway to Africa and the World” ”***



This means that the Department will strive to ensure that KZN becomes a gateway connecting Africa and the world through a safe, affordable, reliable and integrated Provincial transport system.



“We will strive to provide mobility through an affordable transportation system that is safe, integrated, regulated and efficient to support the movement of goods and people and that enables the socio-economic development needs of our Province and its citizens”.

# TRANSPORT INFRASTRUCTURE DISTRICT SERVICES

## **Construction**

- Rehabilitation and construction of the provincial road network occurs at both Regional level and Head office on the following activities and sub-activities:
  - ❖ Road Rehabilitation and Reseals,
  - ❖ Upgrade from Gravel to Blacktop,
  - ❖ Construction of Vehicular Bridge and Pedestrian Bridge,
  - ❖ Capacity improvement of Roads,
  - ❖ Construction of New gravel or Access Road,
  - ❖ Construction of Causeways
  - ❖ Construction of Culverts

# TRANSPORT INFRASTRUCTURE DISTRICT SERVICES

## MAINTENANCE

- Maintenance of the provincial road network occurs at a regional level, on the following activities and sub-activities:

- **Routine maintenance**

- Blading
- Drain clearing & verge maintenance
- Pipes & headwalls
- Maintenance of fence & km posts
- Maintenance of information/guidance signs
- Patch gravelling
- Zibambele contractors and Vukayibambe Rural Road Maintenance (VRRM)

# TRANSPORT INFRASTRUCTURE REGIONAL SERVICES

## ➤ **Safety maintenance**

- Blacktop patching
- Guardrail installation
- Maintenance of regulatory/warning signs
- Road marking & studs

## ➤ **Special maintenance**

- Handrail replacement/repairs
- Minor structure repairs
- Drainage improvements
- Gabion protection

## ➤ **Periodic maintenance**

- Betterment and re-gravelling,
- Repainting of steel structures



# ROAD NETWORK

## KZN ROAD TOTAL NETWORK

REGIONS	BLACKTOP	CONCRETE	GRAVEL	TOTAL
Durban	2095.830	7.483	3906.566	6009.880
Empangeni	2294.246	5.390	9582.804	11882.439
Ladysmith	2324.266	4.322	5883.611	8212.198
Pietermaritzburg	1888.095	8.227	5741.461	7637.784
TOTAL	8602.437	25.422	25114.442	33742.301

RCAM CLASS	FLEXIBLE	UNPAVED	CONCRETE	TOTAL
R1 + U1	511.783	12.364	0.000	524.147
R2 + U2	3559.733	579.699	0.905	4140.337
R3 + U3	2926.468	3243.402	1.071	6170.942
R4 + U4	1349.069	10460.943	7.238	11817.250
R5 + U5	255.383	10818.034	16.208	11089.625
TOTAL	8602.437	25114.442	25.422	33742.301

## KZN PRMG STRATEGIC ROAD NETWORK

REGION / SURFACE	Blacktop	Gravel	TOTAL
Durban	521.808		521.808
Empangeni	1150.242	42.620	1192.862
Ladysmith	1070.275	28.104	1098.379
Pietermaritzburg	826.509	143.112	969.622
TOTAL	3568.834	213.836	3782.670

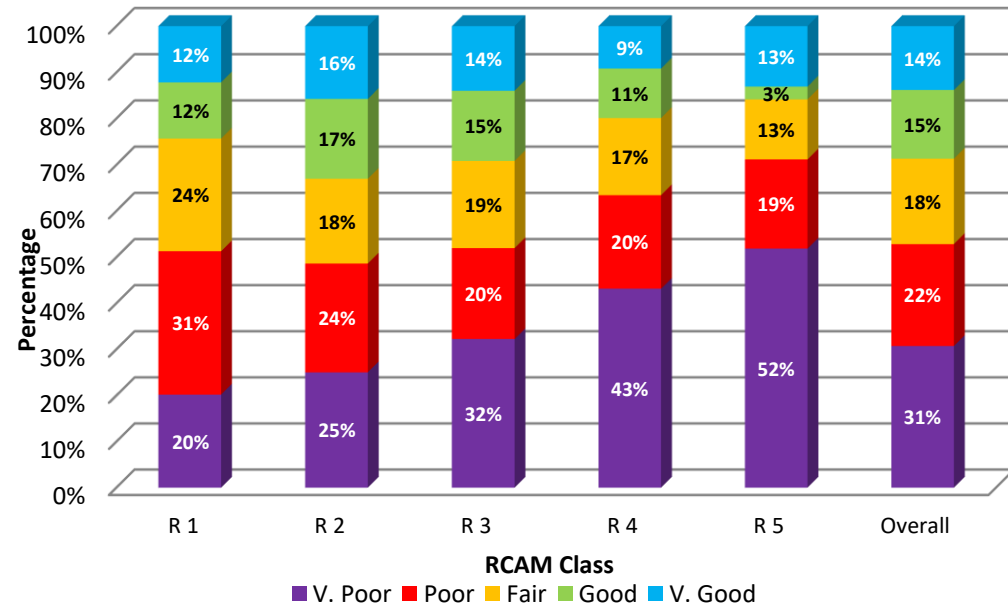
RCAM CLASS	TOTAL
R1 + U1	505.300
R2+ U2	2818.006
R3 +U3	449.520
R4	9.845
TOTAL	3782.670



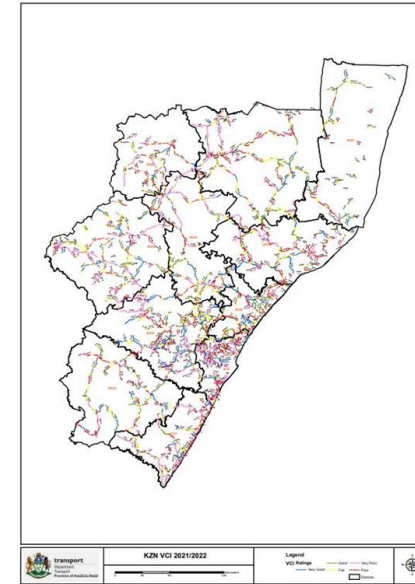
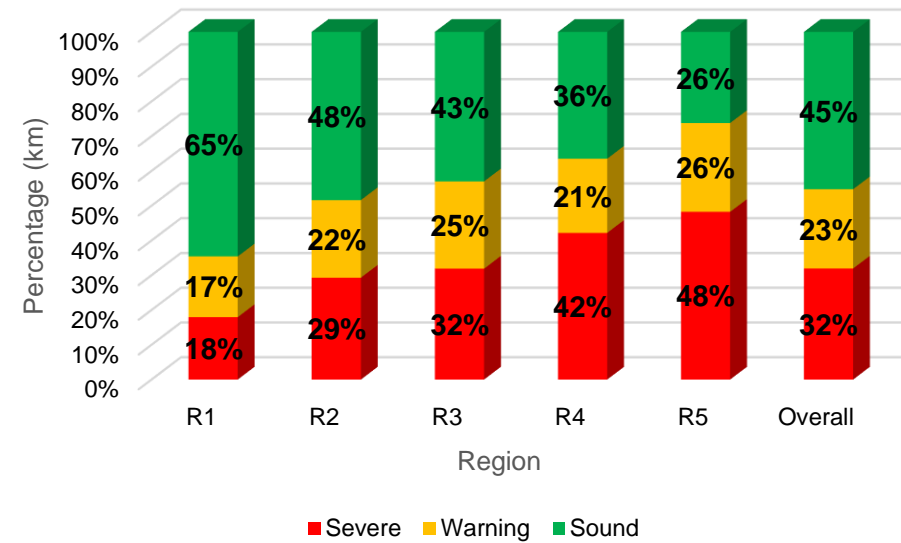


# Paved Condition Results

## Overall Condition Index



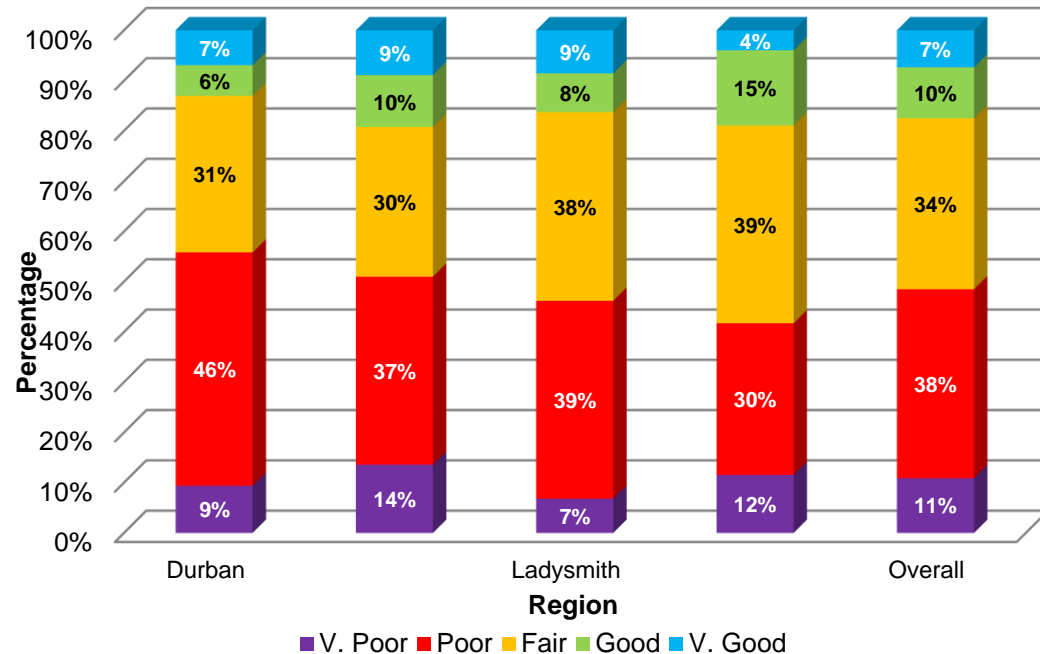
## Deflections per RCAM Class



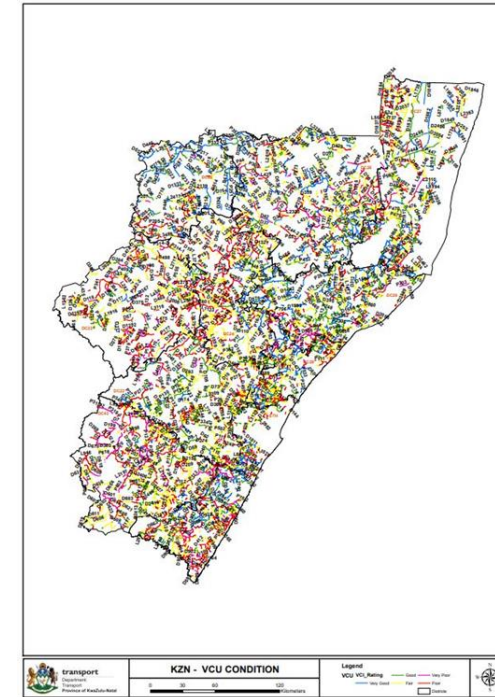
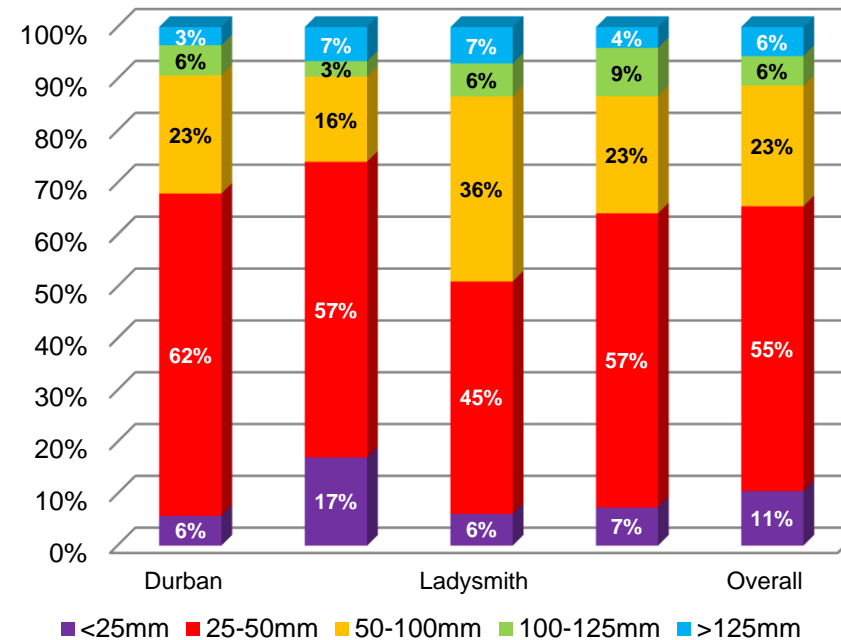


# Unpaved Condition Results

## Visual Condition Unpaved

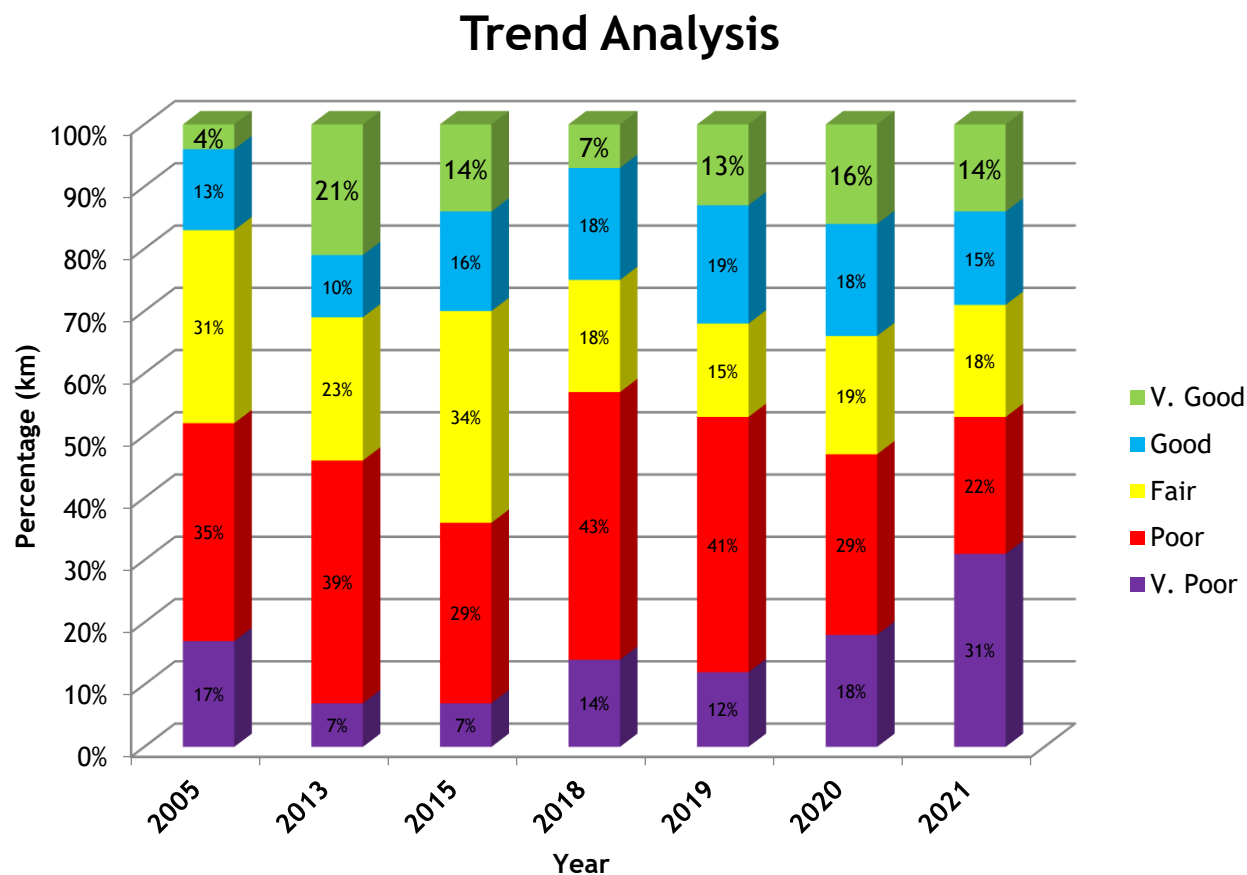


## Gravel Layer Thickness





# Paved Network Condition Trend







A medium to long term roads needs analysis for current assets was produced using the HDM4 analysis results. The results of the economic strategic analysis indicate that the Fair IRI Preservation run at a 20-year budget of R 105 billion (R 5,25b annual budget) is **THE RECOMMENDED OPTION** since it improves the road network roughness condition to reduce road user costs

The maintenance strategy is to ensure that roads with Very Good, Good and Fair conditions, receive appropriate routine and periodic maintenance actions at the right time to prevent them falling into the condition backlog.



14%

PAVED VERY GOOD (VCI>85)



15%

PAVED GOOD (VCI 70 - 85)



18%

PAVED FAIR (VCI 50 - 70)



22%

PAVED POOR (VCI 30 - 50)



31%

PAVED VERY POOR (VCI 0 - 30)



7%

UNPAVED VERY GOOD (VCI>85)



10%

UNPAVED GOOD (VCI 70 - 85)



34%

UNPAVED FAIR (VCI 50 - 70)



38%

UNPAVED POOR (VCI 30 - 50)



11%

UNPAVED VERY POOR (VCI 0 - 30)

The roads in fair condition are critical because these roads have a very short window of time before they deteriorate and contribute to the **backlog**. It is more beneficial to maintain these roads at this stage as the cost is a fraction of what it will be once they fall into the backlog.

The **condition back log** comprises of the percentage of roads having a condition of poor and very poor.

One of the outcomes of the strategic plan is to reduce the paved condition backlog to **30%** in the next 5 years

The condition backlog is currently **53%** for paved roads and **49%** for unpaved roads.



# What is Road Asset Management?

- Road Asset Management System (RAMS) is a planning tool that has a database which stores and presents road data information, planning short term and long-term road maintenance.
- The system is also used to create budgets and maximises economic returns of the investments made for the road network.



# Provincial Road Maintenance Grant (PRMG)

The **PRMG** is a supplementary funding source introduced in 2011/12 for road construction and maintenance.

The strategic goal of the grant is to ensure efficient and effective investment in provincial roads to implement the Road Infrastructure Strategic Framework for South Africa in line with the S'hamba Sonke road program and other related road infrastructure asset management programs.

## Outcome statements:

- To improve the condition and lifespan of provincial roads and level of service.
- To improve rates of employment and community participation through labor-intensive construction methodologies and skills development through the delivery of roads infrastructure projects.





## PRMG Strategic Network / KPI Network

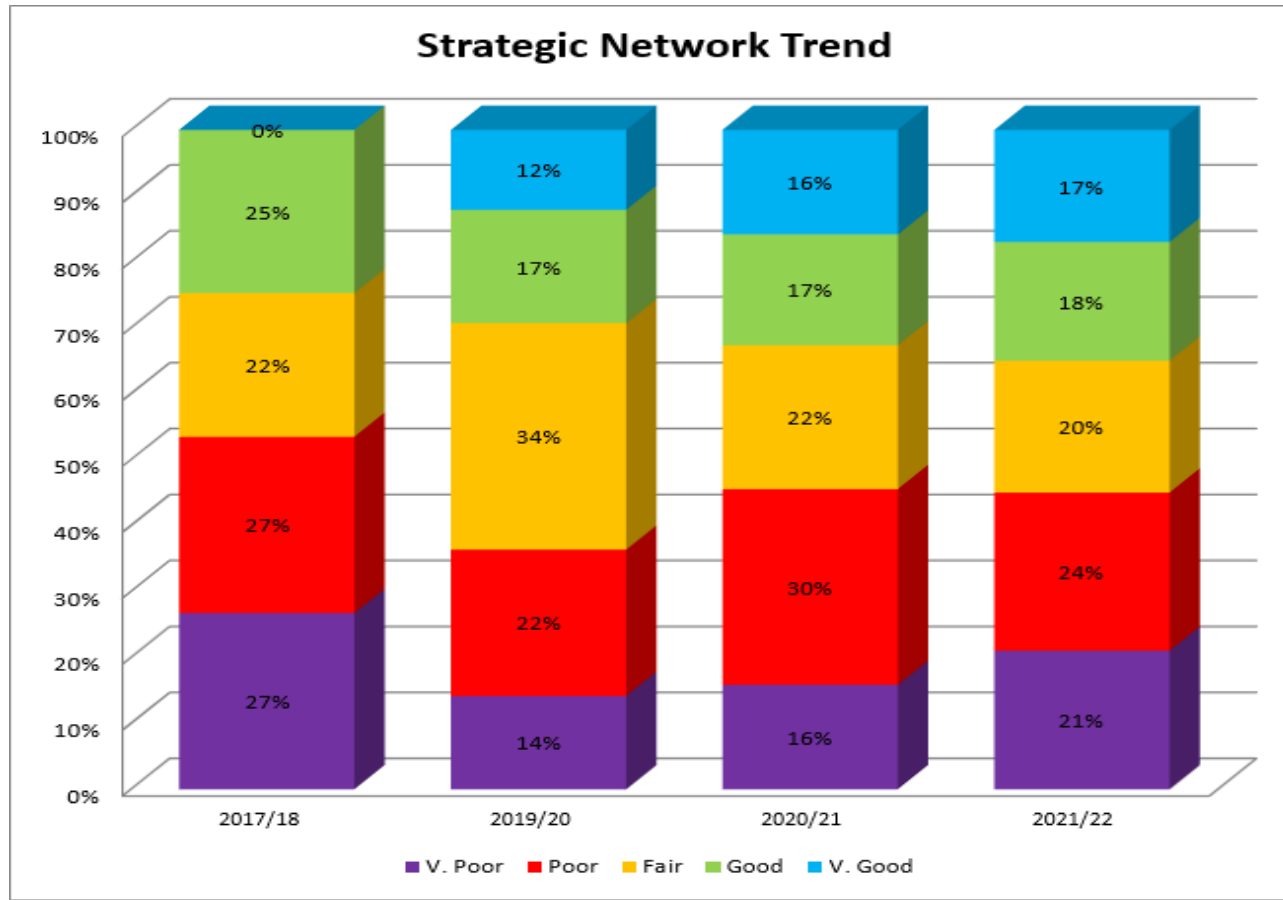
We defined the strategic network as the road network provided to promote / sustain strategic flows / trade in terms of a National Transport Strategy, consistent with the National Economic Strategy. The Strategic road network was selected from the Primary road network utilising the following criteria:

- **Link neighbouring countries** – at least one commercial border post per country.
- Link, and provide access to, **major economic centres**.
- Provide for tourist flows, and provide access to tourism corridors; and
- Link natural resources and manufacturing centres with markets and provide access to these resources.





## PRMG Strategic Network Condition



Although there is little improvement on reducing the backlog, it can be noted that there is a significant improvement, year on year on the very good category.





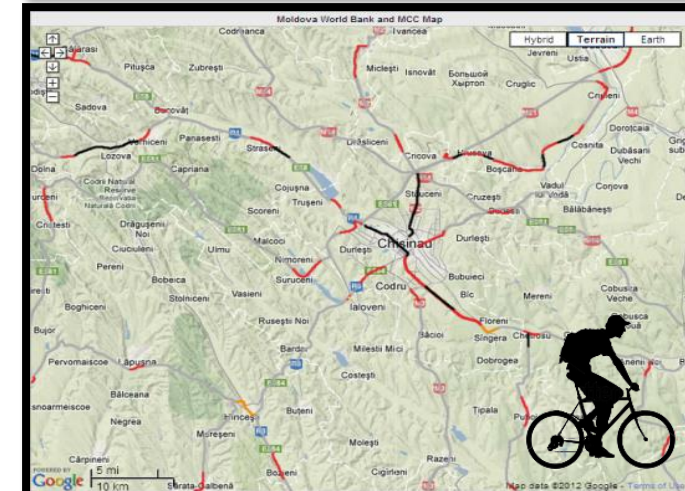
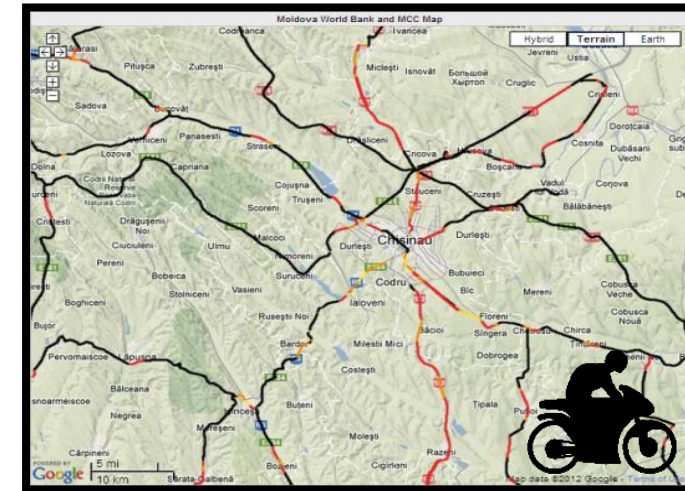
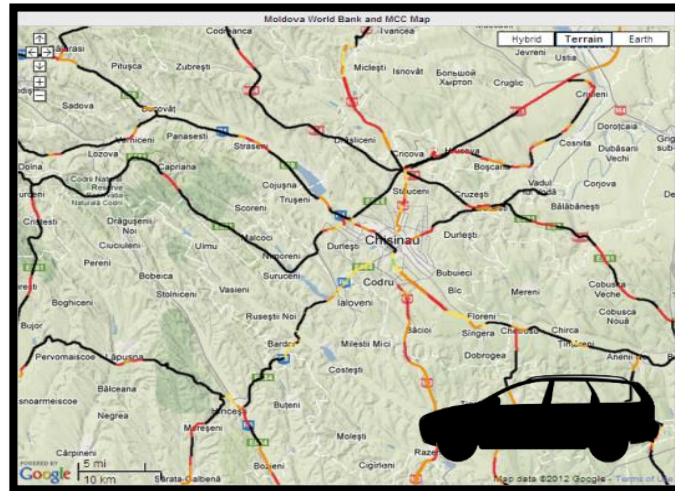
# Road Safety

- ❖ The number of road accidents is becoming a sad reality.
- ❖ iRAP is a brilliant tool introduced to make a difference in saving lives.
- ❖ iRAP assessments were concluded from the survey data collected for KZN.
- ❖ KZN Star rating results indicate that 44% of the strategic network is unsafe, with the implementation of the recommended countermeasures more than 90% of the network can be safer for the regular commuter.
- ❖ Road Safety is a shared responsibility.

**WE HAVE AN IMPORTANT PART IN ENSURING OUR ROADS ARE  
SAFE FOR EVERYONE**



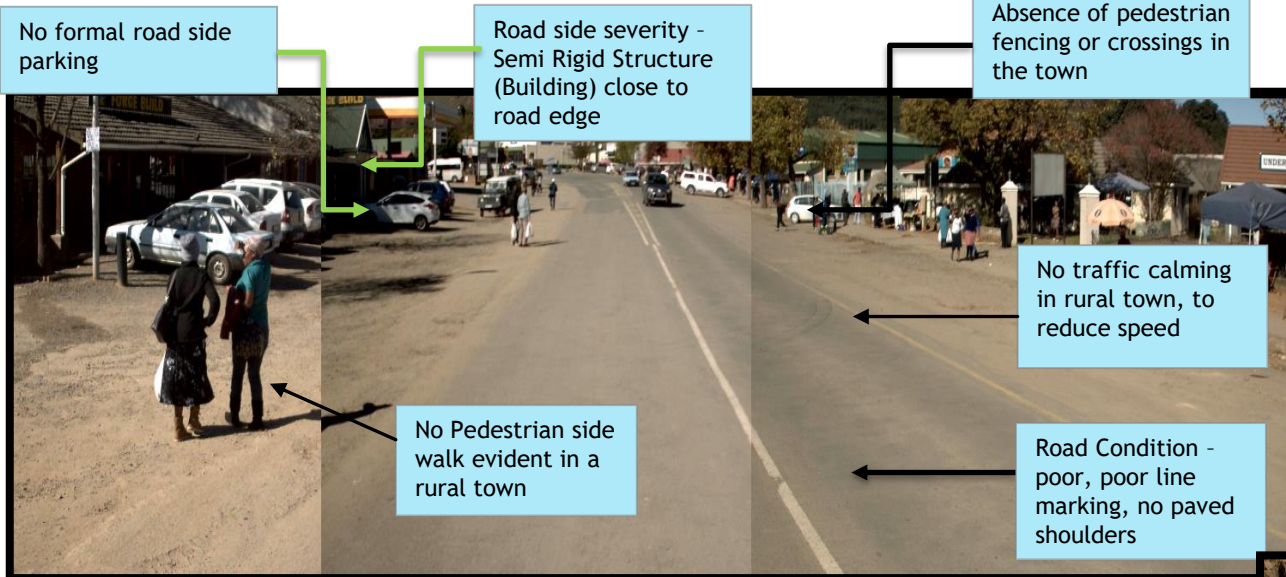
# What are Star Ratings?







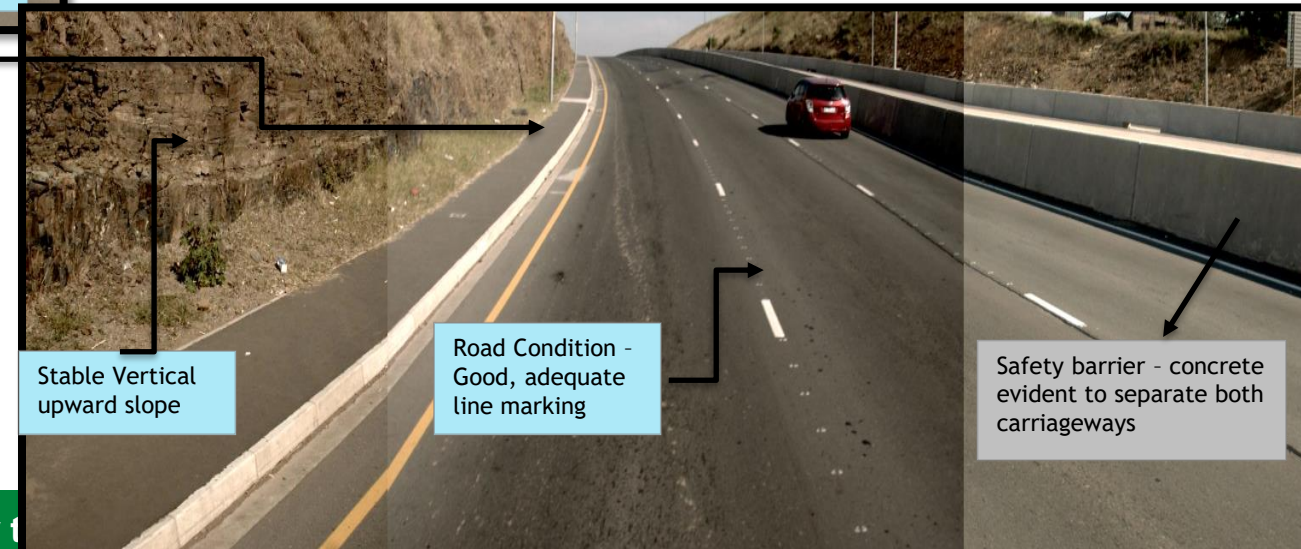
# Understanding Star Rating



P7-3 Star Rating of 1 for Vehicle occupants and star rating of 1 for pedestrians

Side walk evident for pedestrians

P577 Star Rating of 3 for Vehicle occupants and star rating of 2 for pedestrians

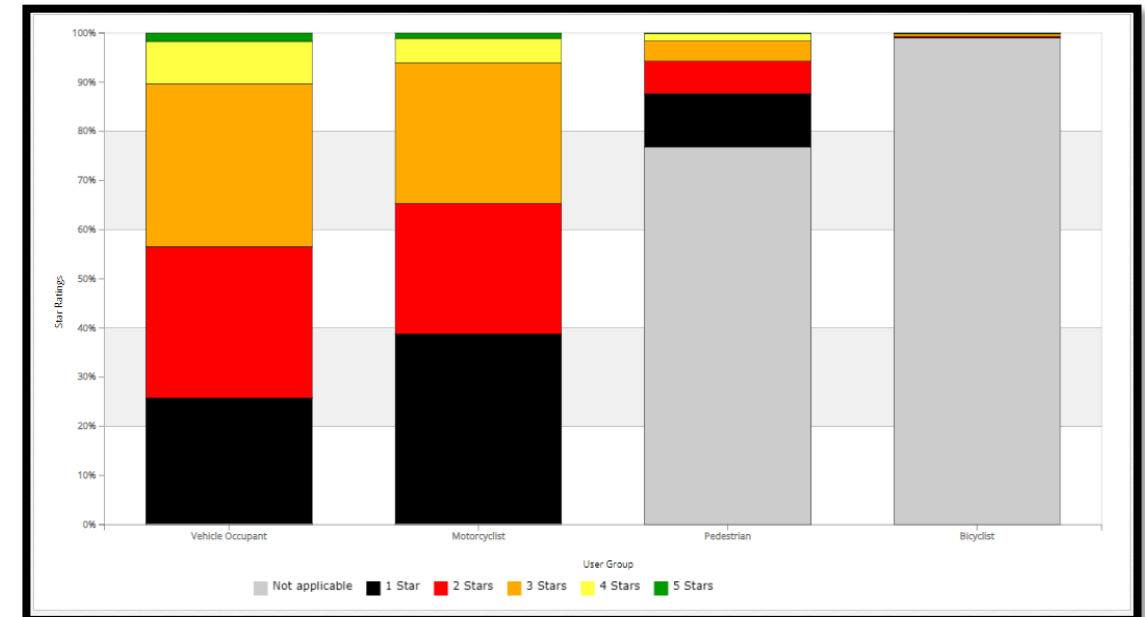




# Status of KZN Existing Network of Roads

Star Ratings	Vehicle Occupant		Motorcyclist		Pedestrian		Bicyclist	
	Length (km)	Percent	Length (km)	Percent	Length (km)	Percent	Length (km)	Percent
5 Stars	58.60	1.72%	37.30	1.09%	5.90	0.17%	3.00	0.09%
4 Stars	294.00	8.61%	171.60	5.02%	50.50	1.48%	3.60	0.11%
3 Stars	1,132.20	33.15%	974.30	28.53%	139.40	4.08%	15.90	0.47%
2 Stars	1,049.60	30.73%	906.80	26.55%	226.10	6.62%	8.50	0.25%
1 Star	872.90	25.56%	1,317.30	38.57%	368.70	10.80%	4.10	0.12%
Not applicable	7.80	0.23%	7.80	0.23%	2,624.50	76.85%	3,380.00	98.97%
Totals	3,415.10	100.00%	3,415.10	100.00%	3,415.10	100.00%	3,415.10	100.00%

Not applicable 1 Star 2 Stars 3 Stars 4 Stars 5 Stars







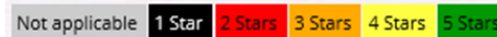
# Existing Star Rating of KZN Network



Vehicle Occupants

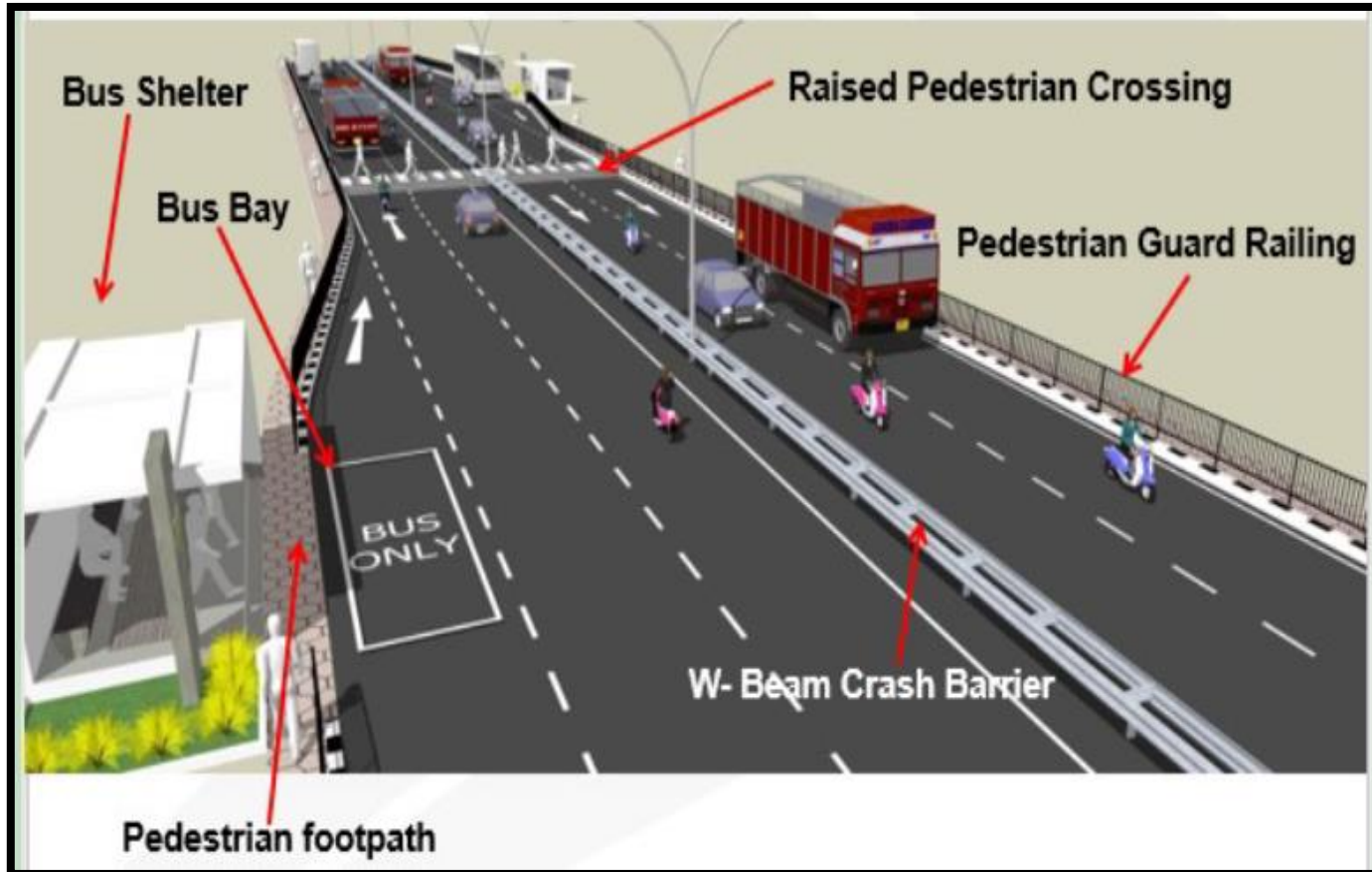


Pedestrians





# Star Rating of 5 for KZN Roads



No lives are saved until the road is improved by installing the recommended countermeasures!!!!



## **KZN DOT SAFETY ROLLER BARRIER PILOT PROJECT**

“The growth rate of fatalities in South Africa is progressively increasing particularly in KwaZulu-Natal. ”

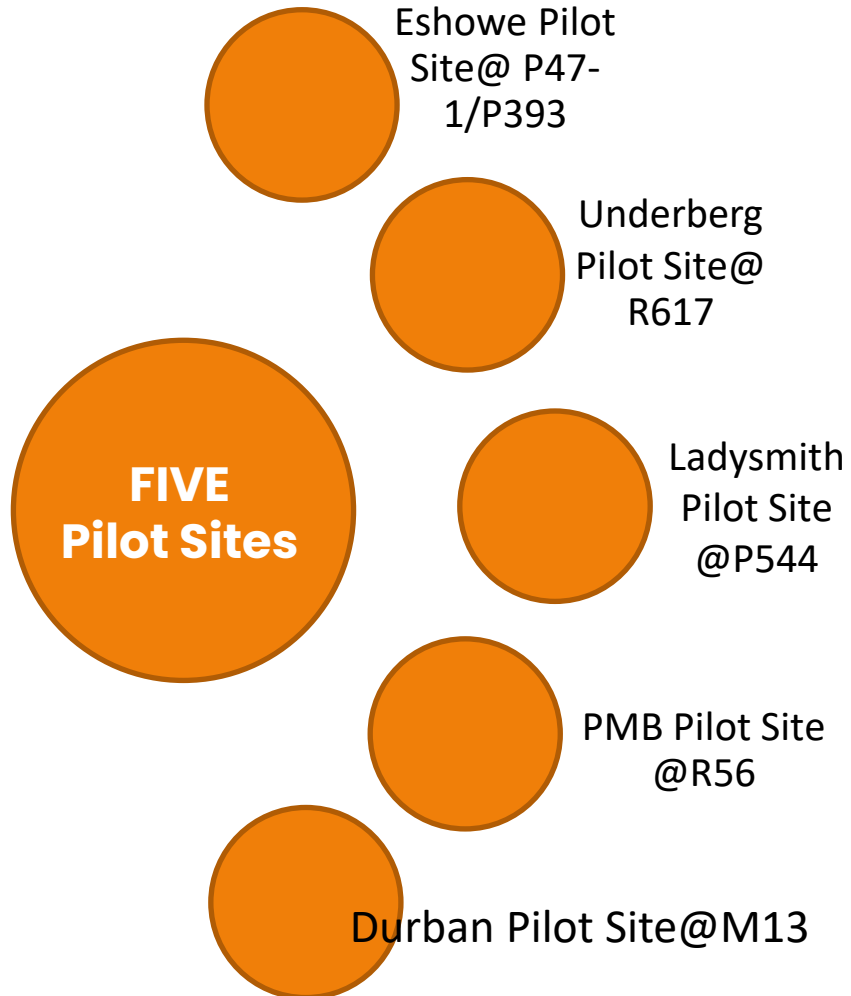
The subject of road safety is often neglected, this is the reason why we have kick started this particular pilot project

THE DEPARTMENT HAS FACED MANY CHALLENGES WHICH NONE OF OUR CURRENT ROAD FURNITURES HAVE PROVED TO ASSIST THEREFORE WE CONTINUE TO FAIL IN KEEPING OUR ROADS SAFE. OUR MAINTENANCE IS EXTREMELY COSTLY AND OUR DEATH TOLL KEEPS RISING. OUR CURRENT ROAD RESTRAINT SYSTEM IS FAILING US, PARTICULARLY THE GUARD RAILS. THEREFORE WE SORT TO TRY NEW TECHNOLOGY TO ERADICATE SOME OF THE CHALLENGES WE FACE IN OUR DEPARTMENT.





# SITES OF THE PILOT PROJECT @ R 23,4 Million







**KWAZULU-NATAL PROVINCE**  
TRANSPORT  
REPUBLIC OF SOUTH AFRICA

# EMPANGENI REGION

GROWING KWAZULU-NATAL TOGETHER

**ESHOWE REGION SITE - COMPLETED AND SITE  
WAS HANDED OVER ON 5TH APRIL 2022**





# **SAFETY ROLLER BARRIER**

**ACCIDENT at ESHOWE**

**Accident Date:** 09/05/2022 • **Time:** +- 12:30

**Truck Description:** 30 Ton Truck with fully loaded  
45 cube side Tipper Links

## **CONTAINMENT LEVEL**

EN1317: H4a • NCHRP 350: TL5

**Occupant Risk:** 0 Deaths and 0 Injuries





## 2022/2023 BUDGET ALLOCATION

- On the 05<sup>th</sup> of May 2022, the MEC for Transport, Community Safety and Liaison delivered a budget speech policy vote 12 for the 2022/23 financial year during a legislature sitting in Pietermaritzburg.
- The MEC declared that the Department has been allocated a budget of R12.4 billion within this financial year and budget allocation per programme is as follows:

PROGRAMME	BUDGET ALLOCATION
Corporate Services (Administration)	R 529 million
Transport Infrastructure	R8. 9 billion
Transport Operations	R1.9 billion
Transport Regulations	R1,013 billion
Community-Based projects	R42 million



## 2022/2023 BUDGET ALLOCATION - MAINTENANCE

- Grant funding allocated to the Department by National DOT for 2022/23 financial year per grant allocation is as follows:
- From the budget allocated in the 2022/23 financial year, there are carry overs of R888 million from the previous financial year.

GRANT	AMOUNT
Provincial Road Maintenance Grant	R 2.7 billion
Public Transport Operation Grant	R1.3 billion
EPWP Integrated Grant to Province	R68 million



## BUDGET REPRIORITISATION TO FUND FLOOD REPAIRS

- KZN DOT suffered infrastructure damages as a result of the recent floods estimated to be R5,799 billion (Including M4 and R102).
- A reprioritisation exercise was conducted and identified projects that are on FIDPM Stages 1 to 3 & Maintenance on the 2022/23 implementation plan (Table B5).
- 
- These projects will be reprioritised for implementation on the outer FY's to make funds available for the flood damage repairs.

	Values
Stage 1	1,294,043,255
Stage 2	202,389,287
Stage 3	1,193,466,678
Basket maintenance	2,220,991,368
Total	<b>4,910,890,588</b>
Less commitments - 2022/23	2,000,000,000
Available for Reprioritisation	<b>2,910,890,588</b>



## BUDGET REPRIORITISATION TO FUND FLOOD REPAIRS

- Based on this exercise, the reprioritisation of projects to the outer financial years had initially made available an amount R2 689 899 220 for flood repairs
- This has since been increased to a total amount of **R 2 910 890 588** as a result of additional funds being made available from Maintenance reprioritisation exercise.
- R2 220 991 368 (budget) – R2 000 000 000 (committed) = **R220 991 368** additional amount made available for flood repairs.
- The shortfall has reduced from **R3 109 440 797** to **R2 697 840 996**





# SHORT-TERM INTERVENTIONS - VALAMAPOTHOLE

*P395- Marine Drive Pothole Patching and fixing of sinkhole by VRRM team*







# MEDIUM TO LONG- TERM INTERVENTIONS

Project	Local Municipality	Ward No's	Damages	Intervention	Responsibility Office	Progress to date
R617/ P7-2	Msunduzi		Sinkhole resulted to road closure	The Emergency Deviation has been done and the Evaluation Report has been submitted to BAC for approval.	PMB District Office Blake Mackenzie	The Evaluation Report has been signed by the HOD for approval. A meeting was held with Treasury 18 May 2022, we are awaiting their response to award.
P416	uMzimkhulu	12	Slip failure	geotechnical specialist team has been appointed and commenced with the investigation on the 12 April 2022 and completed on the 28 April 2022.	Ixopo District Office Ayanda Zondo	The full report will be submitted on the 20 May 2022
R74/ P20	Maphumulo	10	Washaways and Sinkhole	The Consultant Team has been appointed through Emergency Deviation and finalising the Draft Specification document for Contractors. The Contractors will be invited on the 22 April 2022 and closes on the 28 April 22. On the 2 <sup>nd</sup> of May the Contractor will be on site.	KwaDukuza District Office Bheki Mthethwa	Delays in sending out quotes due to CIDB register of contractors being down. Expecting contractor to establish before end May 2022
R74/ P340	Okhahlamba		1.2mm diameter Armco Pipe Failure	Road closed to heavies to avoid further damage to the infrastructure and avoid fatalities	Othukela District Office: Thembinkosi Sithomo	Tender closed on the 12 May 2022. SCM started preparing evaluation report from the quotations received.





# MEDIUM TO LONG- TERM INTERVENTIONS

Project	Local Municipality	Ward No's	Damages	Intervention	Responsibility Office	Progress to date
R74/ P340	Okhahlamba		Slippage failure	Geotechnical investigation conducted, awaiting for report from ABC	Othukela District Office: Thembinkosi Sithomo	To be advertised by 9 June 2022.
M4/P398-1	Ethekwini	58	Bridge damage	Joint effort between SANRAL and KZN DOT internal team. SANRAL has done assessments of the flood damage. Internal team has improved condition of road using gabions and internal plant.	Ethekwini Region	<ul style="list-style-type: none"><li>Internal team completed reinstating gabions after being washed away during May floods, currently busy backfilling at Km14. 40% Complete</li><li>Internal team exposed damaged culvert, repair to damaged pipe will start on 30 May 2022. 10% complete</li><li>Mdloti bridge backfilling is in progress 10% complete.</li><li>Boystown sinkhole SANDF started excavation on 29 May 2022, 5% Complete.</li></ul>



## CURRENT PROPOSED SCOPE SPLIT

KZN DOT	SANRAL
<ul style="list-style-type: none"><li>• Betterment and re-gravelling</li><li>• Blacktop patching</li><li>• Patch gravelling</li><li>• Washaway repairs</li><li>• Installation of pipes crossings</li></ul>	<ul style="list-style-type: none"><li>• Bridges</li><li>• Drainage repairs pipes and gabions</li><li>• Causeways</li><li>• Slip failures/ Washaways</li><li>• Paved steep section with concrete</li></ul>

- SANRAL is awaiting budget approval from National Treasury
- KZN DOT is therefore continuing with it's activities using its own budget until National Treasury approves additional funding for SANRAL.
- KZN DOT has entered into Agreement with SANRAL to implement strategic route in the Province which will be funded by Department.



## 2021/2022 KEY PROJECTS

### Provincial Road P11

- Main Road P11 is the Provincial Road that connects Estcourt and Winterton and is located in the Okhahlamba Local Municipality, under uThukela District Municipality of KwaZulu Natal Province.
- This section is approximately 10,000 km long, located between the P1-9 intersection (Estcourt/Colenso turn-off) and along with P11 towards Winterton.
- The scope of the project was the rehabilitation of 10 km of road with a construction value of approximately R50 million.
- The project was completed in October 2021.





## 2021/2022 KEY PROJECTS

### District Road D1886

- District Road 1886 is located between Ingwavuma to Machobeni.
- It falls under the Jozini Local Municipality In the uMkhanyakude district municipality. The road serves communities and social facilities.
- Completion was achieved on 14 March 2022. The scope of work for D1886 was an upgrade from a gravel surface to a blacktop standard.





# FRAMEWORK CONTRACTS

DISCRIPTION		INTERVENTION	TIMEFRAME	PROGRESS TO DATE		RESPONSIBILITY OFFICE
ZNB1391	Capital Consultants	Re-advertisement of Panel of Consultants for the Capital Projects.	Tender advertised 16 May 2022	Closing date is the 14 June 2022  Team will fast track the evaluations upon closing		SCM Director and DDG TIDS Mangcobo Gumede and Khumbu Sibiya
ZNB1389	District Consultants	Re-advertisement of District Consultants	Tender advertised 26 May 2022	Closing date is the 03 August 2022  Team will fast track the evaluations upon closing		SCM Director and DDG TIDS Mangcobo Gumede and Khumbu Sibiya
ZNB542	Contractor Document	Re-advertisement of Panel of Contractors for the Construction and Maintenance of roads	Tender advertised 17 May 2022	Closing date is the 06 July 2022  Team will fast track the evaluations upon closing		SCM Director and DDG TIDS Mangcobo Gumede and Khumbu Sibiya



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# THANK YOU

