N2 & N3 Upgrades Roll Out

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SANRAL
SOUTH AFRICAN NATIONAL ROADS AGENCY SOC LTD
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BUILDING SOUTH AFRICA THROUGH BETTER ROADS

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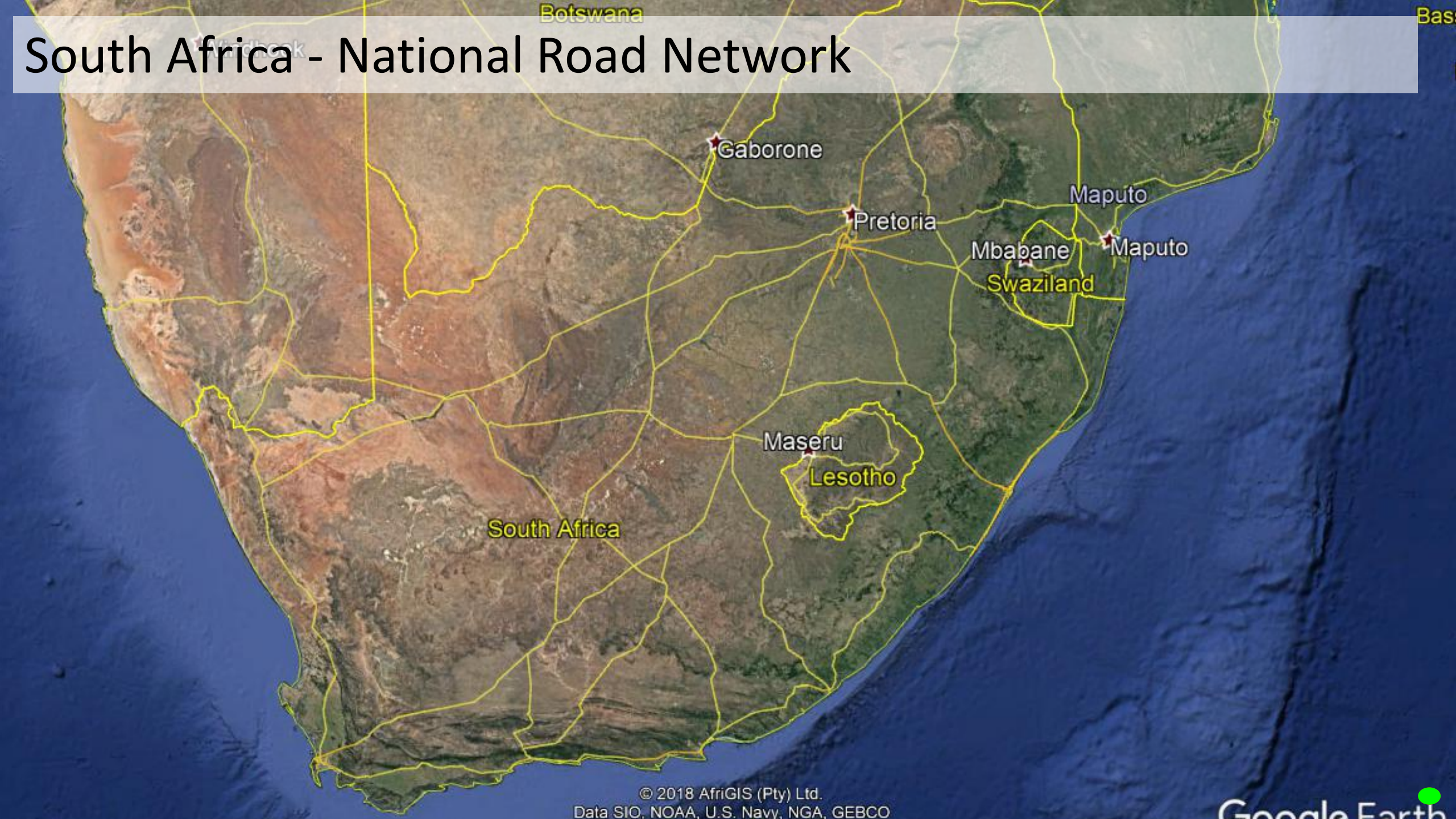
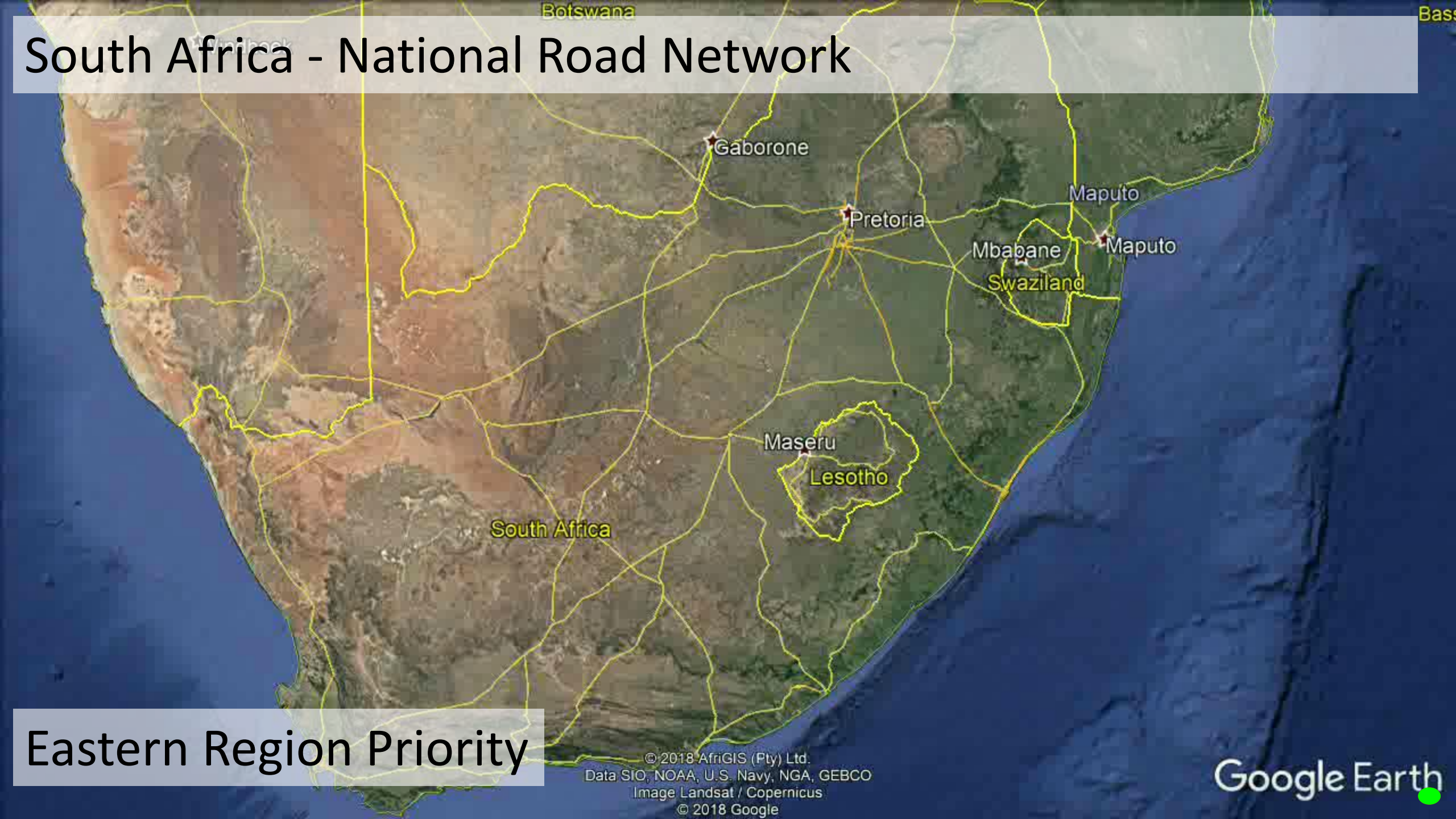
N2/N3
UPGRADE

South Africa - National Road Network



South Africa - National Road Network



Eastern Region Priority

The N3 Corridor: Durban to Johannesburg

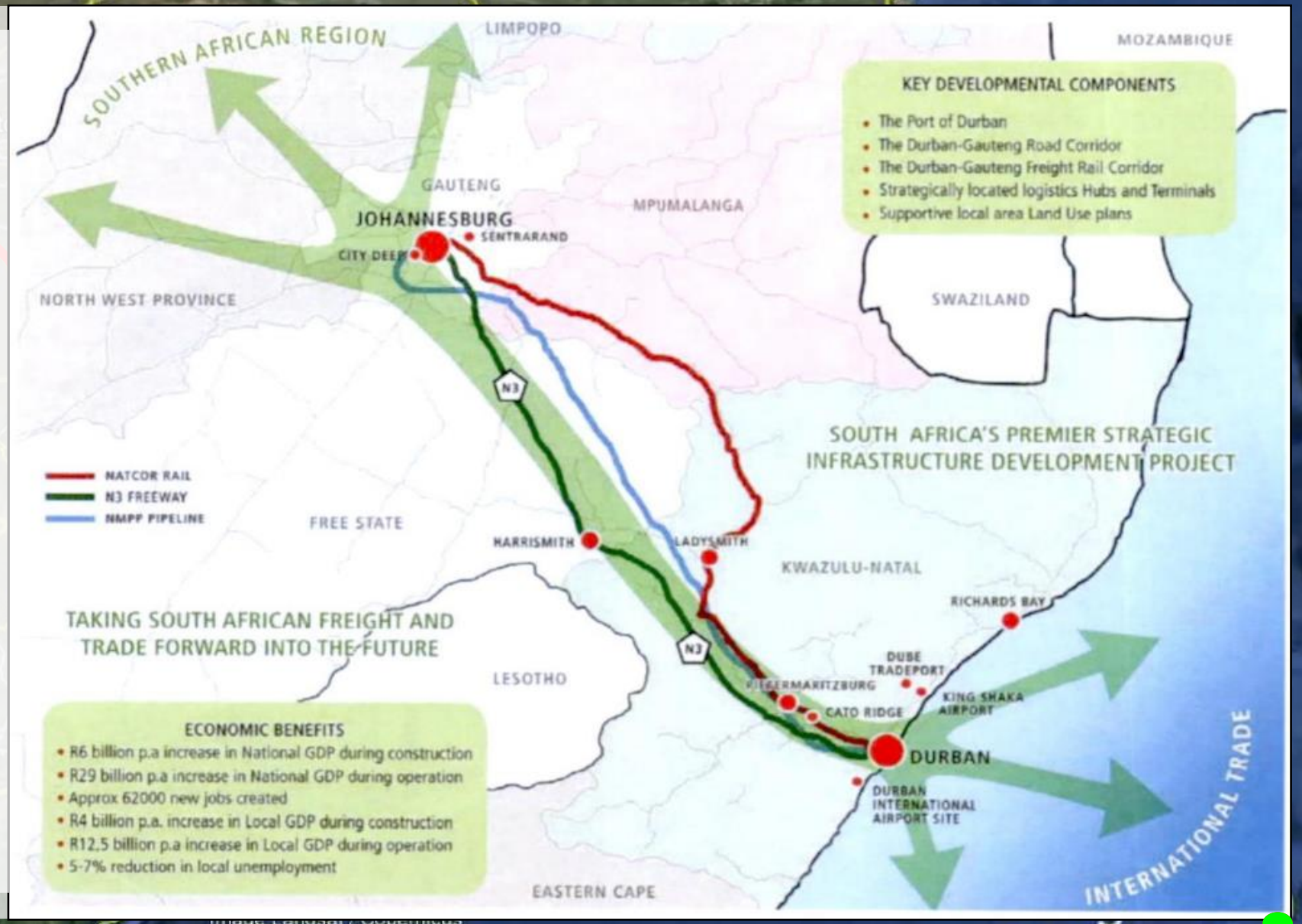
FREIGHT:

- 40% of SA GDP
- 60% SA Import/ Export
- 80% on N3; 20% on Rail

The N3 Corridor: Durban to Johannesburg – SIP2

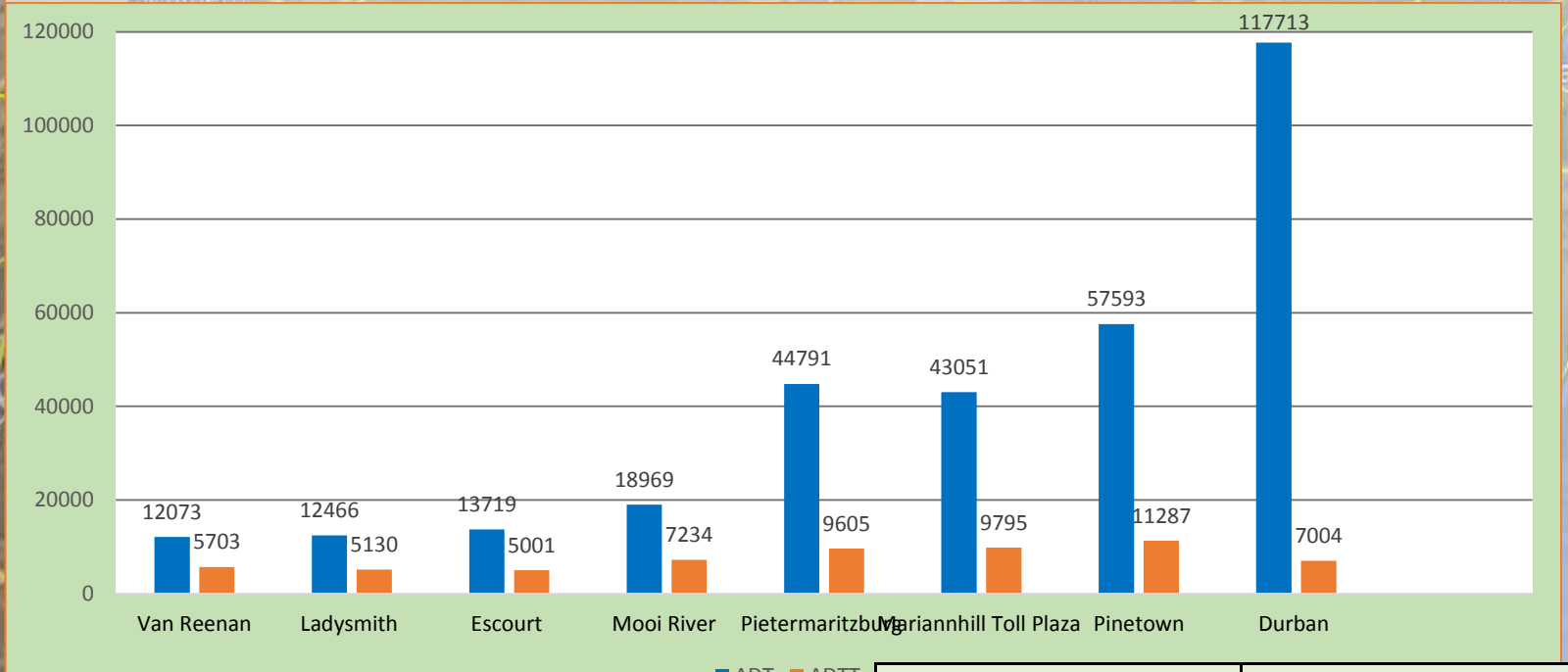
Strategic Integrated Project 2 (SIP2) – N3

- Economic Growth
  - Increase (4% Target, Current < 1%)
  - Reduce Logistics and Transport Costs
  - Improve Global Competiveness
  - Create Jobs
- Infrastructure Investment
  - Create Jobs
- Eliminate Bottlenecks



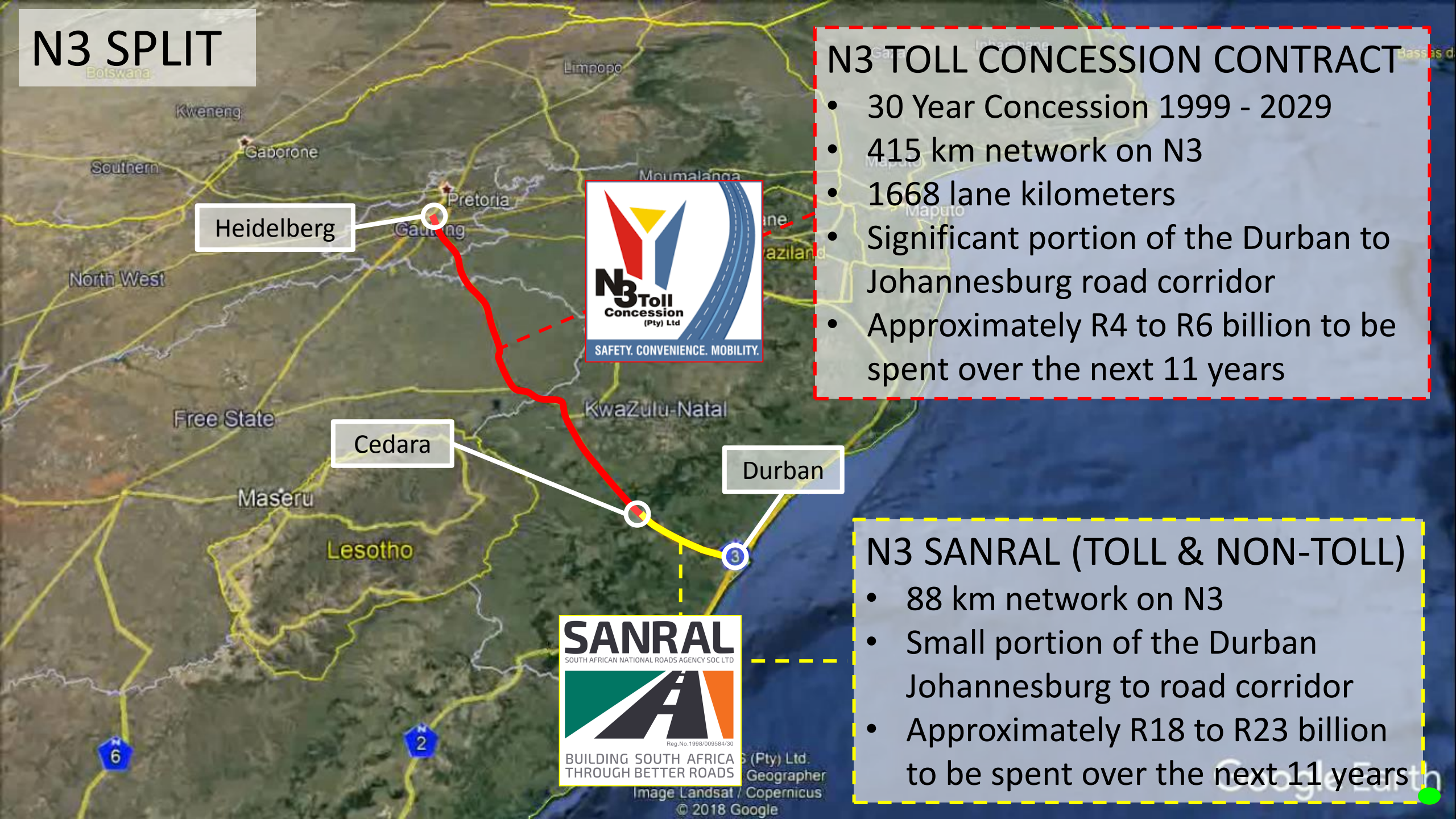
The N3 Corridor: Durban to Johannesburg – Traffic (2018)

Traffic Demands (2018 Volumes) on N3:



Town	ADT	ADTT	%	%Night
Van Reenan	12073	5703	47.20	26.30
Ladysmith	12466	5130	41.20	25.10
Escourt	13719	5001	36.50	21.23
Mooi River	18969	7234	38.10	20.00
Pietermaritzburg	44791	9605	21.40	12.40
Mariannhill Toll Plaza	43051	9795	22.80	13.00
Pinetown	57593	11287	19.60	11.00
Durban	117713	7004	6.00	9.80

N3 SPLIT



N3 TOLL CONCESSION CONTRACT

- 30 Year Concession 1999 - 2029
- 415 km network on N3
- 1668 lane kilometers
- Significant portion of the Durban to Johannesburg road corridor
- Approximately R4 to R6 billion to be spent over the next 11 years

N3 SANRAL (TOLL & NON-TOLL)

- 88 km network on N3
- Small portion of the Durban Johannesburg to road corridor
- Approximately R18 to R23 billion to be spent over the next 11 years

N3 Priority: Durban to Pietermaritzburg

STATUS QUO: PORT CONGESTION

Waterfall
Hillcrest
Durban Metro
Pinetown
Durban
Durban South
Umlazi
M13
M7
M4
M35
3
2
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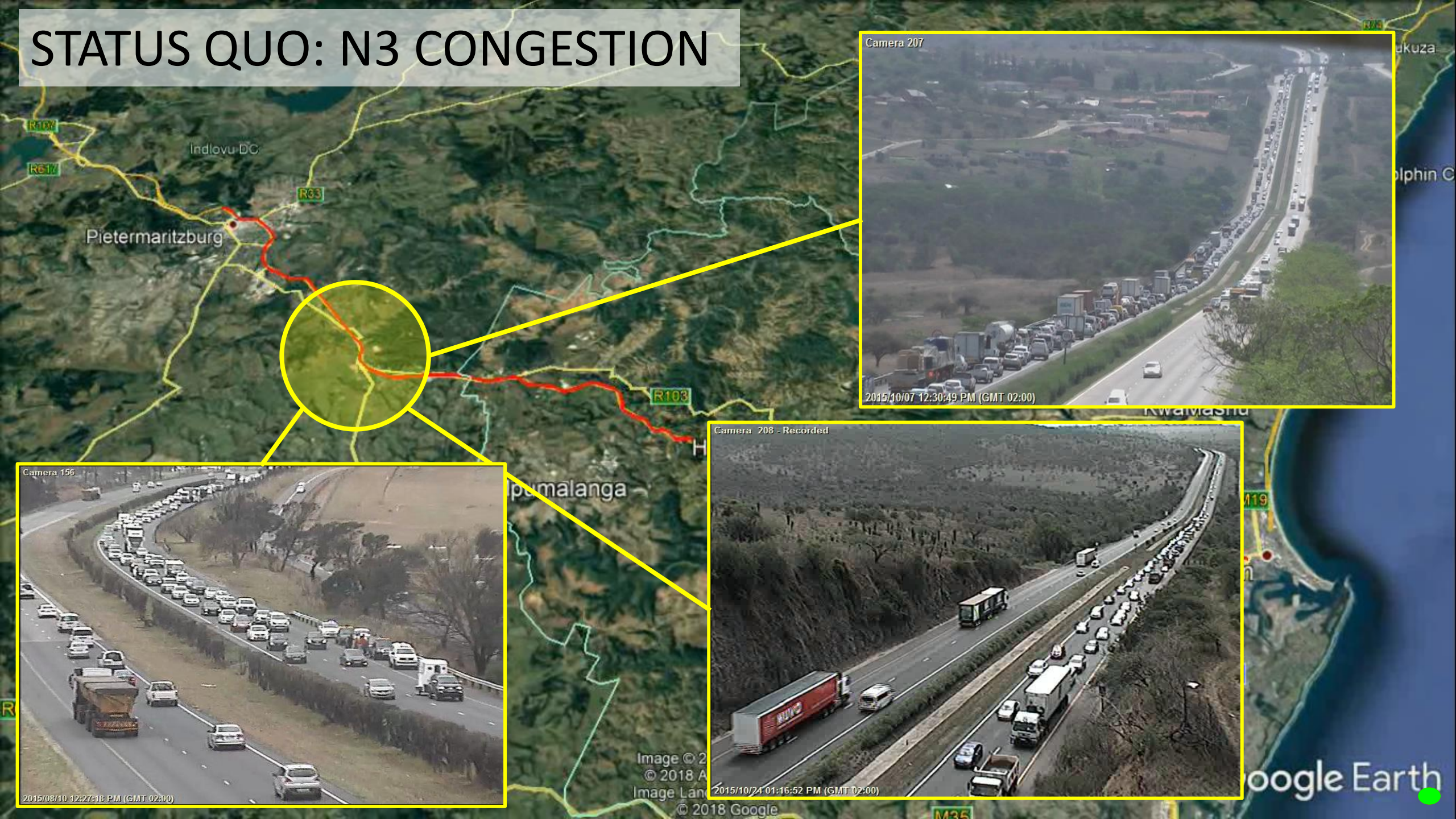
STATUS QUO: N3 CONGESTION



STATUS QUO: N3 CONGESTION

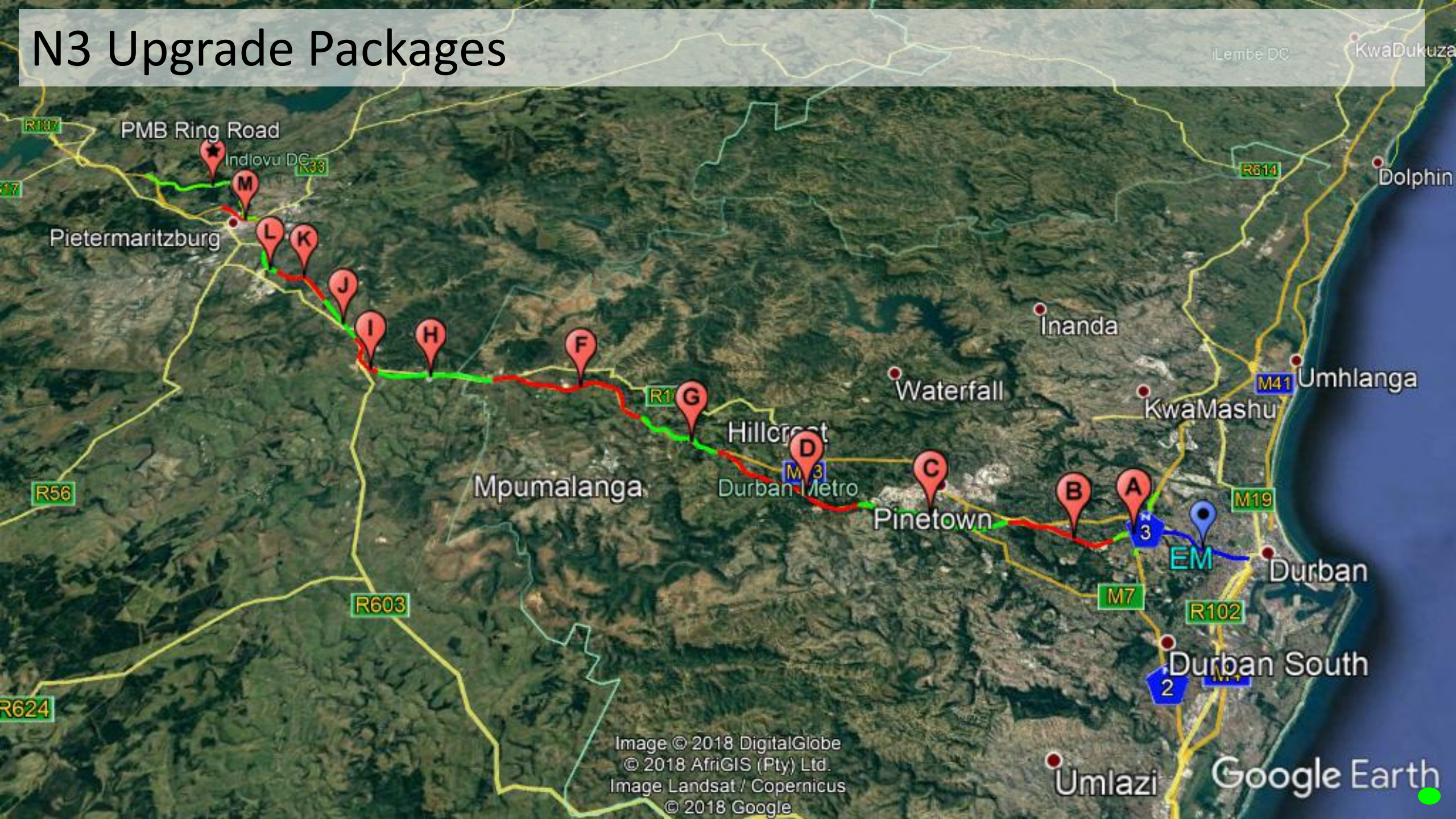
STATUS QUO: N3 SAFETY

N3 Priority: Durban to Pietermaritzburg

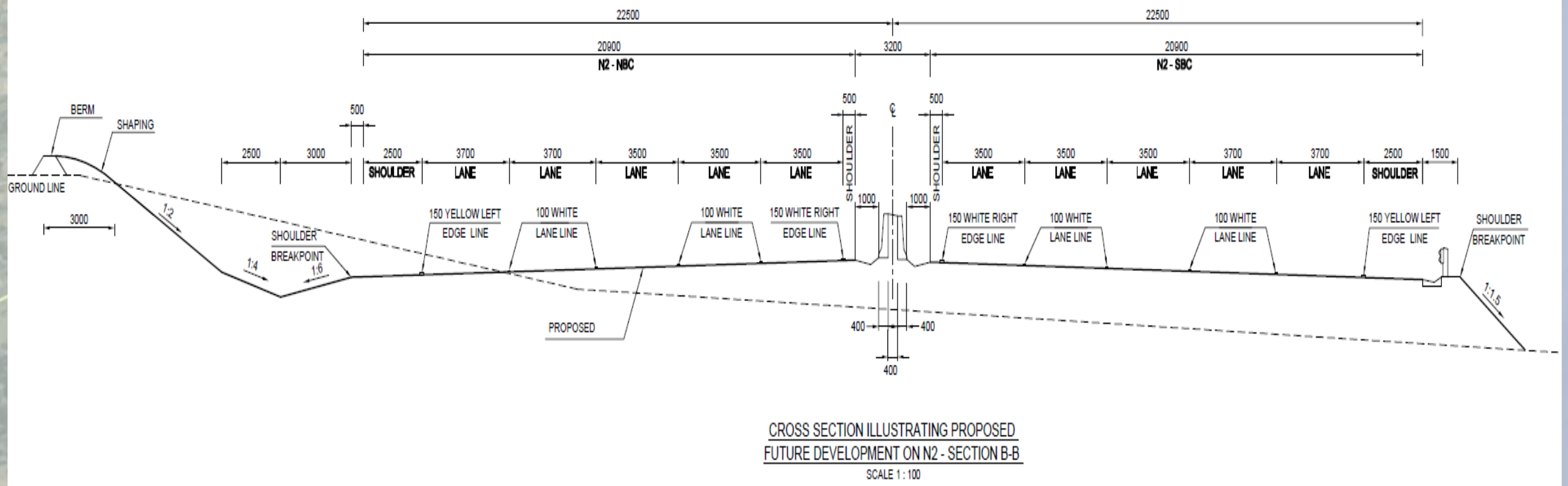
PACKAGE	DESCRIPTION	LENGTH KM	NO. OF NEW BRIDGES/ WIDENINGS	I/Cs TO BE UPGRADED
A	EB Cloete (including portion of N2 North and N3 West)	6.3	10	1
B	Westville Viaduct (Km11.8) to Paradise Valley (Km17.5)	5.7	13	2
C	Paradise Valley (Km17.5)-Marianhill Toll Plaza	7.5	5	3
D	Marianhill Toll Plaza (25) to Key Ridge (2.8)	11.1	9	2
E	Hammarsdale I/C upgrade (Km 9.4)	0	1	1
F	Hammarsdale (9.1) to Cato Ridge (20.1)	11.3	3	-
G	Keyridge (Km2.8) to Hammarsdale (Km 8.1)	5.3	4	-
H	Cato Ridge (Km19.4) to Dardenelles I/C (Km26.6)	7.2	6	2
I	Dardenelles I/C (26.6) to Lynnfield Park (Km 30.6)	4	4	1
J	Lynnfield Park (Km 30.6) to Asburton I/C (Km 1.5)	5.3	4	1
K	Asburton I/C (Km 1.5) to Murray Road (Km6.1)	4.6	2	1
L	Murray Road (Km 6.1) to New England Rd I/C	2.9	9	2
M	New England Rd I/C to Twickenham Road (Km16.4)	7.5	8	4
TOTAL		79.3	78	20

- Estimated to cost approximately R18.5 billion (2018), excluding PMB Ring road
- PMB Ring road estimated to cost between R5 to R7 billion
- High level costs based on Prelim Design only

N3 Upgrade Packages

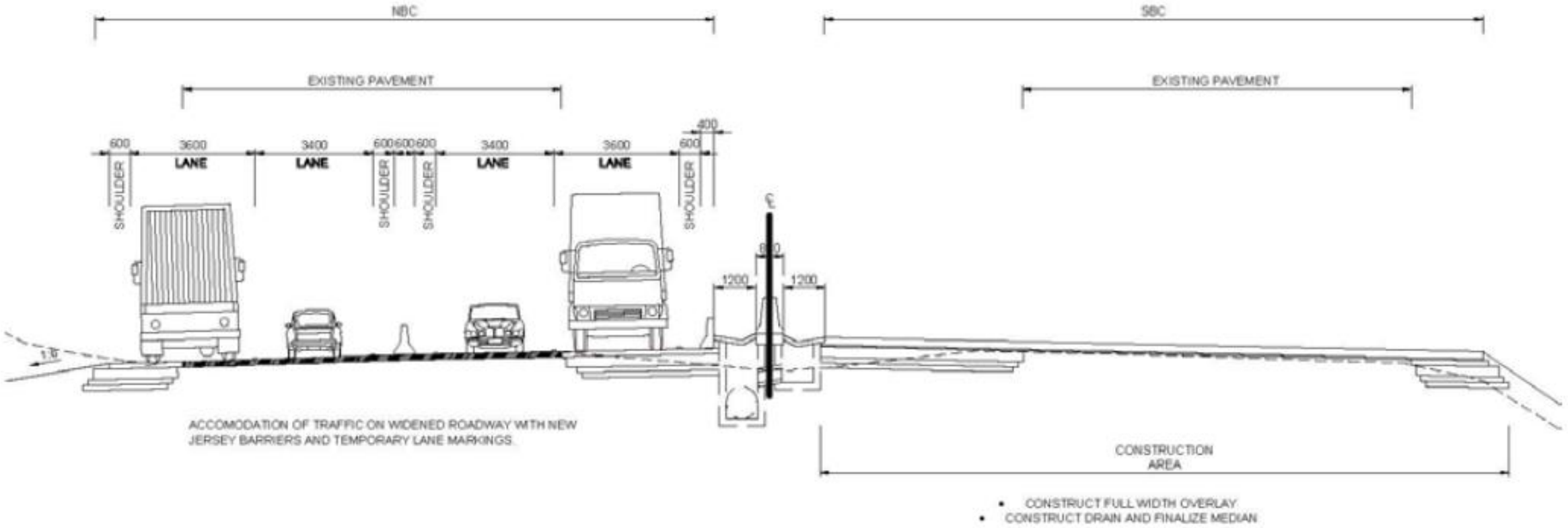


N3 Priority: Typical Upgraded Cross-section

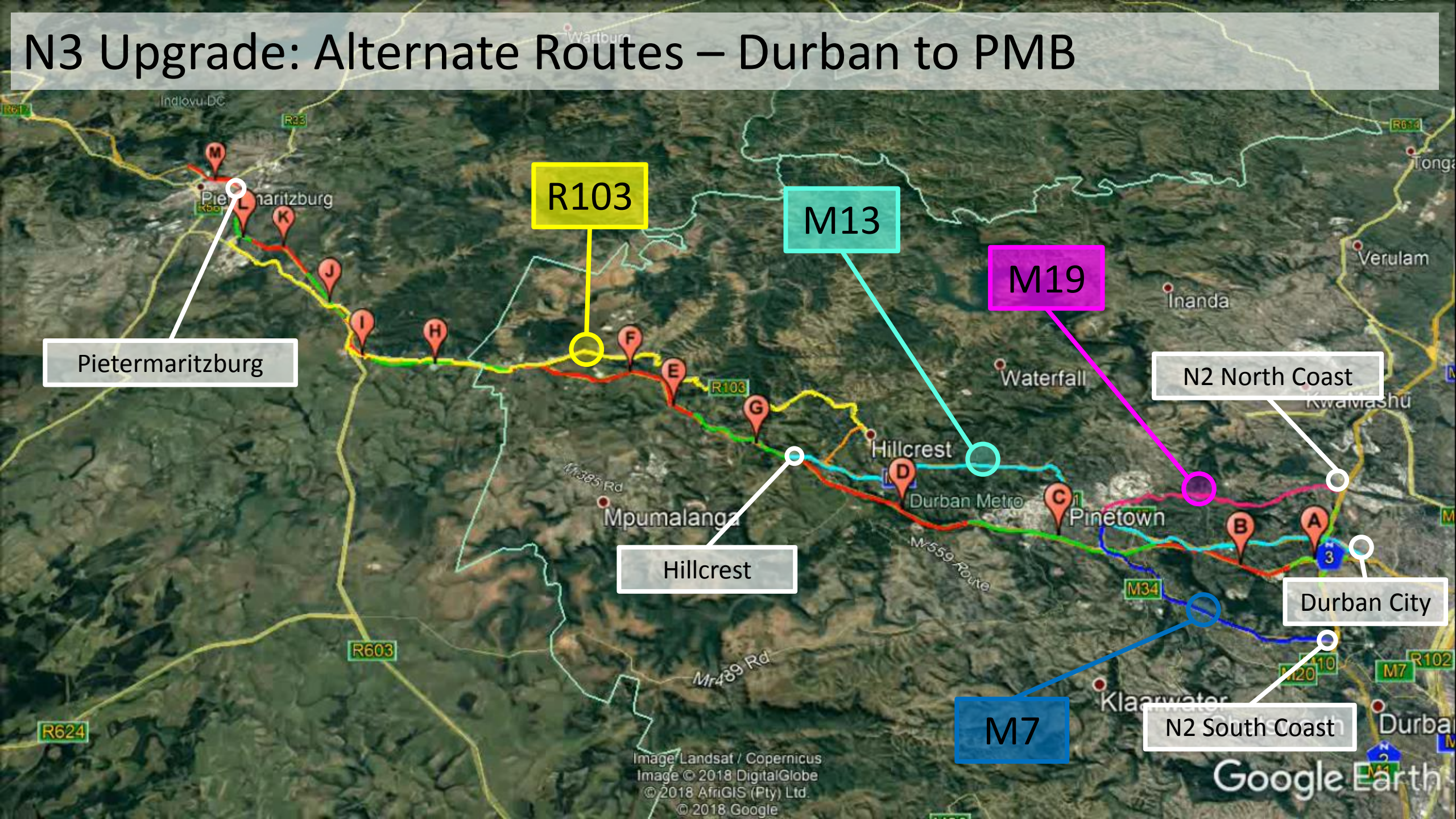


CROSS SECTION ILLUSTRATING PROPOSED
FUTURE DEVELOPMENT ON N2 - SECTION B-B
SCALE 1 : 100

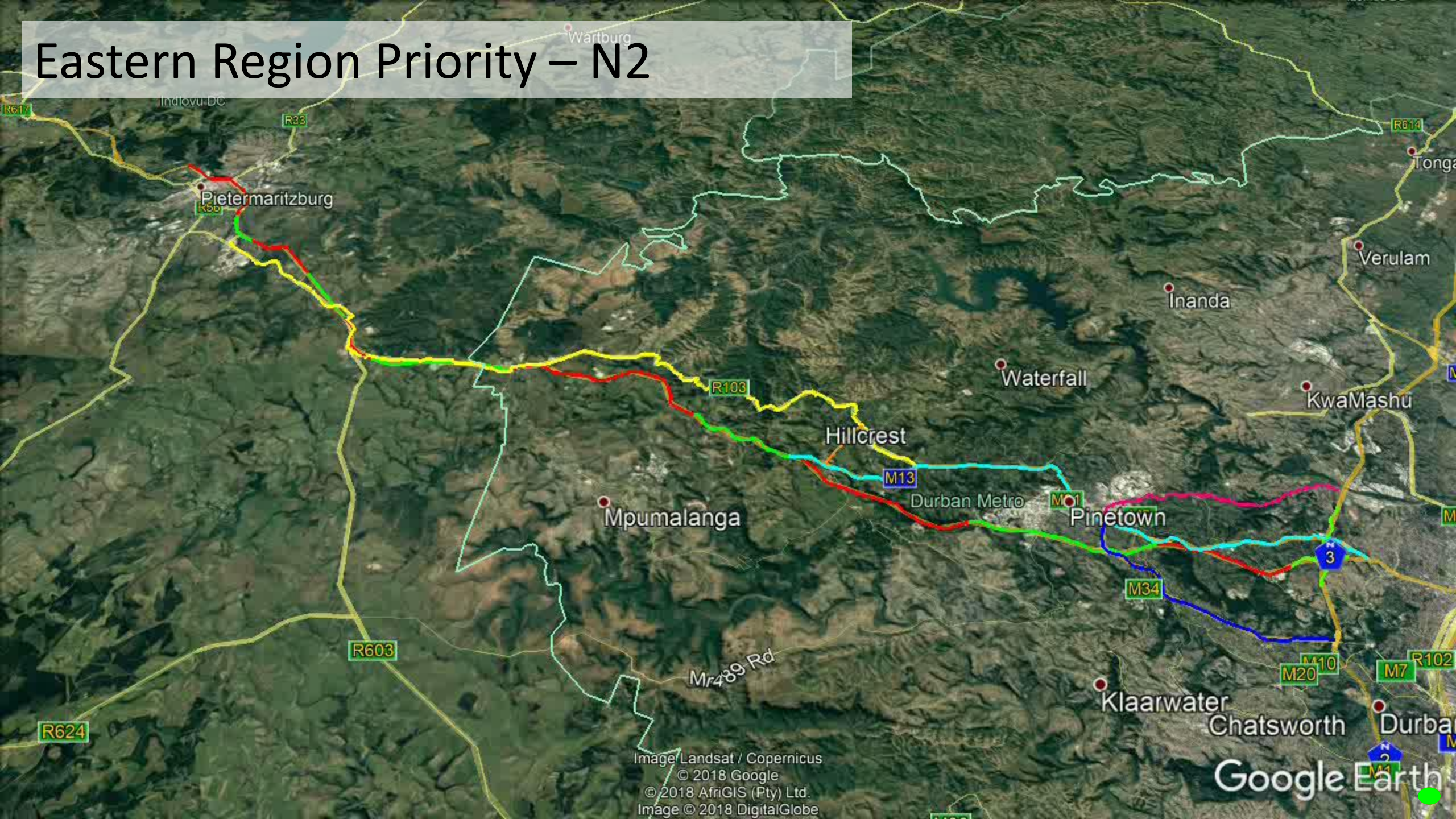
N3 Upgrade Construction: Traffic Accommodation on N3



N3 Upgrade: Alternate Routes – Durban to PMB



Eastern Region Priority – N2



Eastern Region Priority – N2

Botswana
Gaborone
Mpumalanga
Mbabane
Swaziland
KwaZulu-Natal
Maseru
Lesotho
6
2
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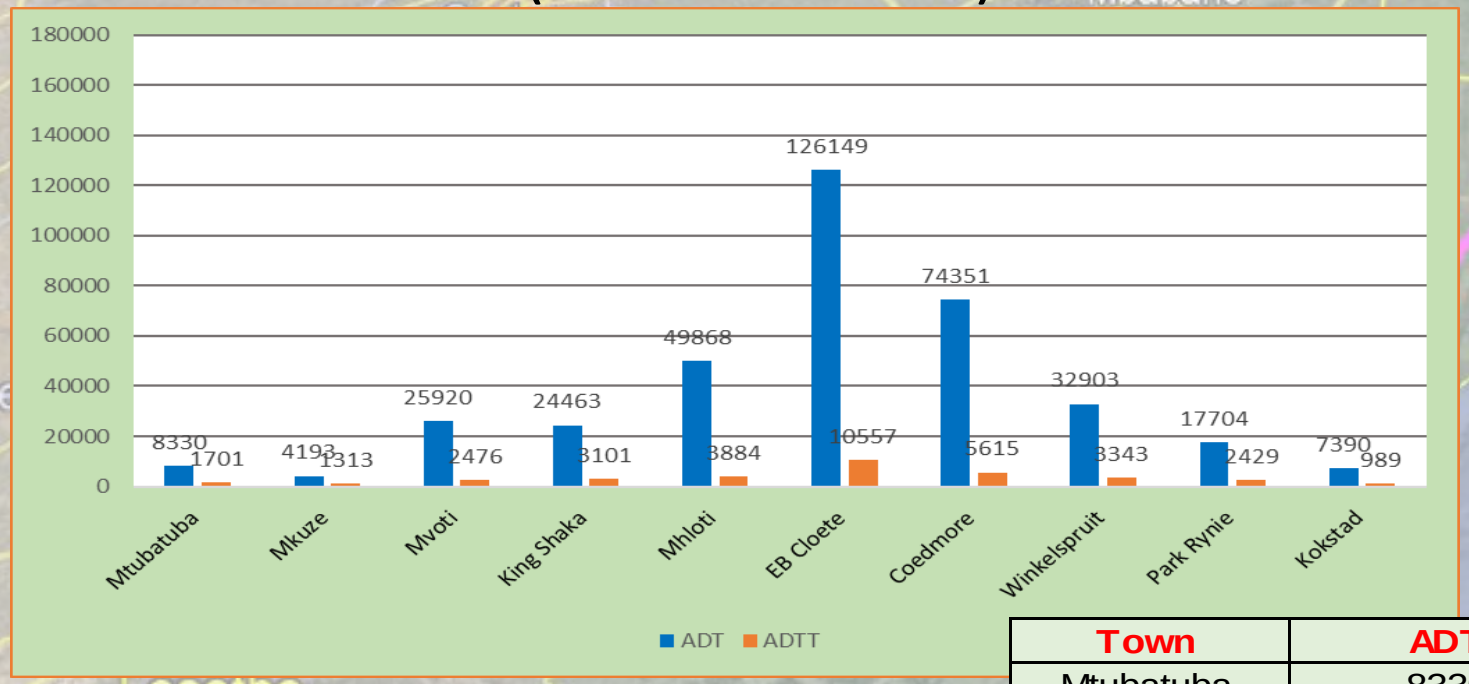
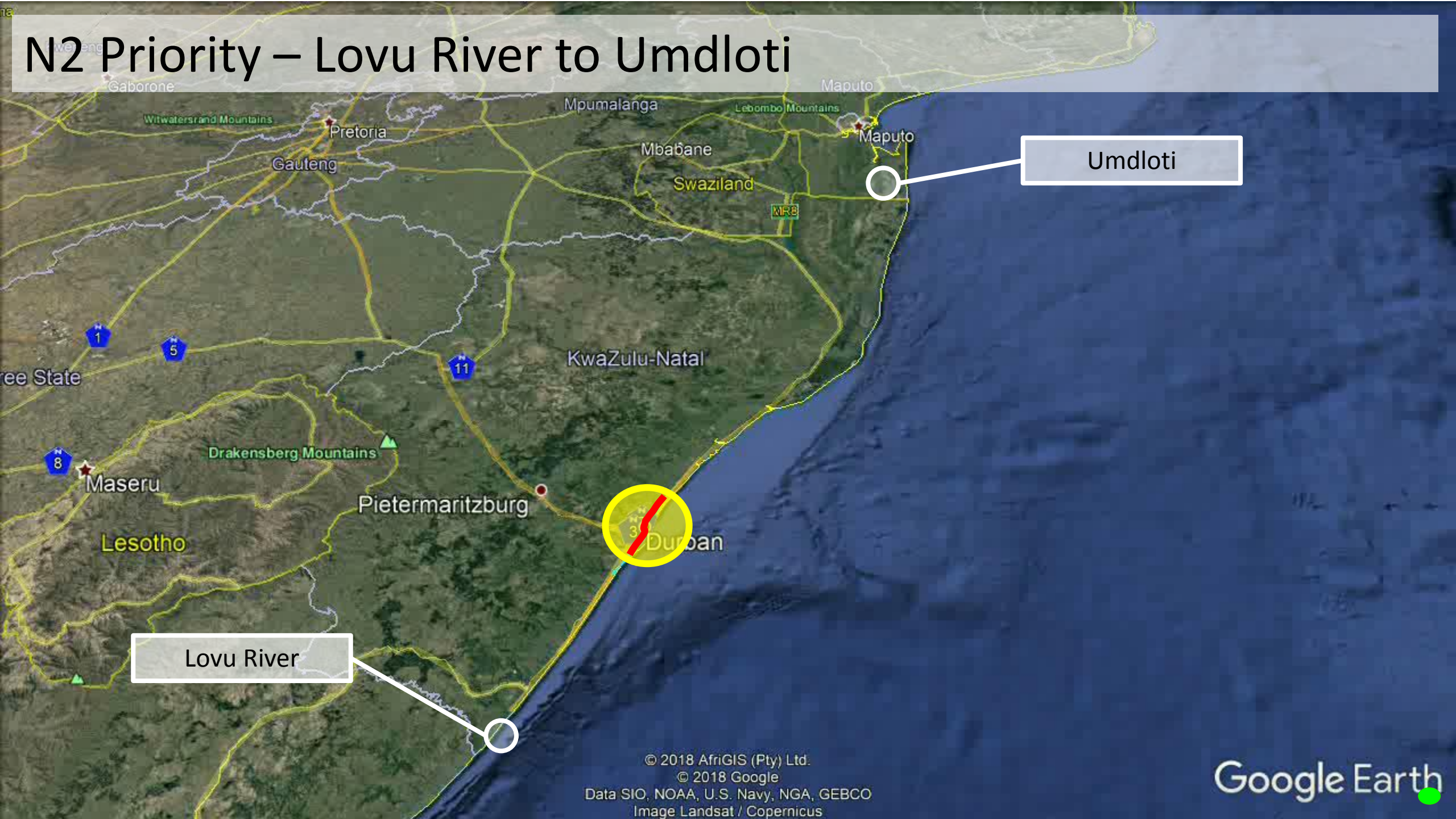
Eastern Region Priority – N2

Traffic Demands (2018 Volumes) on N2:

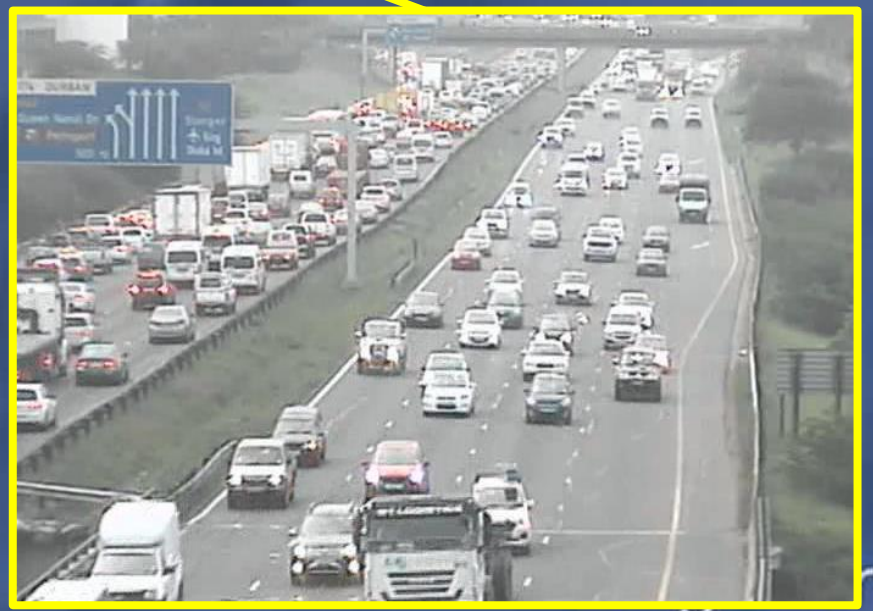


Town	ADT	ADTT	%	%Night
Mtubatuba	8330	1701	20.40	16.10
Mkuze	4193	1313	31.30	14.20
Mvoti	25920	2476	9.60	11.20
King Shaka	24463	3101	12.70	11.00
Mhloti	49868	3884	7.80	11.30
EB Cloete	126149	10557	8.40	10.90
Coedmore	74351	5615	7.60	11.60
Winkelspruit	32903	3343	10.20	11.80
Park Rynie	17704	2429	13.70	12.00
Kokstad	7390	989	13.40	11.30

N2 Priority – Lovu River to Umdloti



STATUS QUO: N2 CONGESTION



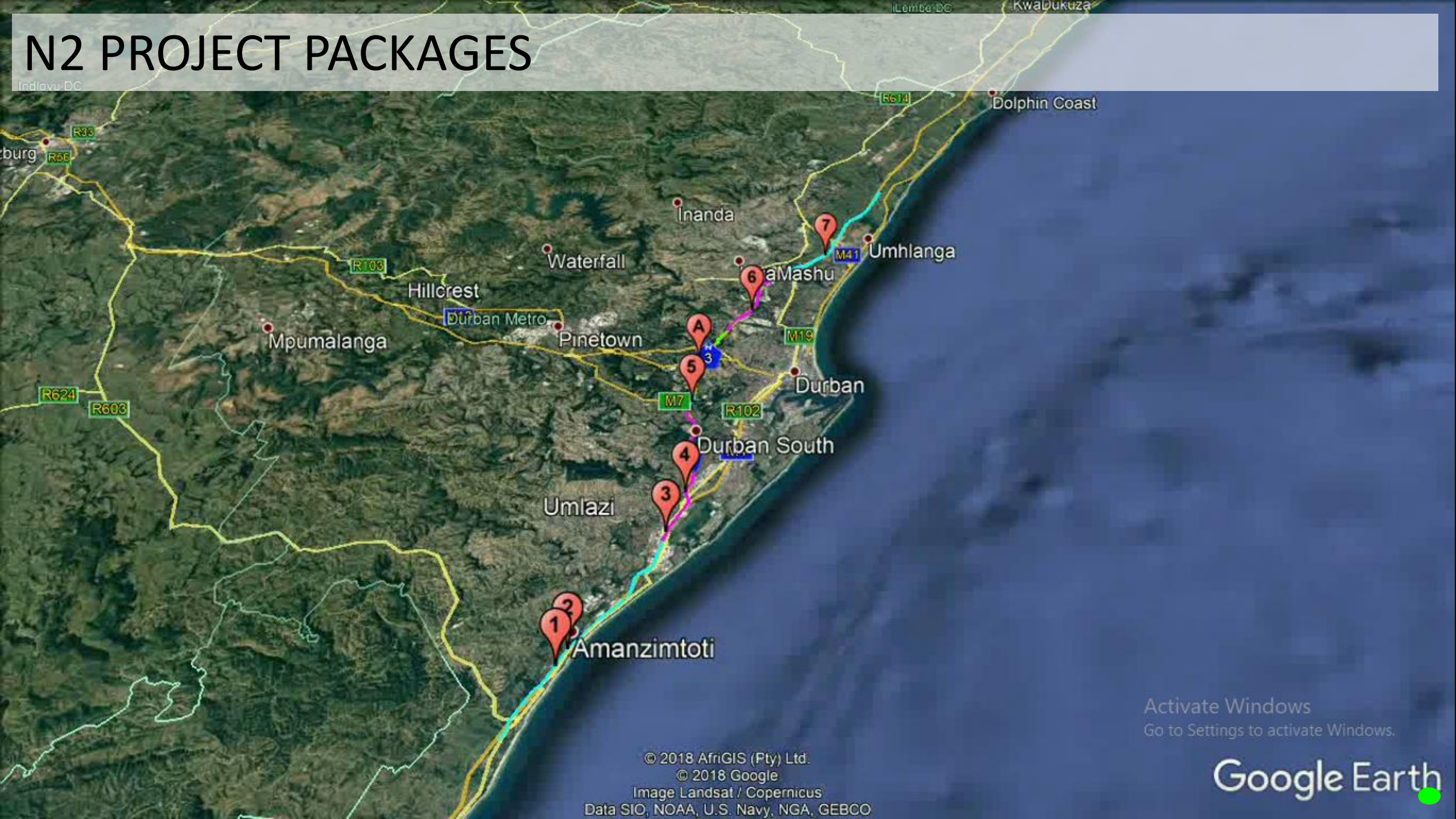
STATUS QUO: N2 SAFETY

Image Landsat / Copernicus

N2 Upgrade Packages

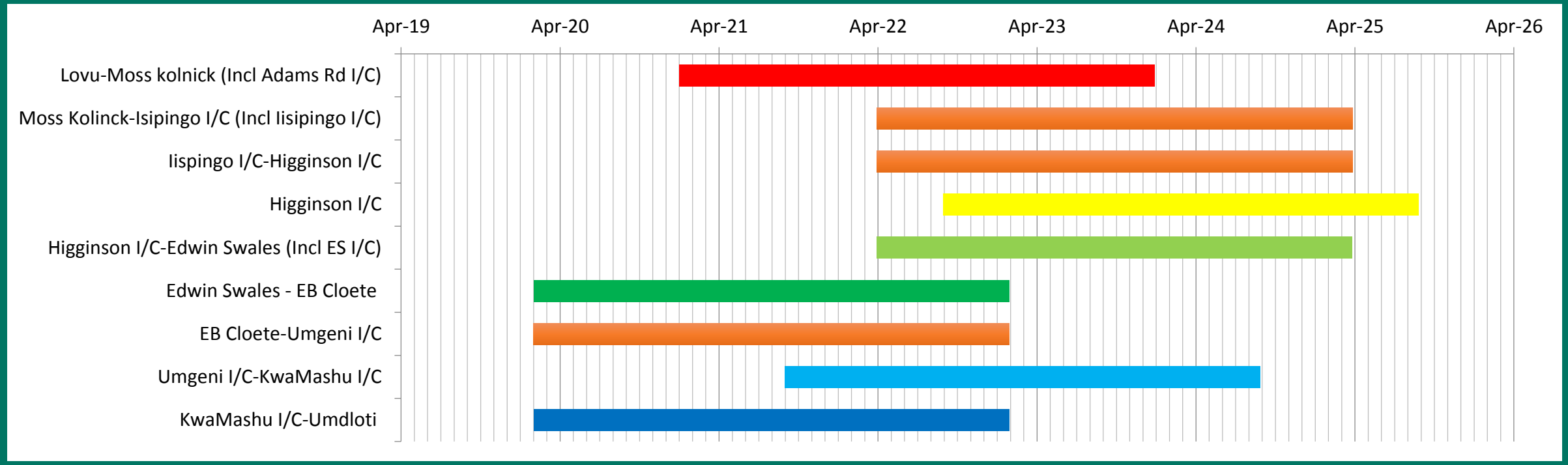
PACKAGE	DESCRIPTION	Scope of Work	Length	Detail Design Status	Land Acquisition
1	DICAL: Lovu and Umlaas Canal	Addition of lanes, Bridge widenings	15,00	10%	Commenced
2	DICIC: Adams Road Interchange	Upgraded Interchange	0,00	40%	Commenced
3	DICIC: Isipingo Interchange	Upgraded Interchange	0,00	90%	Commenced
4	DICAL: Isipingo to Edwin Swales	Addition of lanes, Bridge widenings, Higginson Interchange	12,05	40%	Commenced
5	DICAL: Edwin Swales IC (km 12.3) to south of EB Cloete IC (km 16.0) to Mgeni Interchange	Addition of lanes, Bridge widenings	9,20	90%	Commenced
6	DICAL: Mgeni Interchange to Kwa Mashu Interchange	Addition of lanes, Bridge widenings	9,60	60%	Commenced
7	DICAL: KwaMashu I/C (km -2.0) to Umdloti I/C (km 11.6)	Addition of lanes, Bridge widenings	8,75	Complete	Complete
TOTAL			**54,60**	**55%**	

N2 PROJECT PACKAGES

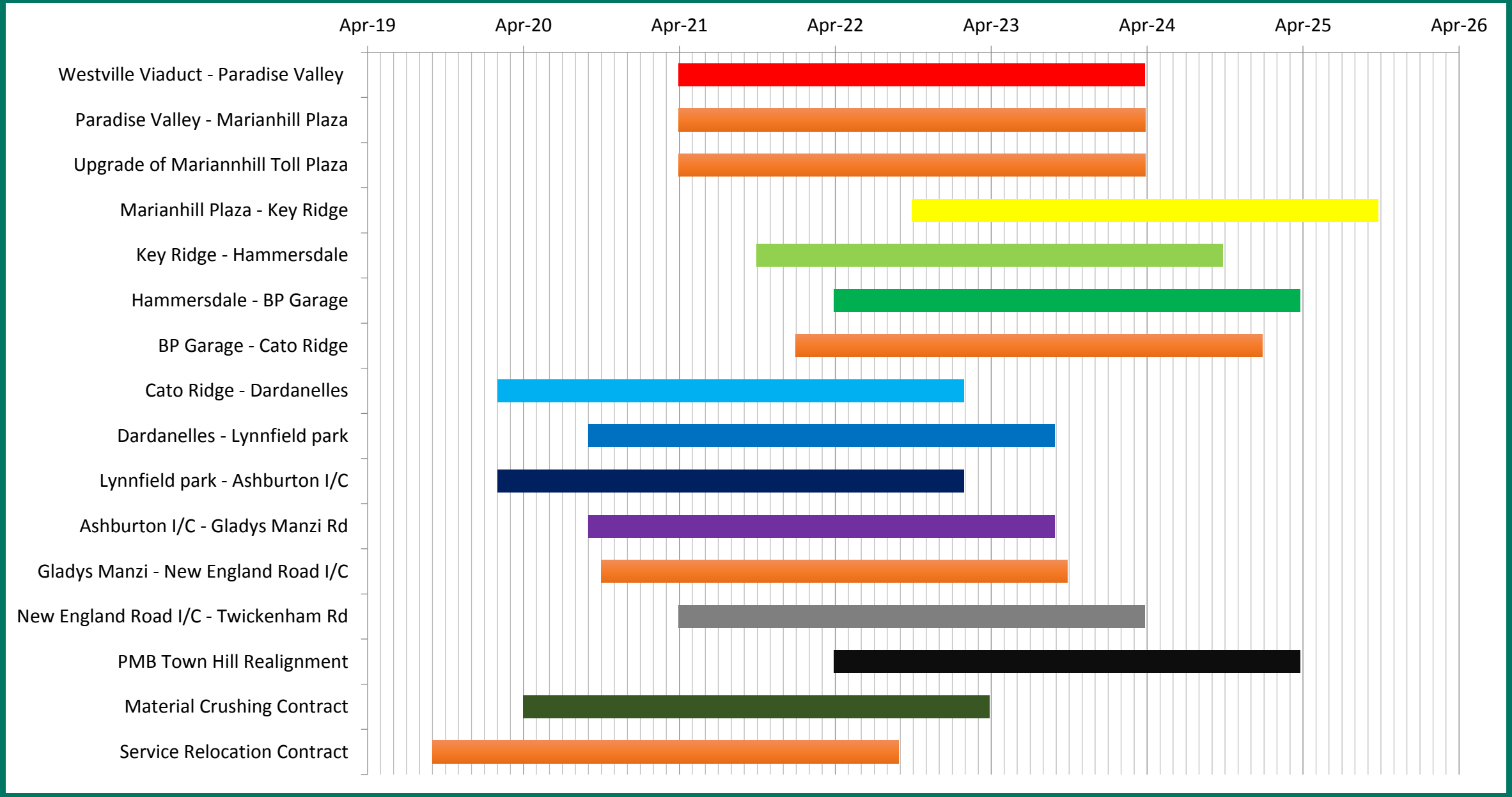


N2 & N3 Upgrades – Budget Planning

N2 Upgrade: Construction Programme Planning



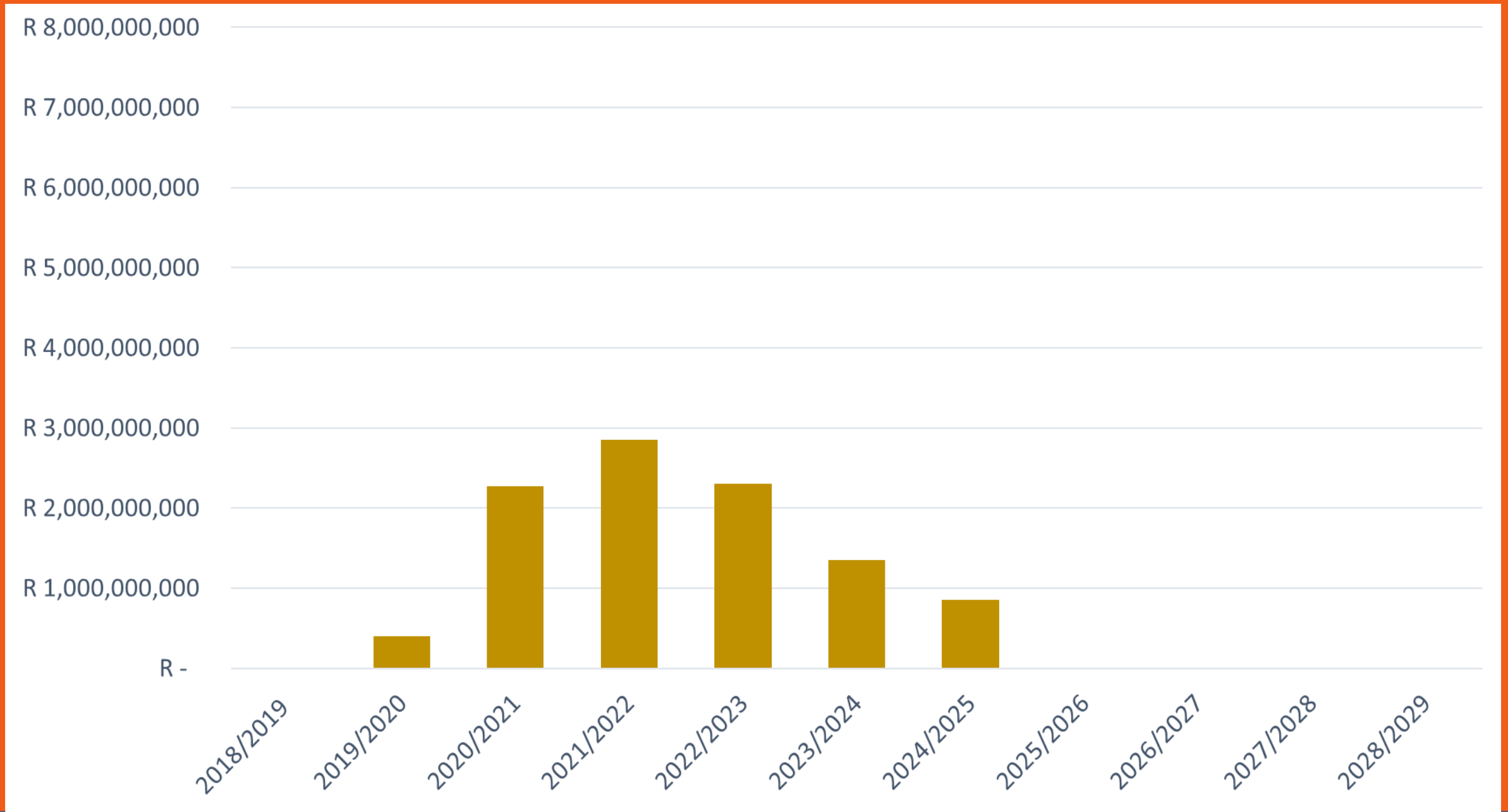
N3 Upgrade: Construction Programme Planning



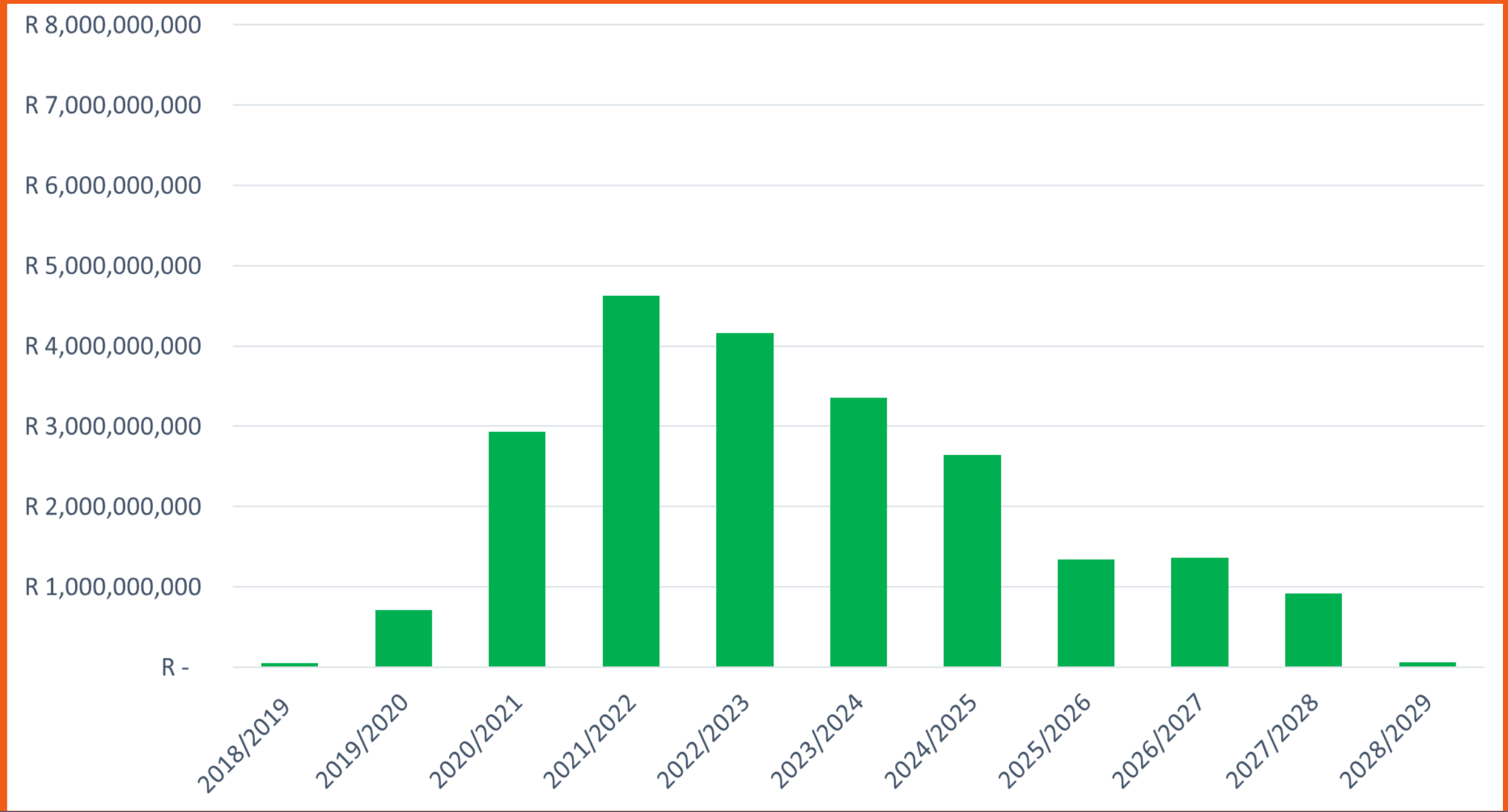
N2 & N3 Upgrades

Budget Planning

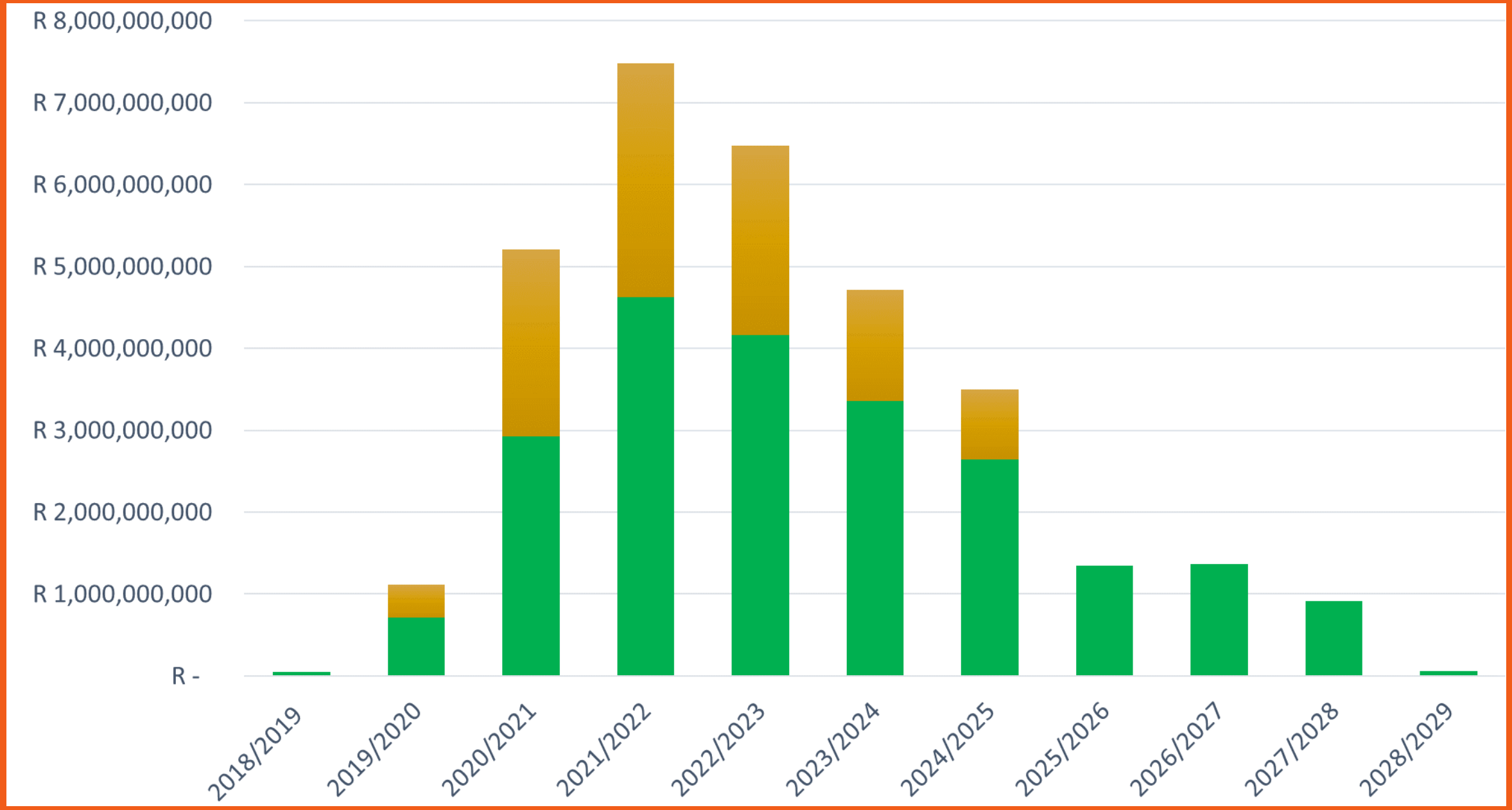
N2 Upgrade: Construction Budget Planning



N3 Upgrade: Construction Budget Planning



N2 & N3 Upgrade: Construction Budget Planning



HIGH LEVEL ESTIMATES (2018)

N3 Package	Construction Estimate (Billions)	No. of Added Lanes (per dual carriageway)	Pavement Type	Length of dual freeway (km)	Area of dual freeway (m^2)	Volume of ASPHALT for ROADS (m^3)	Volume of CONCRETE for ROADS (m^3)	Volume of CONCRETE for STRUCTURES (m^3)	Volume of EARTHWORKS (m^3)	Mass of STEEL (tons)
A	R2.00	2 to 3	Asphalt & Concrete	7.4	394,000	6,000	43,000	33,450	250,000	4,700
B	R1.60	2 to 3	Asphalt	6.5	551,000	83,000	0	43,900	270,000	7,800
C	R1.50	2 to 3	Asphalt	8.5	362,000	55,000	0	12,000	250,000	1,600
D	R1.80	2	Asphalt	9.9	456,000	69,000	0	71,100	680,000	7,450
E	R0.26	0	Asphalt	6.1 (ramps)	58,500 (ramps)	3,000	1,250	92,900	538,300	1,100
F	R1.80	2 to 3	Concrete	11.4	360,000	0	71,500	32,800	230,000	3,000
G	R1.60	2	Asphalt & Concrete	5.3	224,000	8,500	18,200	48,700	900,000	9,800
H	R1.40	2	Asphalt	7.2	275,000	41,500	0	15,500	420,000	2,500
I	R0.95	2 to 3	Asphalt	4.0	150,000	12,700	0	2,000	650,000	5,800
J	R1.04	2 to 3	Concrete	4.6	185,000	0	48,250	13,000	158,000	4,900
K	R1.40	2 to 3	Concrete	5.2	225,000	0	58,500	600	500,000	4,000
L	R1.40	2 to 3	Concrete	3.0	126,600	0	25,500	31,200	810,000	4,200
M	R1.80	1 (plus 2 to 3)	Concrete	8.0	225,000	0	30,000	25,000	750,000	3,200
Total	R18.5		-	81	3,533,600	278,700	296,200	422,150	6,406,300	60,050

N3 UPGRADE CONSTRUCTION ESTIMATE		R18.5 Billion
N3 UPGRADE QUANTITIES		UNIT
ROADS		
Asphalt (Volume)	278,700	m^3
Concrete (Volume)	296,200	m^3
STRUCTURES		
Concrete (Volume)	422,150	m^3
Steel (Mass)	60,050	tons
EARTHWORKS		
Cut & Fill (Volume)	6,406,300	m^3

THANK YOU