




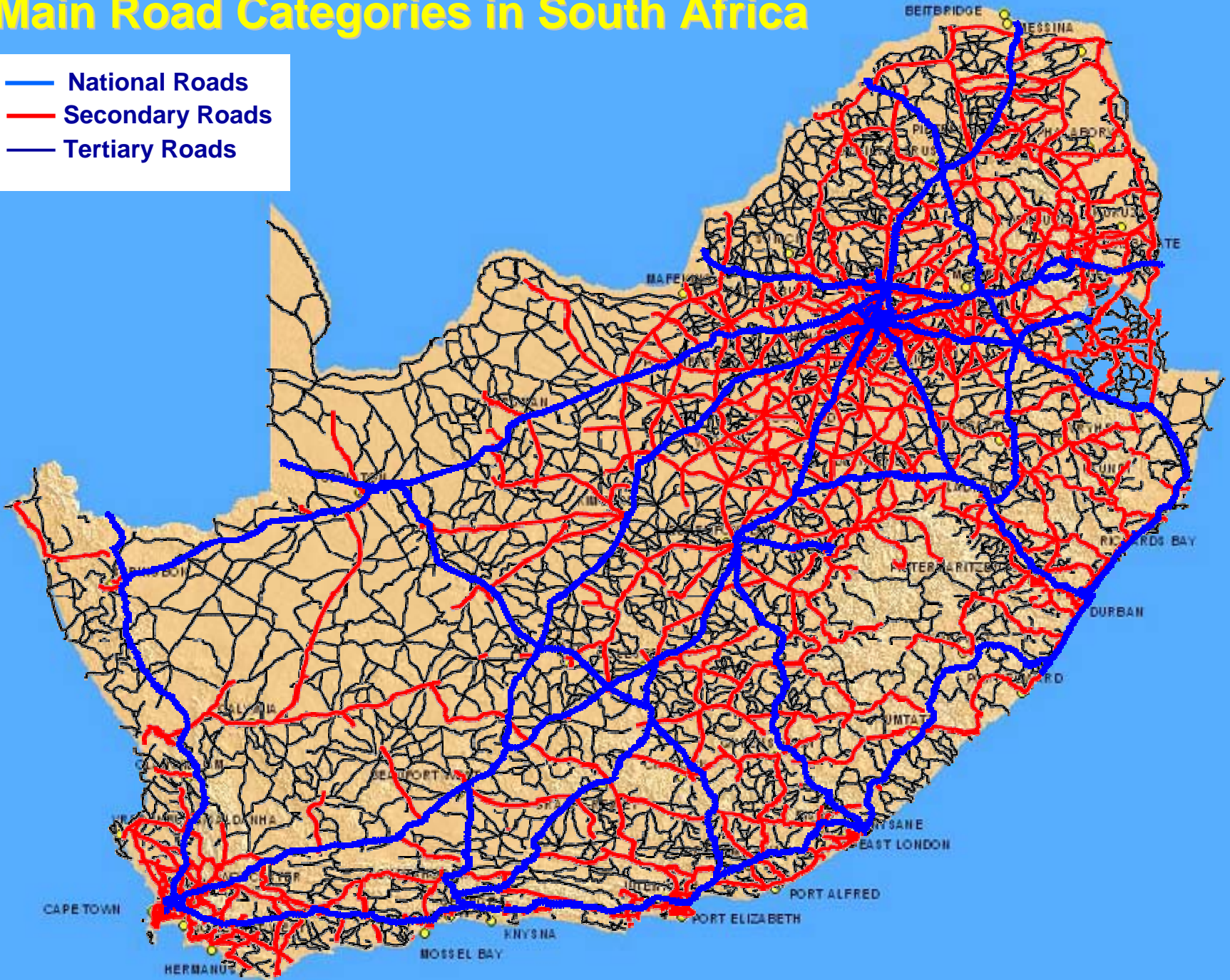


RSA ROAD CONDITION

L Kannemeyer

Main Road Categories in South Africa

-  National Roads
-  Secondary Roads
-  Tertiary Roads



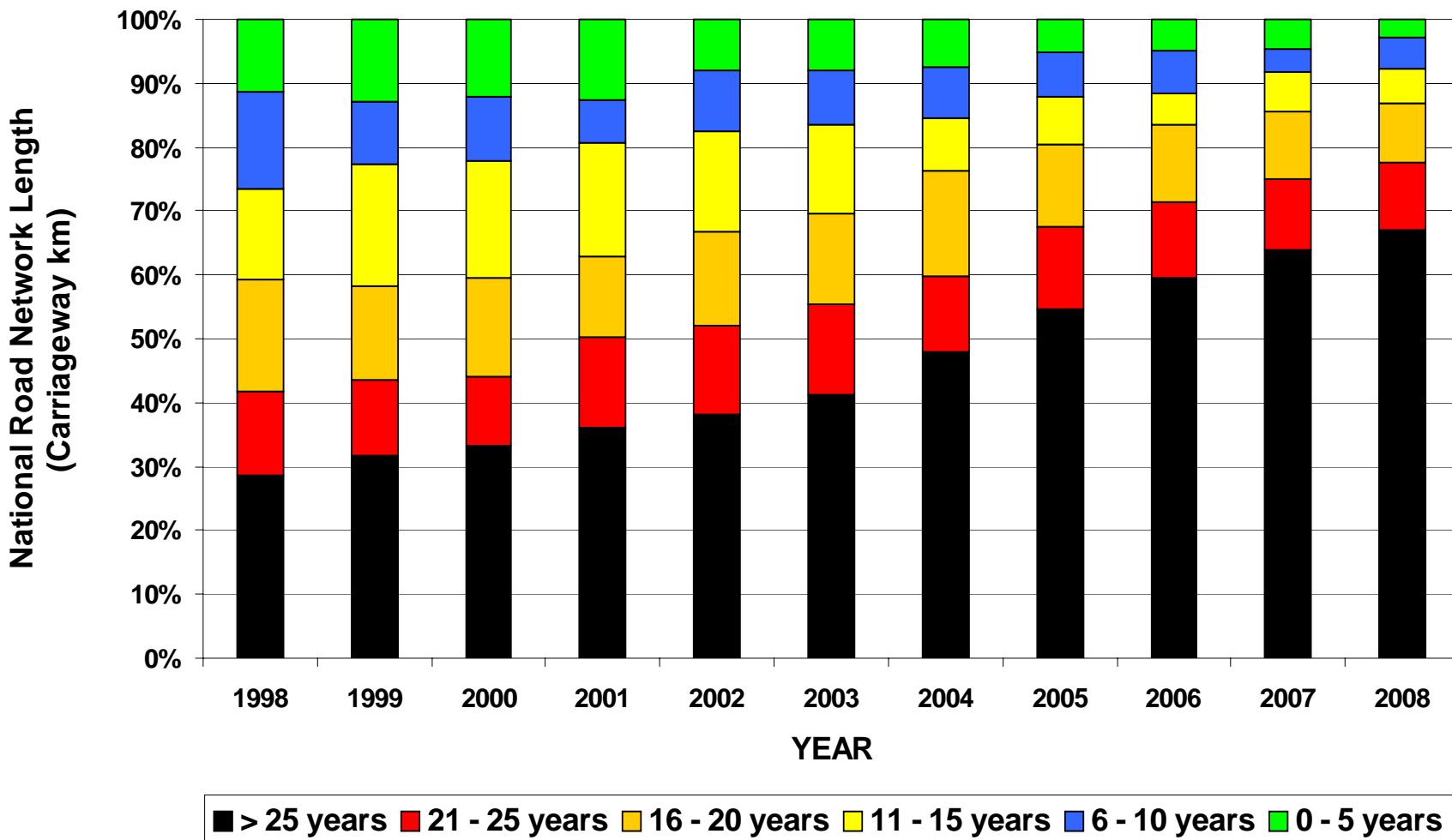
South African Road Network

Authority	Paved	Gravel	Total
SANRAL	16,170	0	16,170
Provinces - 9	48,176	136,640	184,816
Metros - 9	51,682	14,461	66,143
Municipalities	37,691	302,158	339,849
Total	153,719	453,259	606,978
Un-Proclaimed (Estimate)		140,000	140,000
Estimated Total	153,719	593,259	746,978

Un-Proclaimed Roads = Public roads not formally maintained by any Authority

SANRAL Road Network - Age Trend

Pavement Age Trend



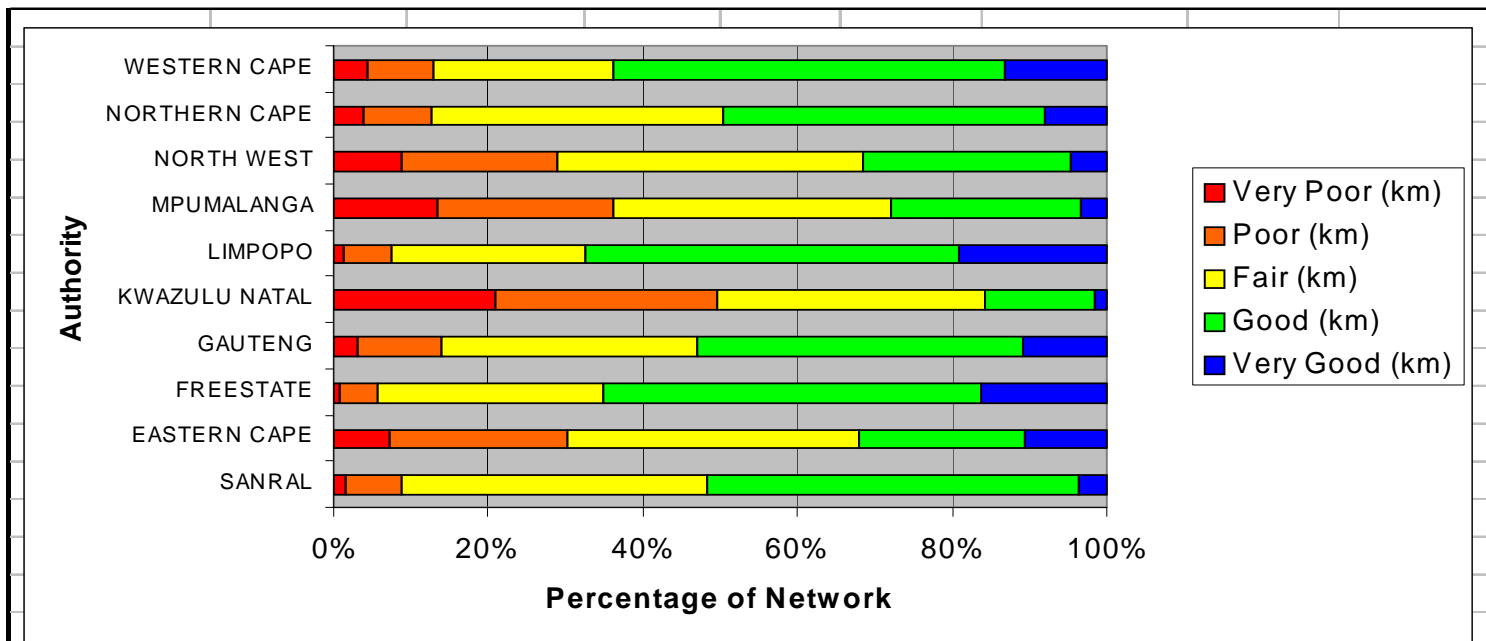
Please Note: 78% of Network Older than Original 20 Year Design Life

Road Network With Condition Data Available

Authority	Paved		Gravel		Total		
	Length	Data	Length	Data	Length	Data	% Data
SANRAL	16,170	16,170	0	0	16,170	16,170	100
Provinces - 9	48,176	47,088	136,640	103,733	184,816	150,820	82
Metros - 9	51,682	40,737	14,461	1,789	66,143	42,527	64
Municipalities	37,691	10,866	302,158	2,124	339,849	12,990	4
Total	153,719	114,861	453,259	107,646	606,978	222,507	
% Data	75		24		37		

If the extent and condition of your network is not known, how do you make sound road investment decisions.

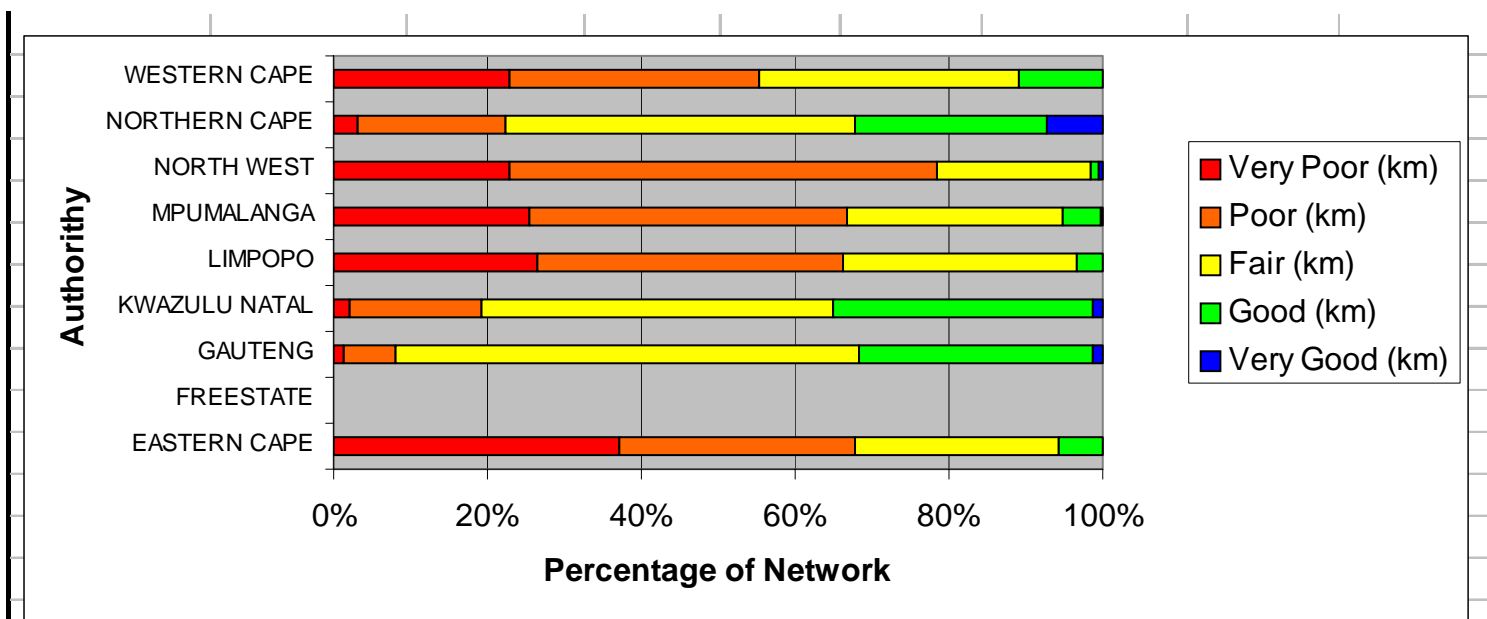
Paved – Provincial + SANRAL



Visual Condition Index Paved Roads - SANRAL + Provinces

Authority	Total Network Paved ¹	Visual Condition Data (km) ²					Total km with Data	% Network With Data
		Very Poor (km)	Poor (km)	Fair (km)	Good (km)	Very Good (km)		
SANRAL	16,170	233	1,199	6,391	7,750	597	16,170	100
EASTERN CAPE	5,878	372	1,197	1,957	1,113	551	5,190	88
FREESTATE	6,313	52	309	1,847	3,071	1,029	6,308	100
GAUTENG	3,449	109	368	1,118	1,431	373	3,398	99
KWAZULU NATAL	6,749	1,406	1,948	2,335	965	96	6,750	100
LIMPOPO	6,639	90	399	1,628	3,116	1,247	6,481	98
MPUMALANGA	4,952	664	1,129	1,781	1,221	161	4,956	100
NORTH WEST	5,551	481	1,111	2,176	1,477	261	5,505	99
NORTHERN CAPE	2,539	97	227	955	1,057	202	2,539	100
WESTERN CAPE	6,106	262	512	1,383	3,019	785	5,961	98
Totals km	64,346	3,766	8,399	21,570	24,220	5,303	63,258	
Totals %		5.95	13.28	34.10	38.29	8.38	100	

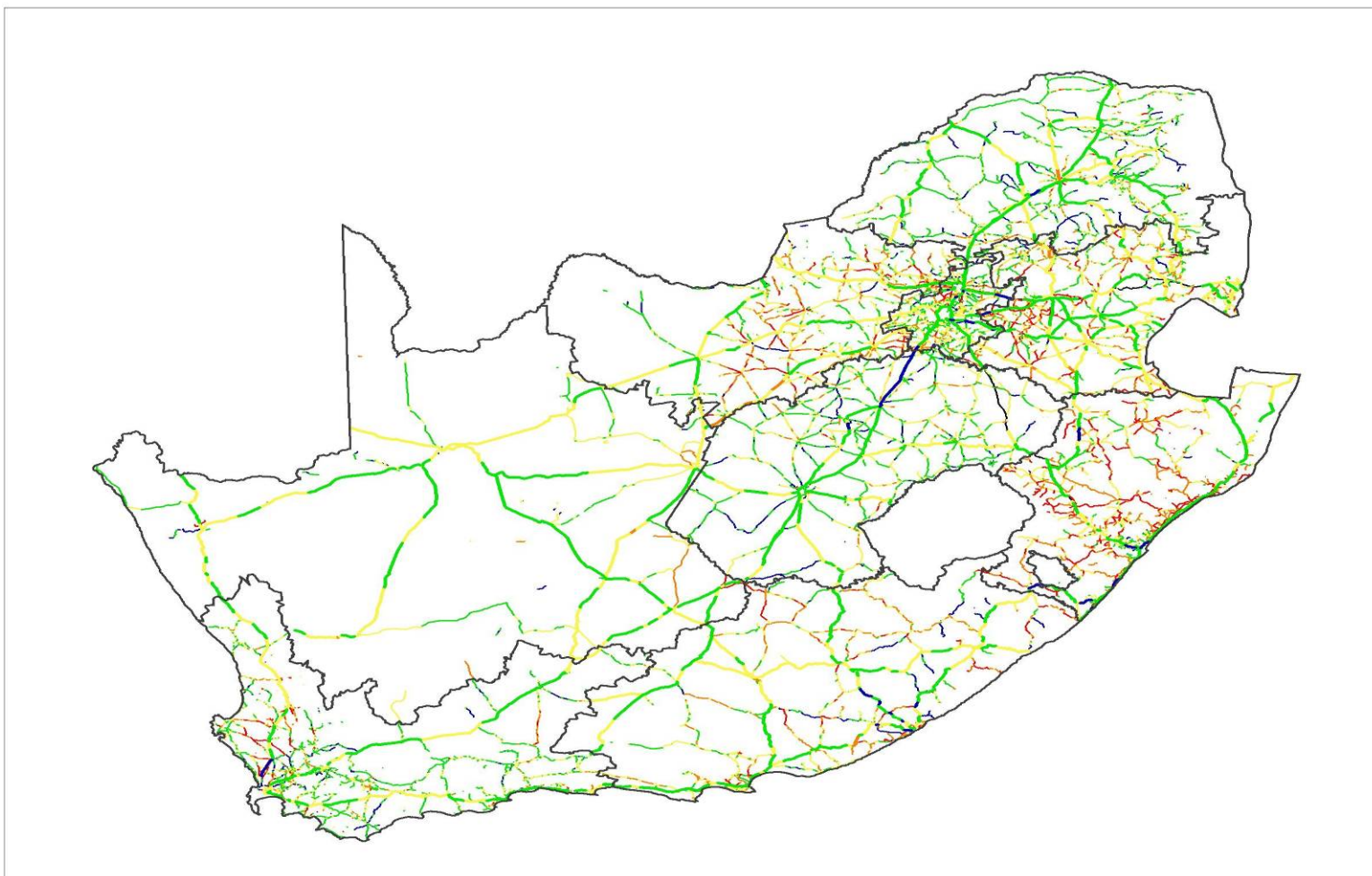
Gravel – Provincial



Visual Condition Index Gravel Roads - Provinces

Authority	Total Network Gravel ¹	Visual Condition Data (km) ²					Total km with Data	% Network With Data
		Very Poor (km)	Poor (km)	Fair (km)	Good (km)	Very Good (km)		
EASTERN CAPE	26,340	6,449	5,328	4,607	983	12	17,379	65.98
FREESTATE	21,325						0	0.00
GAUTENG	1,895	16	82	749	375	16	1,238	65.34
KWAZULU NATAL	14,437	270	2,356	6,225	4,634	172	13,657	94.59
LIMPOPO	15,396	3,927	5,879	4,524	469	12	14,810	96.19
MPUMALANGA	8,887	2,205	3,552	2,422	425	28	8,632	97.13
NORTH WEST	14,961	3,422	8,283	2,993	148	85	14,930	99.80
NORTHERN CAPE	23,205	716	4,414	10,396	5,722	1,648	22,896	98.67
WESTERN CAPE	10,194	2,322	3,326	3,428	1,108	8	10,191	99.97
Totals km	136,640	19,327	33,219	35,344	13,863	1,981	103,733	
Totals %		18.63	32.02	34.07	13.36	1.91	100	

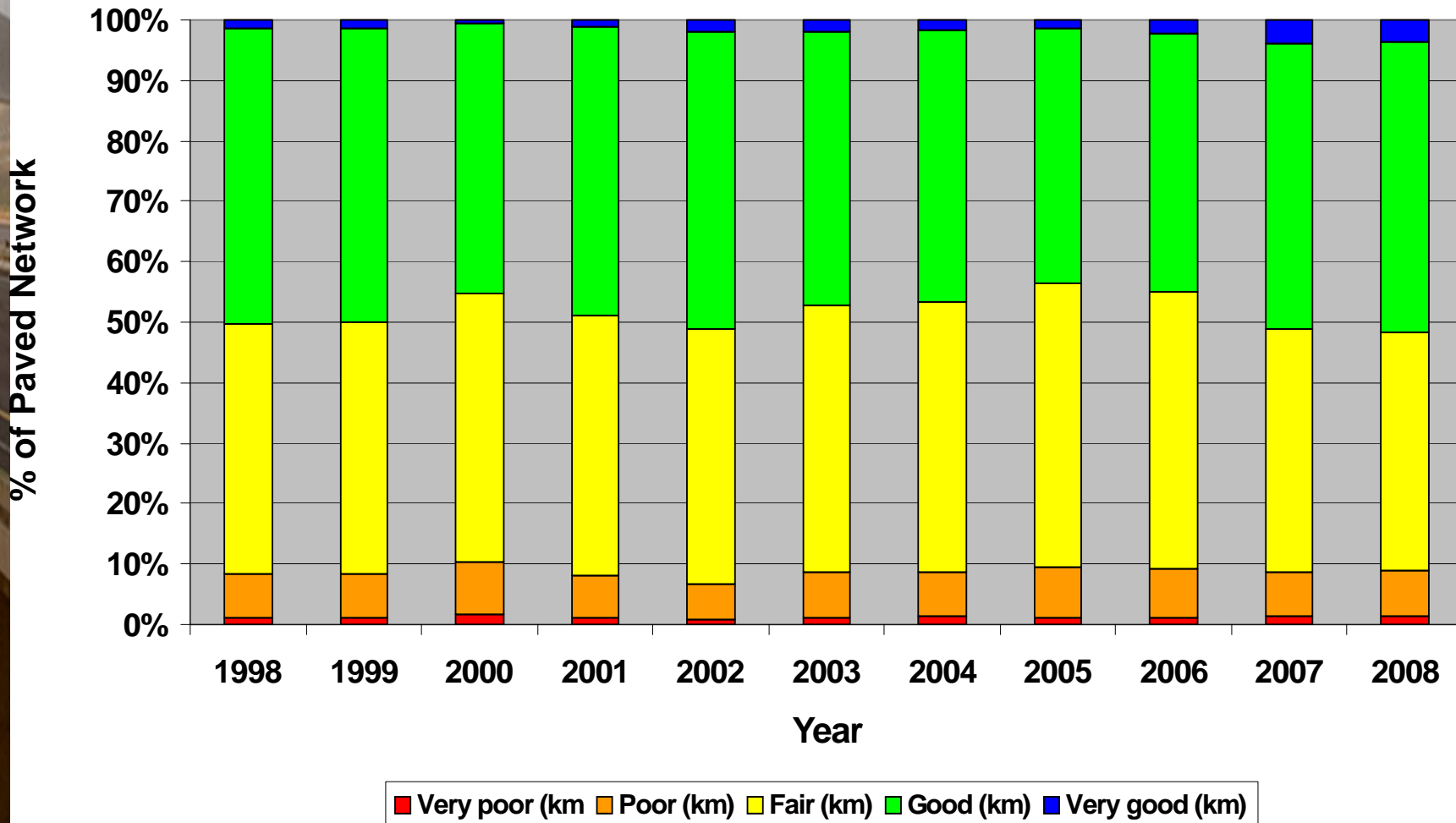
Paved – Provincial + SANRAL



Type	Year	V-Good	Good	Fair	Poor	V-Poor
Length	2004-08	5,303	24,220	21,570	8,399	3,766
%	2004-08	8.38%	38.29%	34.10%	13.28%	5.95%

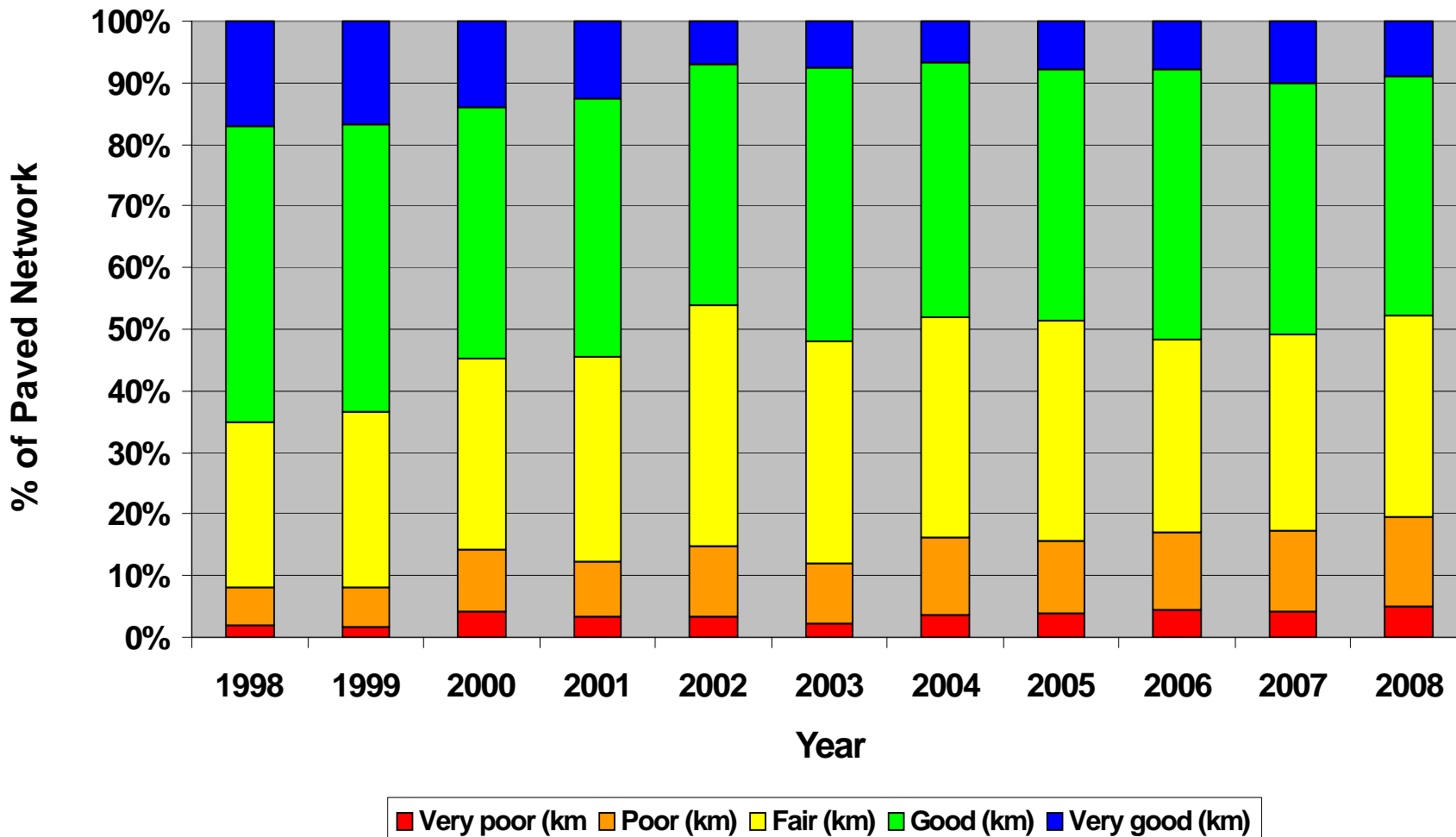
Paved Road Deterioration - SANRAL

Paved Road Deterioration
(SANRAL)

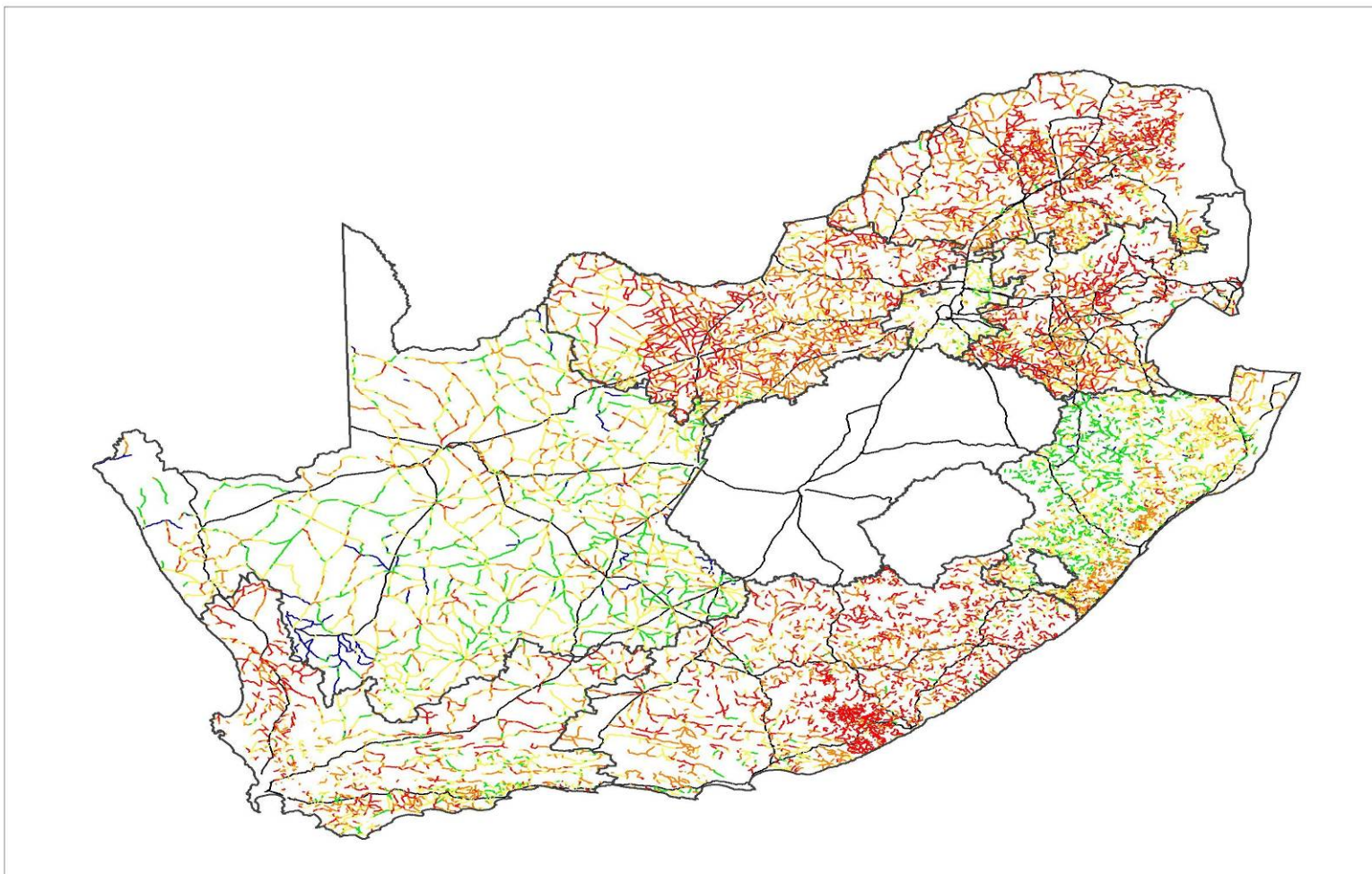


Paved Road Deterioration - Provincial

Paved Road Deterioration
(Gauteng, Northern Cape, North West, Western Cape)



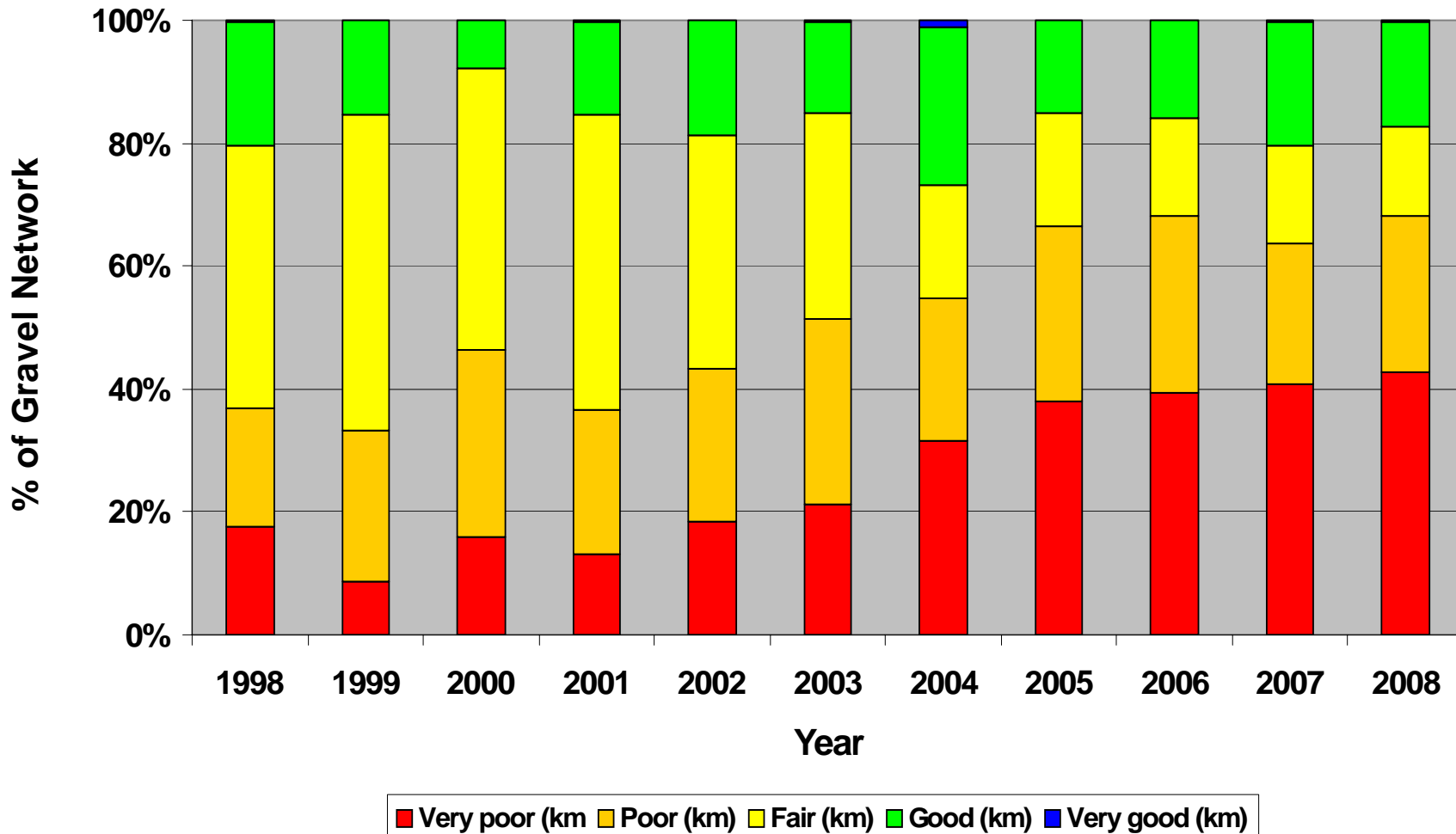
Gravel – Provincial



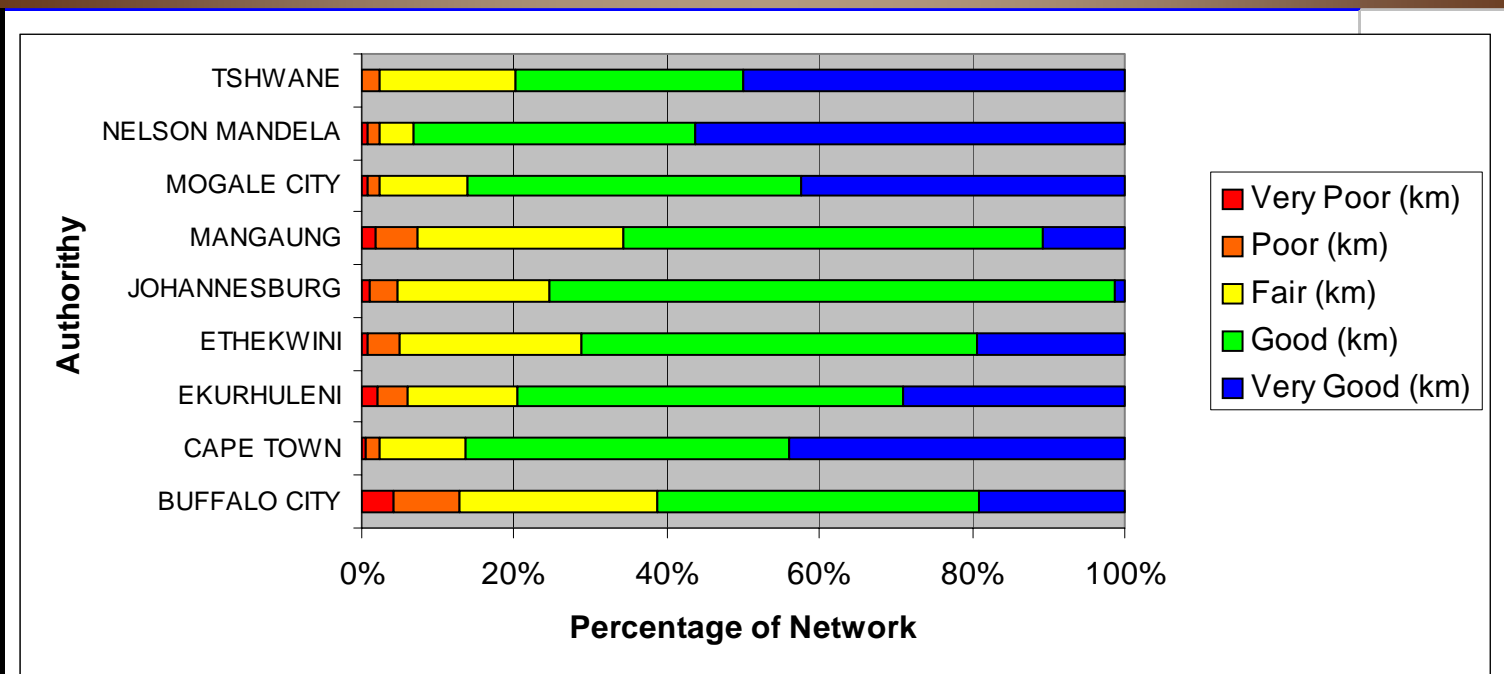
Type	Year	V-Good	Good	Fair	Poor	V-Poor
Length	2004-08	1,981	13,863	35,344	33,219	19,327
%	2004-08	1.91%	13.36%	34.07%	32.02%	18.63%

Gravel Road Deterioration - Provincial

Gravel Road Deterioration
(Gauteng, North West, Western Cape)



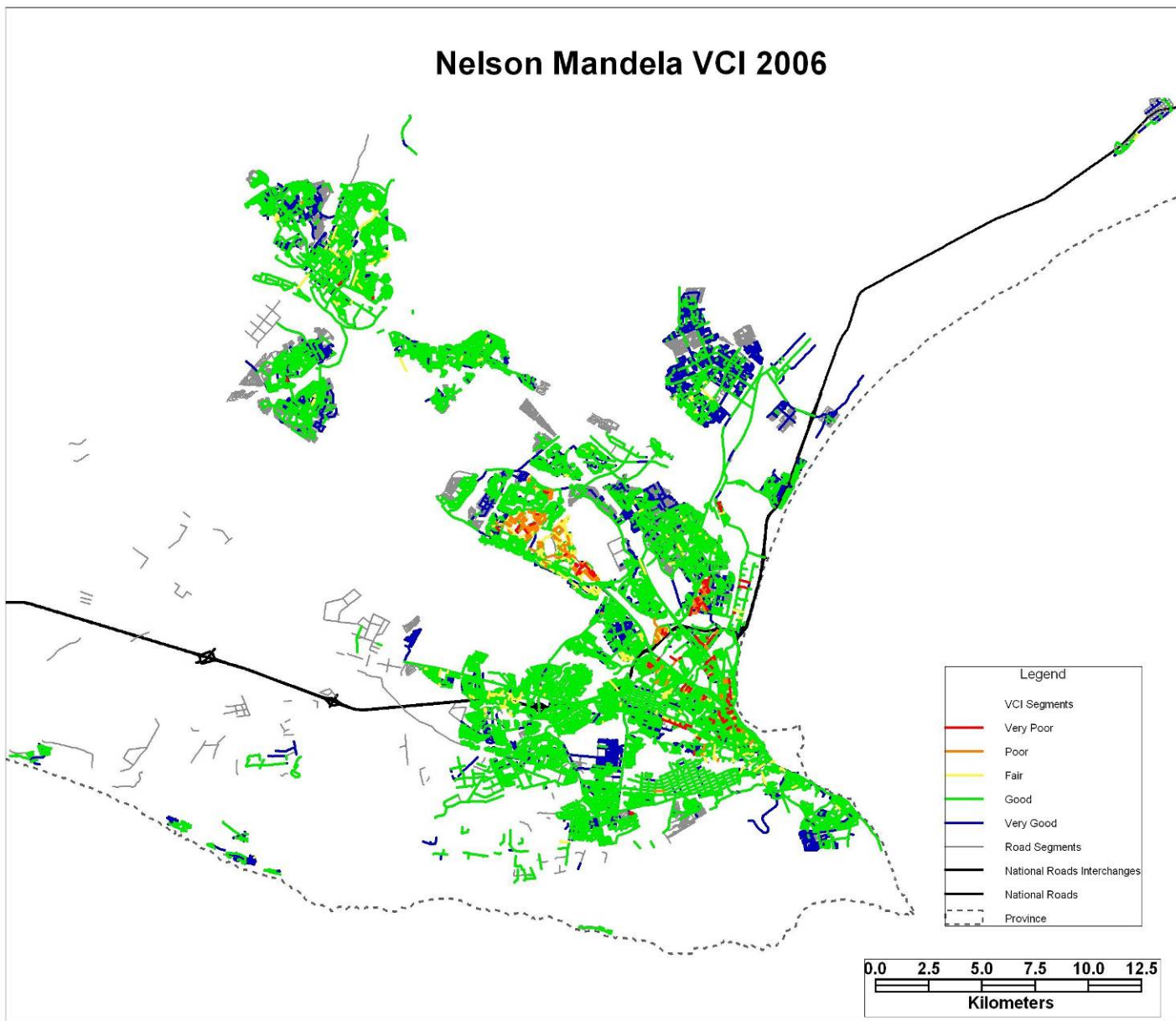
Paved - Metros



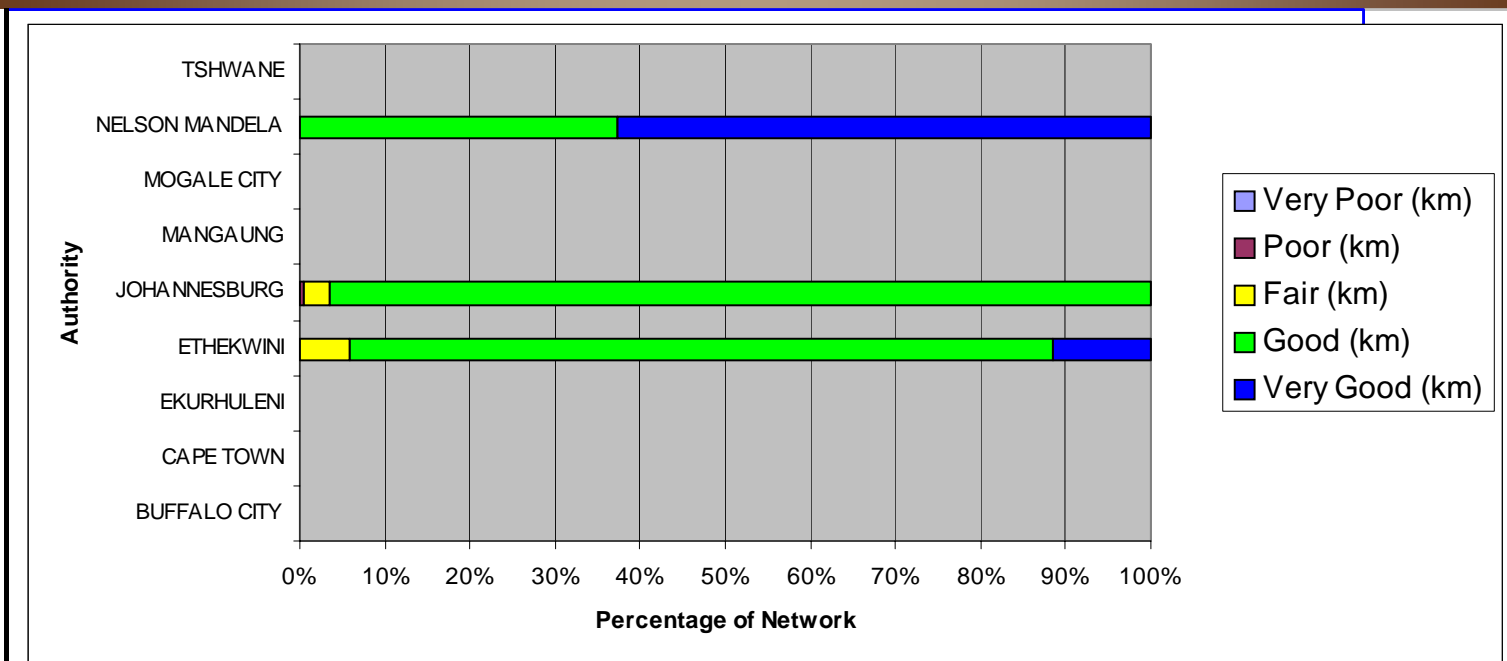
Visual Condition Index Paved Roads - Metros

Authority	Total Network Paved ¹	Visual Condition Data (km) ²					Total km with Data	% Network With Data
		Very Poor (km)	Poor (km)	Fair (km)	Good (km)	Very Good (km)		
BUFFALO CITY	2,377	45	95	284	461	209	1,096	46.08
CAPE TOWN	9,564	55	159	1,069	4,010	4,143	9,436	98.67
EKURHULENI	7,132	148	246	962	3,393	1,933	6,682	93.68
ETHEKWINI	5,477	49	227	1,299	2,836	1,066	5,477	100.00
JOHANNESBURG	9,140	79	279	1,560	5,746	103	7,768	84.99
MANGAUNG	4,883	20	66	313	637	126	1,161	23.78
MOGALE CITY	4,571	7	12	95	359	349	822	17.99
NELSON MANDELA	2,917	18	45	121	992	1,509	2,685	92.05
TSHWANE	5,621	0	126	1,004	1,669	2,812	5,611	99.82
Totals km	51,682	421	1,256	6,707	20,104	12,250	40,737	
Totals %		1.03	3.08	16.46	49.35	30.07	100	

Typical Metro Data



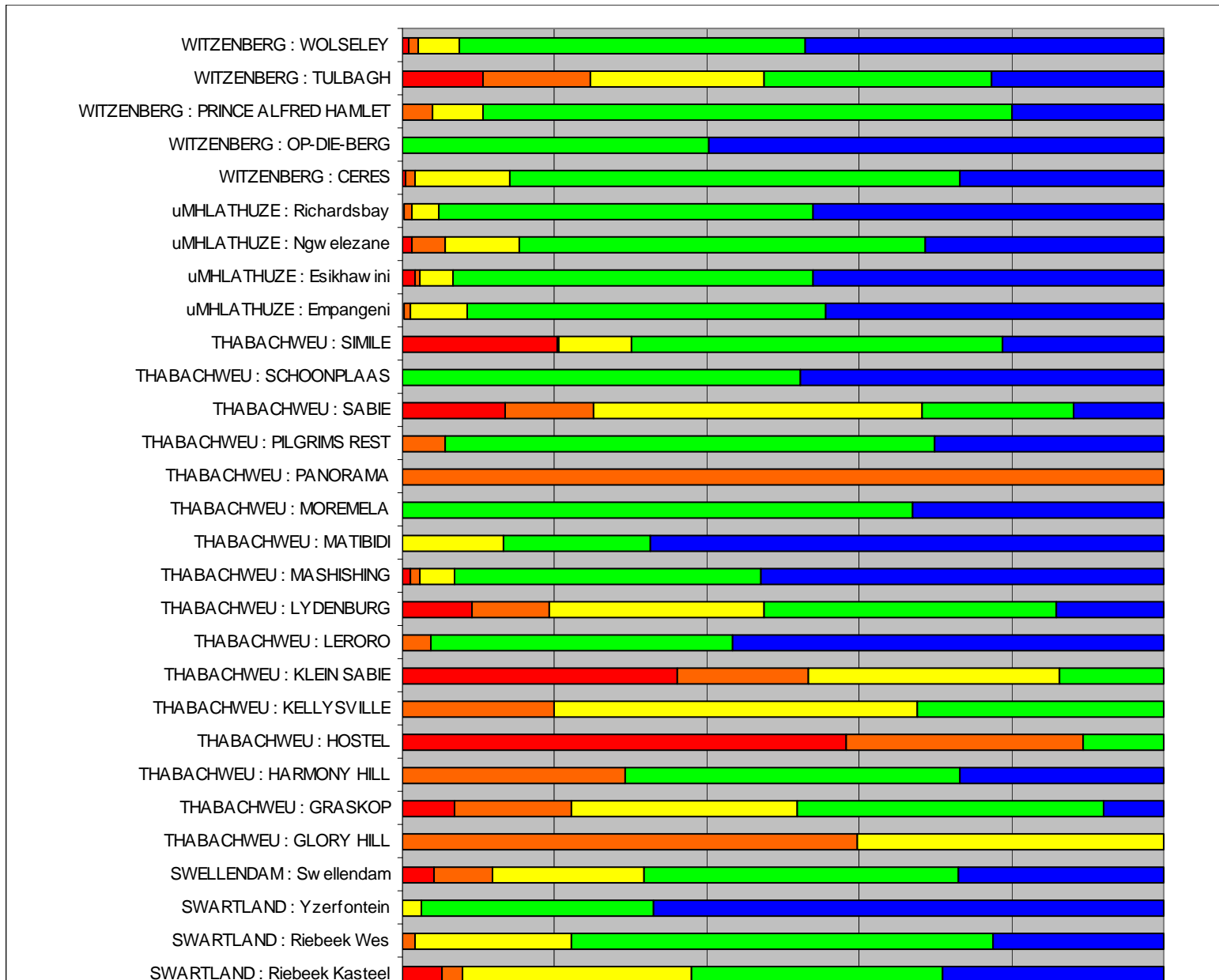
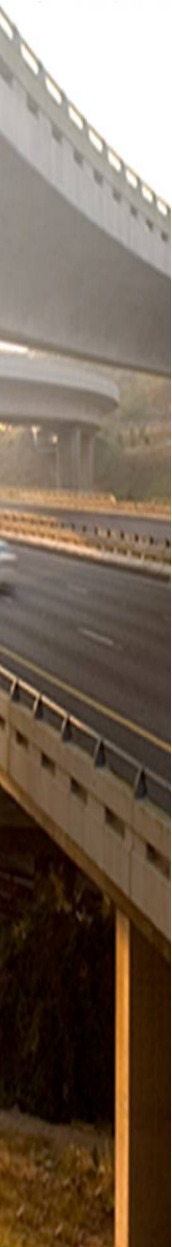
Gravel – Metros



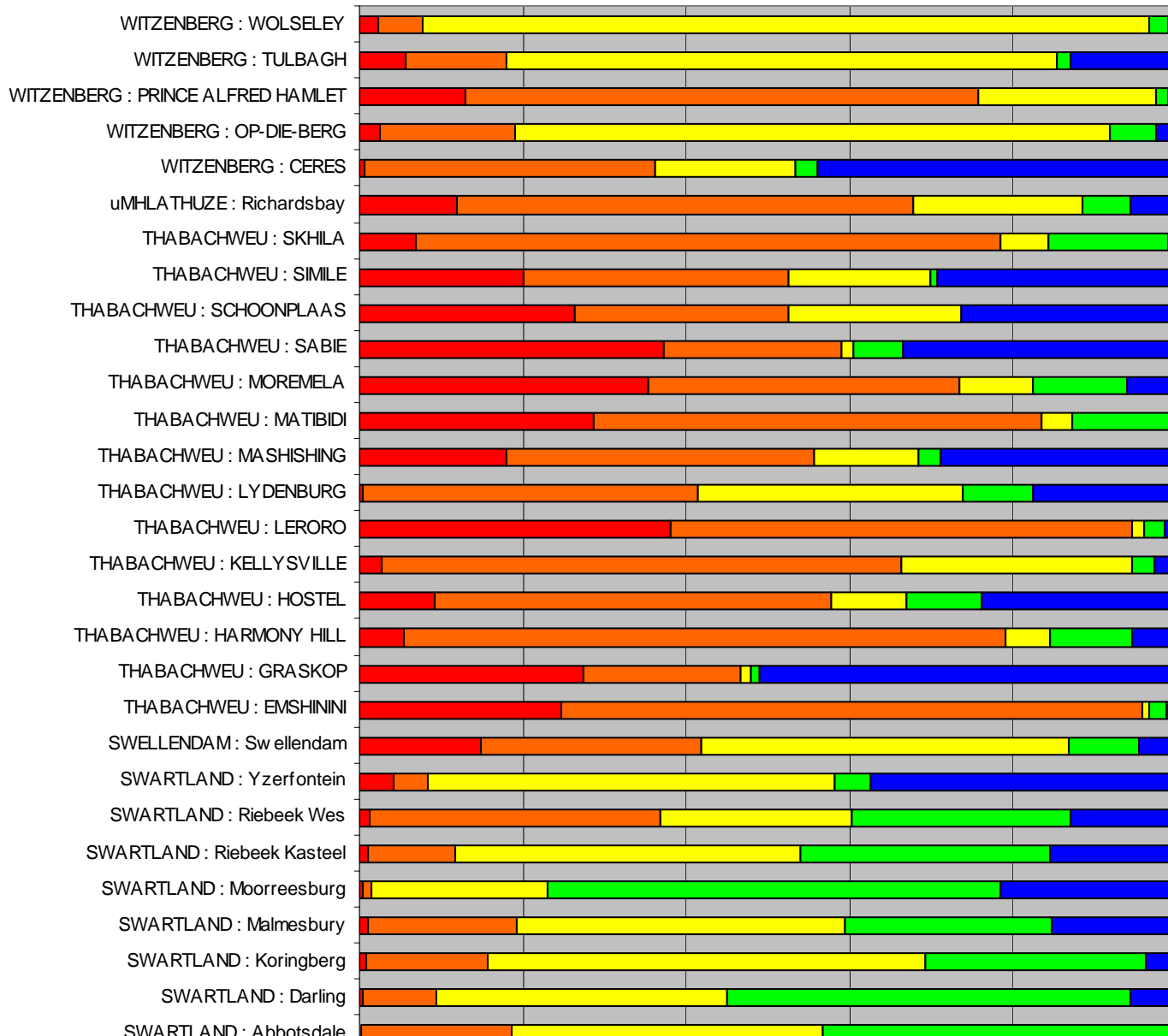
Visual Condition Index Gravel Roads - Metros

Authority	Total Network Gravel ¹	Visual Condition Data (km) ²					Total km with Data	% Network With Data
		Very Poor (km)	Poor (km)	Fair (km)	Good (km)	Very Good (km)		
BUFFALO CITY	611	0	0				0	0.00
CAPE TOWN	203						0	0.00
EKURHULENI	1,154						0	0.00
ETHEKWINI	6,498			0	2	0	3	0.04
JOHANNESBURG	2,012	2	7	55	1,720	2	1,785	88.75
MANGAUNG	1,195						0	0.00
MOGALE CITY	136						0	0.00
NELSON MANDELA	444				0	1	1	0.26
TSHWANE	2,208						0	0.00
Totals km	14,461	2	7	55	1,722	3	1,789	
Totals %		0.11	0.40	3.06	96.25	0.17	100	

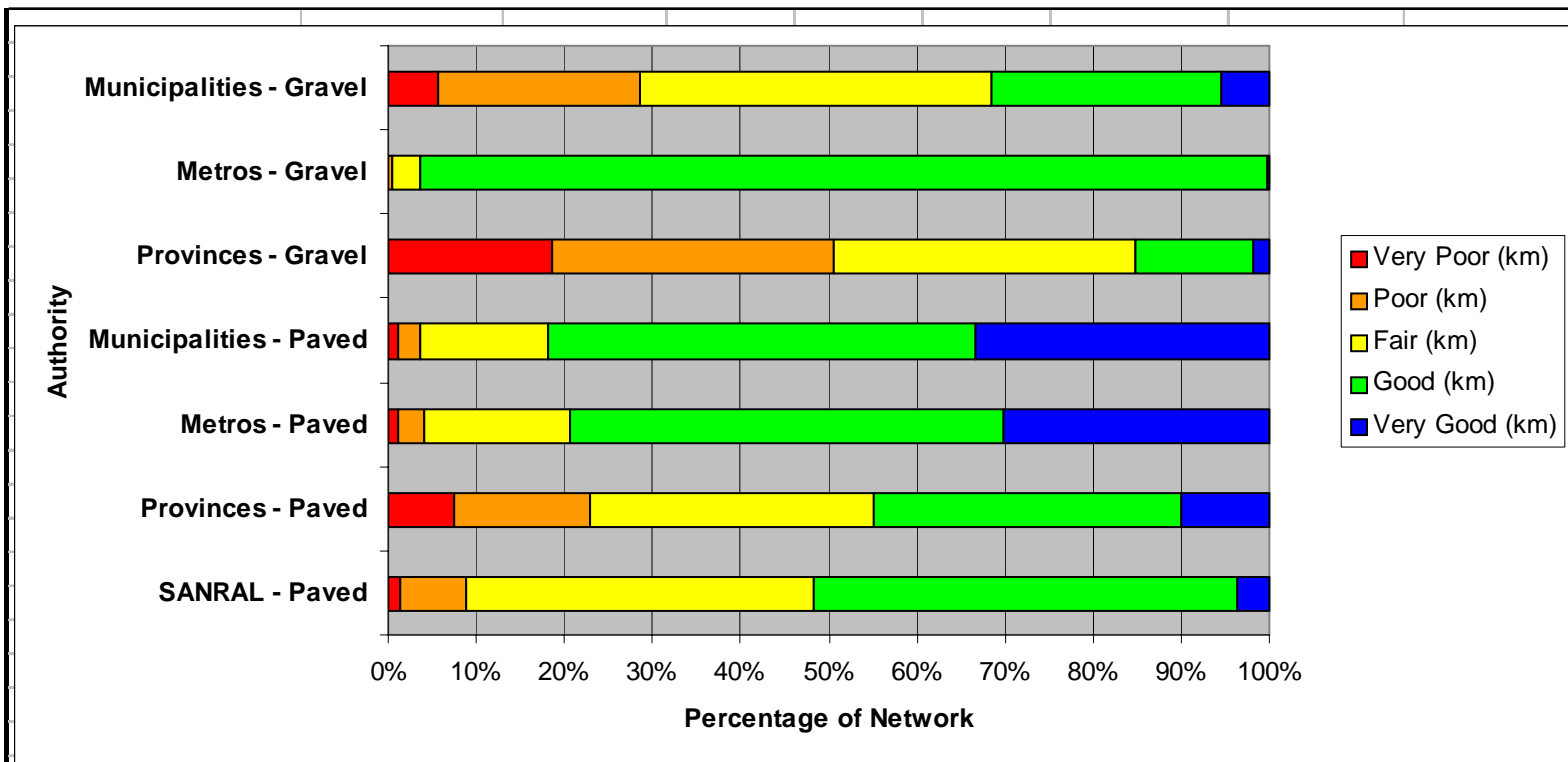
Paved – Municipalities



Gravel – Municipalities



SUMMARY



Authority	Total Network	Visual Condition Data (km) ²					Total km with Data	% Network With Data
		Very Poor (km)	Poor (km)	Fair (km)	Good (km)	Very Good (km)		
SANRAL - Paved	16,170	233	1,199	6,391	7,750	597	16,170	100
Provinces - Paved	48,176	3,532	7,200	15,179	16,470	4,706	47,088	97.74
Metros - Paved	51,682	421	1,256	6,707	20,104	12,250	40,737	78.82
Municipalities - Paved	11,076	121	272	1,579	5,271	3,623	10,866	98.10
Provinces - Gravel	136,640	19,327	33,219	35,344	13,863	1,981	103,733	75.92
Metros - Gravel	14,461	2	7	55	1,722	3	1,789	12.37
Municipalities - Gravel	2,051	123	485	849	557	117	2,131	103.89
Totals km	280,256	23,759	43,639	66,103	65,737	23,276	222,514	
Totals %		10.68	19.61	29.71	29.54	10.46	100	

What Next ...

- Budget Requirement Estimates for National Treasury.
- Missing Visual Data
 - Regional Data Collection Initiatives.
- Data Quality
 - Need to look at training and QC procedures for inspectors.
- Data Processing
 - Need to standardise VCI calculations – especially for Gravel Roads.
 - Define Data exchange formats
- Additional Data on Paved Provincial Roads
 - Roughness, Rutting, etc
- Update Guidelines / Procedure Manuals
 - TMH 9, TMH12, TRH 22, ... Asset Management Guide

THANK YOU!

"Where a road
passes,
development
follows right on its
heels"



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