

**DIGITAL ADDENDA 18A – 18B**

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**Digital Addendum 18A: Tabulated detailed information**

Table 18A: Cost and gravel requirement for roads impacted.

**CHAPTER 18: IMPACTS ON INTEGRATED SPATIAL AND INFRASTRUCTURE PLANNING  
DIGITAL ADDENDA 18A – 18B**

**Cost and gravel requirement for roads impacted**

Road type	Road length	Scenario 0			Cost to rehabilitate to required base standard*	Scenario 1			Scenario 2			Scenario 3			
		Routine	Periodic	Gravel /m3/yr		Routine	Periodic	Gravel /m3/yr	Routine	Periodic	Gravel /m3/yr	Routine	Periodic	Gravel /m3/yr	
<b>Paved roads</b>															
<b>Routine maintenance cost per km</b>		<b>R 100 000</b>				<b>R 110 000</b>			<b>R 110 000</b>			<b>R 125 000</b>			
<b>Reseal frequency in years</b>			<b>10 years</b>				<b>9 years</b>			<b>9 years</b>			<b>7 years</b>		
		<b>Cost R million</b>				<b>Cost R million</b>				<b>Cost R million</b>			<b>Cost R million</b>		
		Routine	Periodic			Routine	Periodic		Routine	Periodic		Routine	Periodic		
Port Elizabeth - Victoria West	442	R 33.2	R 30.9		R1.1 bn	R 36.5	R 34.4		R 36.5	R 34.4		R 41.4	R 44.2		
Victoria West - Three Sisters	61	R 6.1	R 4.3			R 6.7	R 4.7		R 6.7	R 4.7		R 7.6	R 6.1		
Beaufort West (R61 via Aberdeen)-to Junction of R75 near Kleinpoort	288	R 21.6	R 20.2		R720m	R 23.8	R 22.4		R 23.8	R 22.4		R 27.0	R 28.8		
Fraserburg - Beaufort West	30	R 3.0	R 2.1			R 3.0	R 2.1		R 3.3	R 2.3		R 3.8	R 3.0		
Graaff Reinet - Hofmeyer via R421	169	R 16.9	R 11.8			R 16.9	R 11.8		R 18.6	R 13.1		R 21.1	R 16.9		
		R 80.8	R 69.3	R 150.1	R 1.82 bn	R 86.9	R 75.4	R 162.3	R 88.9	R 76.9	R 165.8	R 100.9	R 99.0	R 199.9	
<b>Additional annual cost: Paved roads</b>								<b>R 12.2</b>			<b>R 15.7</b>			<b>R 49.8</b>	
<b>Unpaved roads</b>															
		Routine	Periodic	Gravel /m3/yr		Routine	Periodic	Gravel /m3/yr	Routine	Periodic	Gravel /m3/yr	Routine	Periodic	Gravel /m3/yr	
<b>Routine maintenance cost per km (Rand)</b>		<b>750</b>	<b>300 000</b>			<b>825</b>	<b>300 000</b>		<b>825</b>	<b>300 000</b>		<b>1 000</b>	<b>300 000</b>		
<b>Regravel frequency</b>				<b>7 years</b>				<b>6 years</b>			<b>6 years</b>			<b>4 years</b>	
		<b>Baseline (cost in R million)</b>				<b>Additional (cost in R million)</b>			<b>Additional (cost in R million)</b>			<b>Additional (cost in R million)</b>			
Fraserburg - Beaufort West	120	R 0.090	R 5.143	20 571					R 0.099	R 6.000	23510	R 0.030	R 2.250	22775	
Sweet Spot	1273.61	R 0.955	R 54.583	218 333		R 0.263	R 2.729	226 130	R 0.525	R 31.840	233928	R 1.274	R 95.521	311904	
All roads in 30 km buffer of Beaufort West-Fraserburg (excl main route above)	1624	R 1.218	R 69.600	278 400					R 0.167	R 10.150	283371	R 0.406	R 30.450	308229	
All roads in 30 km buffer Graaff Reinet -Hofmeyer (R421)	2512	R 1.884	R 107.657	430 629					R 0.259	R 15.700	438319	R 0.628	R 47.100	476768	
<b>Total routine and periodic</b>		R 4.1	R 237.0			R 0.3	R 2.7		R 1.1	R 63.7		R 2.3	R 175.3		
<b>Total maintenance costs</b>			R 241.1				R 3.0			R 59.4			R 177.6		
<b>Total gravel lost per year (m3)</b>				947 933				955 730			976 556			1 119 676	
<b>Change in gravel lost (m3/year)</b>				0				7 797			28 623			171 743	

\* Assumption: To maintain a reasonable routine and periodic maintenance routine will require that roads are re-habilitated to a reasonable standards. Assumption is that 50% of road needs rehabilitaion at R 5m/ km. Typical state of paved roads in Eastern Cape

Note: All costs exclude inflation and are based on current cost

**Roads Impacted**

Scenario 0 : No roads impacted. Routine and periodic maintenace with resealing every 10 years continues at normal frequency excludes any portion resealed as mitigation.

Scenario 1: All paved roads ( excluding the Fraserberg & Hofmeyer links & 25% of all gravel roads in sweet spot). Routine and periodic maintenace with resealing continues with increase in frequency to 9 years -excludes portion resealed.

Scenario 2: All paved roads plus 50% of gravel roads in sweet spot and about 12.5% of other gravel roads. Routine and periodic maintenace with resealing continues with increase in frequency to 9 years- excludes portion resealed.

Scenario 3: All paved roads plus 100 % of gravel roads in sweet spot and 25% of other gravel roads. Routine and periodic maintenace with resealing continues with increase in frequency to 7 years -excludes portion resealed.

Digital Addendum 18B: Maps

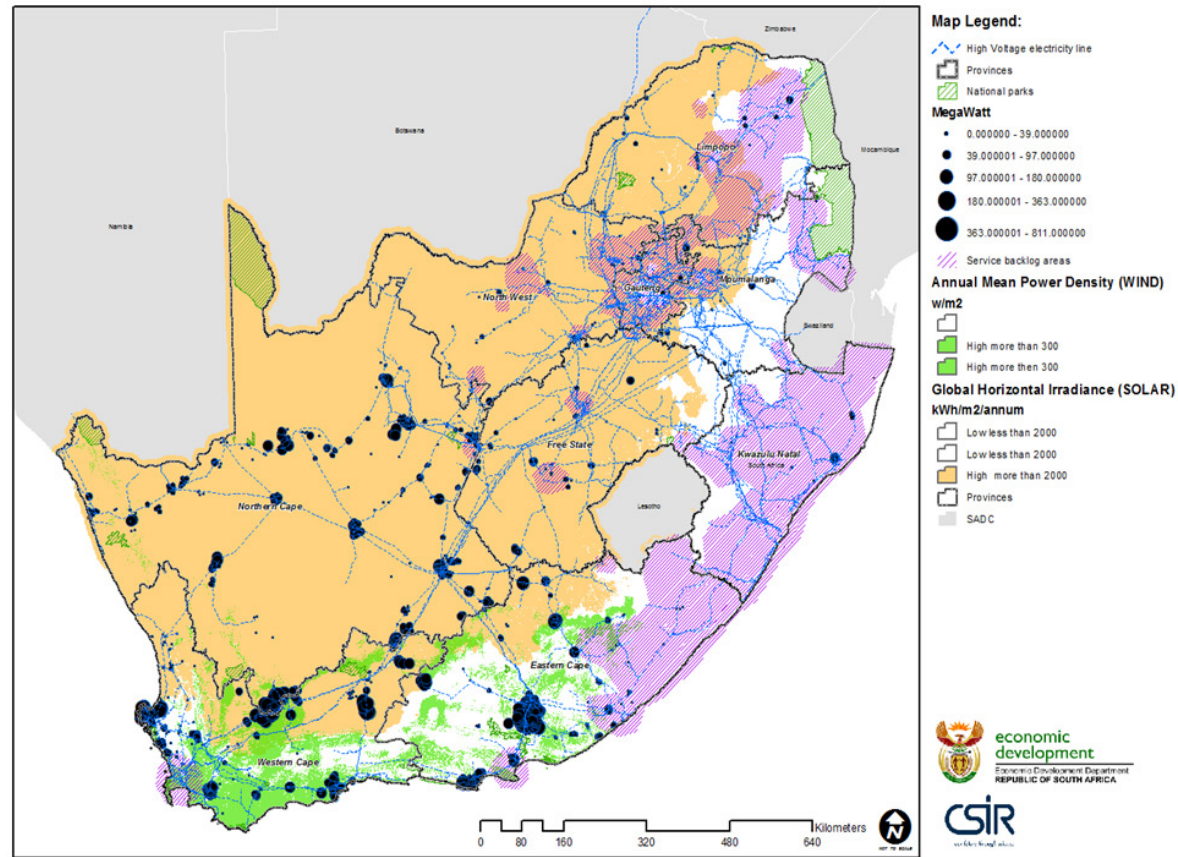


Figure 18B(i): Overview of Regional Green Energy Projects in the application pipeline (2014).

SOURCE: Van Huyssteen, E., Maritz, J. Oranje, M., Jordaan, A. Rogerson, C., Loots, A., Green, C. and McKelly, D. 2014. Resource Document: Towards Spatial Perspectives in support of the NGP. Unpublished working paper prepared for the Department of Economic Development, South Africa.

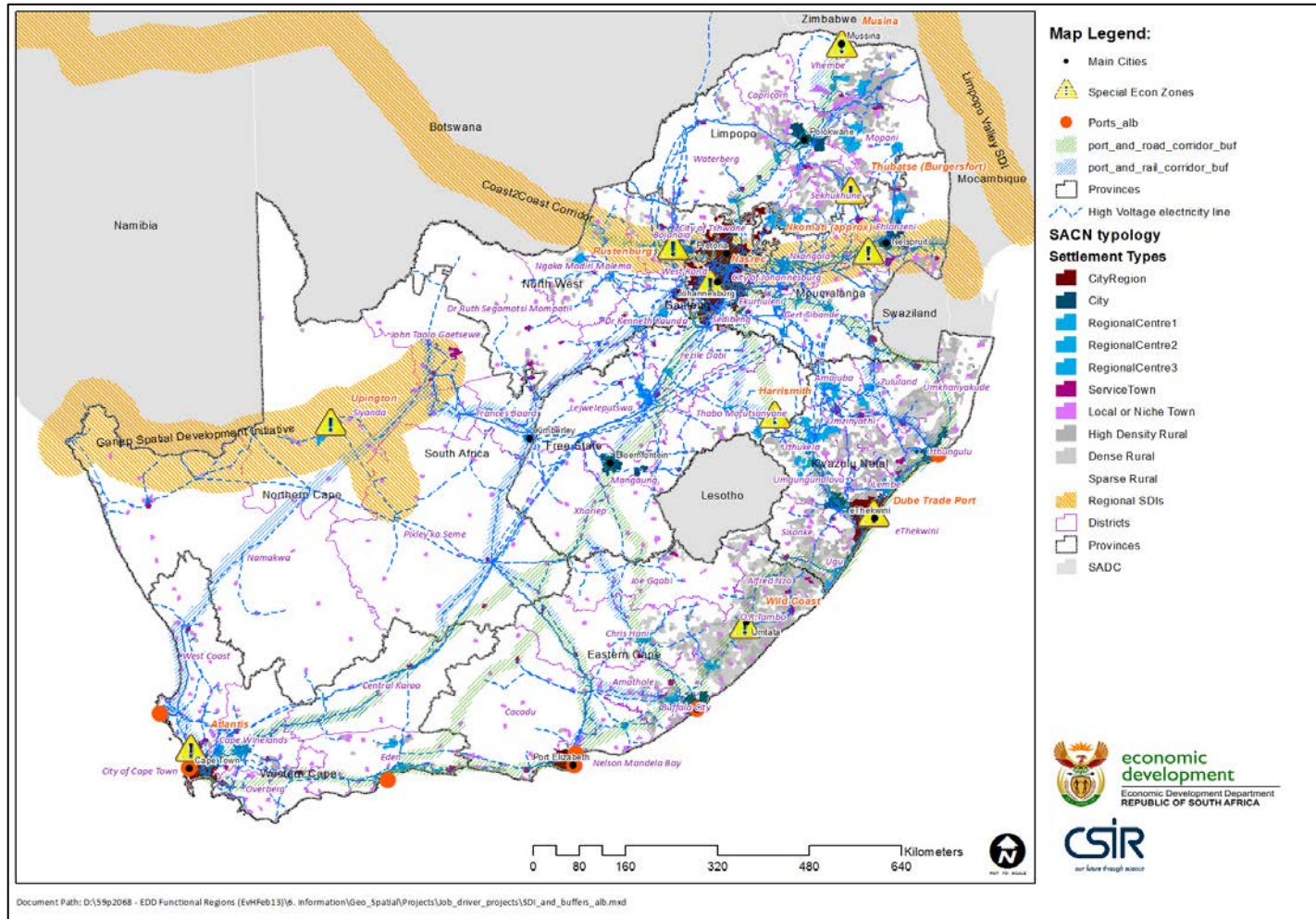


Figure 18B(ii): Overview of key national infrastructure corridors 2014.

SOURCE: Van Huyssteen, E., Maritz, J. Oranje, M., Jordaan, A. Rogerson, C., Loots, A., Green, C. and McKelly, D. 2014. Resource Document: Towards Spatial Perspectives in support of the NGP. Unpublished working paper prepared for the Department of Economic Development, South Africa.