

# Spreadsheet for the Calculation of Engineering Service Contributions for Roads

## KwaDukuza Municipality

### **ESC Parameter spreadsheets**

ESC Parameter spreadsheets must be available in the same folder as this spreadsheet.

The spreadsheets must be named ESCRoadsParmYYYY.Xls (or Xlsx)

YYYY Is the financial year. The financial year starts on 1 July YYYY and ends on 30 June YYYY+1

### **Spreadsheet Based On:**

South African Engineering Service Contribution Manual for Municipal Road Infrastructure

South African Trip Data Manual

**1. APPLICANT AND DEVELOPMENT PARTICULARS**

Applicant name:	Applicant Name	Mun Reference No	Municipal Reference Number		
Applicant postal address:	Applicant Postal Address	Date:	10	10	2016
Development physical address:	Development Physical Address	Region No:	1	Name:	Region 1
Development description:	Development description	Low Vehicle Ownership Area (H/L/V)	H	Publ Trans (N/T)	N

**2. PREVIOUSLY APPROVED LAND USE (BEFORE APPLICATION)**

Click on ESCCalculate to perform calculations      Calculations using rounded off factors

No	Code	Land use Code = 999 to allow user definitions	Land-use Size		Base Size	Trip rate		Mix-Use potential	Mix-Use trips	% Trip Rate Reductions			% Heavy P <sub>HD</sub>	E80 Axles E <sub>HD</sub> / HV	Size Adj Factor F <sub>T</sub>	Trip Len L <sub>D</sub> /2 (km)	Calculated trips		Calculated Veh-km/hr	Calculated E80-km/day
			Units	Size A <sub>D</sub>		AADT <sub>D</sub>	Hour <sub>D</sub>			Mix-Use	Low-veh	Transit					Trips/hr	Heavy /day		
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2																				
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7																				
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9																				

**Total previously approved (before application)**      0.00      0.00

**3. TOTAL APPROVED LAND USE (AFTER APPLICATION)**

Click on ESCCalculate to perform calculations      Calculations using rounded off factors

No	Code	Land use Code = 999 to allow user definitions	Land-use Size		Base Size	Trip rate		Mix-Use potential	Mix-Use trips	% Trip Rate Reductions			% Heavy P <sub>HD</sub>	E80 Axles E <sub>HD</sub> / HV	Size Adj Factor F <sub>T</sub>	Trip Len L <sub>D</sub> /2 (km)	Calculated trips		Calculated Veh-km/hr	Calculated E80-km/day
			Units	Size A <sub>D</sub>		AADT <sub>D</sub>	Hour <sub>D</sub>			Mix-Use	Low-veh	Transit					Trips/hr	Heavy /day		
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**Total approved (after application)**      0.00      0.00

**4. ENGINEERING SERVICE CONTRIBUTIONS TO ROADS**

**4a. Basic external road contribution**

		Unit Cost Rates			Veh-km/hr	E80-km/day
		Land	Capacity	Strength		
Traffic generation (Total approved - Previously approved)					0.00	0.00
Subtotals - Basic external road contributions		R 1 550	R 6 302	R 1 418	R 0.00	R 0.00
<b>Total basic external road contribution, VAT Excl</b>						R 0.00

**4b. Boundary road contribution (Township establishment only)**

		Boundary Roads (metre)		Land Value	Construction	Boundary road
		100% Share	50% Share	per km	Cost/km	contribution
Class 4 Boundary roads				R 4 000 000	R 9 917 756	R 0.00
Class 5 Boundary roads				R 3 200 000	R 7 028 796	R 0.00
<b>Total boundary road contribution</b>						R 0.00

<b>Total engineering service contribution to roads, VAT Excluded</b>		R 0.00
Value added tax (VAT)	14%	R 0.00
<b>Total engineering service contribution to external roads, VAT Included</b>		R 0.00

**1. APPLICANT AND DEVELOPMENT PARTICULARS**

Applicant name:	Example	Mun Reference No	Municipal Reference Number		
Applicant postal address:	Applicant Postal Address	Date:	27	9	2016
Development physical address:	Development Physical Address	Region No:	1	Name:	Region 1
Development description	Example	Low Vehicle Ownership Area (H/L/V)	H	Publ Trans (N/T)	N

**2. PREVIOUSLY APPROVED LAND USE (BEFORE APPLICATION)**

Click on ESCCalculate to perform calculations      Calculations using rounded off factors

No	Code	Land use Code = 999 to allow user definitions	Land-use Size		Base Size	Trip rate		Mix-Use potential	Mix-Use trips	% Trip Rate Reductions			% Heavy P <sub>HD</sub>	E80 Axles E <sub>HD</sub> / HV	Size Adj Factor F <sub>T</sub>	Trip Len L <sub>D</sub> /2 (km)	Calculated trips		Calculated Veh-km/hr	Calculated E80-km/day
			Units	Size A <sub>D</sub>		AADT <sub>D</sub>	Hour <sub>D</sub>			Mix-Use	Low-veh	Transit					Trips/hr	Heavy /day		
1	999	Agricultural Zone																		
2																				
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**Total previously approved (before application)**      0.00      0.00

**3. TOTAL APPROVED LAND USE (AFTER APPLICATION)**

Click on ESCCalculate to perform calculations      Calculations using rounded off factors

No	Code	Land use Code = 999 to allow user definitions	Land-use Size		Base Size	Trip rate		Mix-Use potential	Mix-Use trips	% Trip Rate Reductions			% Heavy P <sub>HD</sub>	E80 Axles E <sub>HD</sub> / HV	Size Adj Factor F <sub>T</sub>	Trip Len L <sub>D</sub> /2 (km)	Calculated trips		Calculated Veh-km/hr	Calculated E80-km/day
			Units	Size A <sub>D</sub>		AADT <sub>D</sub>	Hour <sub>D</sub>			Mix-Use	Low-veh	Transit					Trips/hr	Heavy /day		
1	210	Single Dwelling Units	1 D/Unit	325	1	4.00	0.90	0	0	0%	0%	0%	0%	0.00	100%	1.55	293	0	454.15	0.00
2	310	Hotel, Residential	Room	40	1	3.25	0.49	0	0	0%	0%	0%	0%	0.00	100%	1.10	20	0	22.00	0.00
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**Total approved (after application)**      476.15      0.00

**4. ENGINEERING SERVICE CONTRIBUTIONS TO ROADS**

<b>4a. Basic external road contribution</b>				Unit Cost Rates			Veh-km/hr	E80-km/day
Traffic generation (Total approved - Previously approved)				Land	Capacity	Strength	476.15	0.00
Subtotals - Basic external road contributions				R 1 550	R 6 302	R 1 418	R 3 738 729.80	R 0.00
<b>Total basic external road contribution, VAT Excl</b>								R 3 738 729.80

<b>4b. Boundary road contribution (Township establishment only)</b>				Boundary Roads (metre)		Land Value	Construction	Boundary road
				100% Share	50% Share	per km	Cost/km	contribution
Class 4 Boundary roads					68	R 4 000 000	R 9 917 756	R 473 203.70
Class 5 Boundary roads					257	R 3 200 000	R 7 028 796	R 1 314 400.29
<b>Total boundary road contribution</b>								R 1 787 603.99

<b>Total engineering service contribution to roads, VAT Excluded</b>								R 5 526 333.79
Value added tax (VAT)							14%	R 773 686.73
<b>Total engineering service contribution to external roads, VAT Included</b>								R 6 300 020.52