

Roundabout Geometric Design Checks:

Link Road, Barnsley West  
Roundabout South

References: DMRB CD116 Rev 0 - July 2019 (this supersedes the withdrawn guidance in Vol. 6 TD16/07)  
3062-100 series  
Fore Drawings: CD 116 replaces TD 16/07, TD 54/07 and TD 51/17, and roundabout related parts to TD 50/04, TA 23/81,  
Notes: TA 78/97, TA 86/03 and TD 70/08. The full document has been re-written to make it compliant with the new National Highways drafting rules.

Roundabout Type: Normal

Date: 28 May 2024

Parameter		Variable	Paragraph	CD116 Requirement	Design Actual	Acceptable	Comments	
ICD		D	3.1 to 3.5	D value between 28m and 100m	46.00	Yes		
Circulatory width		c	3.6 to 3.9	c value ≤15m	10.00	Yes		
Arm N	Arm 1 (entry width)	e	3.6 to 3.9	Between 1.0 and 1.2 times entry width, excluding any overrun area	7.20	Yes		
Arm E	Arm 2 (entry width)				5.40	Yes		
Arm S	Arm 3 (entry width)				7.40	Yes		
Arm W	Arm 4 (entry width)				5.50	Yes		
Central island diameter		I	3.7	I value ≥4m	26.00	Yes	Includes maintenance strip of 1.5m	
Central overrun area				To provide sufficient entry deflection for vehicles while still allowing large vehicles to circulate	0.00	Yes		
Entry width		b	3.8 to 3.9	e value 4.0m - 10.5m parameter range (practical limits for single carriageway approach)				
	Arm 1	e			3.11 to 3.15	7.20	Yes	
	Arm 2					5.40	Yes	
	Arm 3					7.40	Yes	
Approach half width	Arm 1	v	3.16 and Table B.2	v value 2.0m - 7.3m parameter range (practical limits)	3.65	Yes		
	Arm 2				3.38	Yes		
	Arm 3				3.65	Yes		
	Arm 4				3.00	Yes		
Entry lane alignment	Arm 1	L	3.18	Splitter island kerb (arc) must be tangential to central island when extended forward from give way line		Yes		
	Arm 2					Yes		
	Arm 3					Yes		
	Arm 4					Yes		
Flare length	Arm 1	l'	3.17	Single lane entries should be slightly flared to accommodate HGVs	5.64	Yes		
	Arm 2				6.12	Yes		
	Arm 3				7.43	Yes		
	Arm 4				4.75	Yes		
Entry angle	Arm 1	Φ	3.18	Φ value between 20 to 60 degrees	36.97	Yes		
	Arm 2				40.17	Yes		
	Arm 3				36.77	Yes		
	Arm 4				35.93	Yes		
Entry kerb radius	Arm 1	r	3.19	r value between 10m to 100m	29.00	Yes		
	Arm 2				18.00	Yes		
	Arm 3				26.00	Yes		
	Arm 4				22.00	Yes		
Entry path radius	Arm 1	length of a(ent)	3.20 to 3.26	a value ≤ 100m for 25m length	99.92	Yes		
	Arm 2				74.91	Yes		
	Arm 3				97.15	Yes		
	Arm 4				75.90	Yes		
Exit width	Arm 1	ew	3.28	ew values similar to entry width	6.10	Yes		
	Arm 2				5.30	Yes		
	Arm 3				6.90	Yes		
	Arm 4				5.40	Yes		
Exit taper	Arm 1	et	3.28	et values between 1:15 and 1:20	1:15	Yes		
	Arm 2				1:15	Yes		
	Arm 3				1:15	Yes		
	Arm 4				1:15	Yes		
Exit kerb radius	Arm 1	a(exit)	3.29	a values between 15m to 100m	70	Yes		
	Arm 2				60	Yes		
	Arm 3				100	Yes		
	Arm 4				40	Yes		
Visibility on Approach (DMRB Eye Height 1.05m, Target height 0.26m)	Arm 1	va	3.39	To be in accordance with CD109	Yes	Yes	70m (EH:1.05m TH:0.26) visibility achieved 90m (EH:1.05m TH:0.60) visibility achieved 90m (EH:1.05m TH:0.26) visibility not fully achieved TBC	
	Arm 2				Yes	Yes	70m (EH:1.05m TH:0.26) visibility achieved 90m (EH:1.05m TH:0.60) visibility achieved 90m (EH:1.05m TH:0.26) visibility not fully achieved TBC	
	Arm 3				Yes	Yes	70m (EH:1.05m TH:0.26) visibility achieved 90m (EH:1.05m TH:0.60) visibility achieved 90m (EH:1.05m TH:0.26) visibility not fully achieved TBC	
	Arm 4				Yes	Yes	70m (EH:1.05m TH:0.26) visibility achieved 90m (EH:1.05m TH:0.60) visibility achieved 90m (EH:1.05m TH:0.26) visibility not fully achieved TBC	
Visibility on Entry	Arm 1	ve	3.43	Visibility distance of 40m for ICD 40m to 60m roundabouts	Yes	Yes	Assume no construction on central island	
	Arm 2				Yes	Yes	Assume no construction on central island	
	Arm 3				Yes	Yes	Assume no construction on central island	
	Arm 4				Yes	Yes	Assume no construction on central island	