

Roundabout Geometric Design Checks:

Link Road, Barnsley West
Roundabout North

References: DMRB CD116 Rev 0 - July 2019 (this supersedes the withdrawn guidance in Vol. 6 TD16/07)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 \leq 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	7.40	Yes	
Arm E	Arm 2 (entry width)				5.60	Yes	
Arm S	Arm 3 (entry width)				7.30	Yes	
Arm W	Arm 4 (entry width)				5.30	Yes	
Central island diameter		I	3.7	I value \geq 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	7.40	Yes
	Arm 2					5.60	Yes
	Arm 3					7.30	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	5.32	Yes	
	Arm 2				5.37	Yes	
	Arm 3				6.09	Yes	
	Arm 4				5.65	Yes	
Entry angle	Arm 1	Φ	3.18	Φ value between 20 to 60 degrees	39.78	Yes	
	Arm 2				33.41	Yes	
	Arm 3				39.37	Yes	
	Arm 4				33.13	Yes	
Entry kerb radius	Arm 1	r	3.19	r value between 10m to 100m	25.50	Yes	
	Arm 2				25.00	Yes	
	Arm 3				24.00	Yes	
	Arm 4				25.00	Yes	
Entry path radius	Arm 1	length of a(ent)	3.20 to 3.26	a value \leq 100m for 25m length	99.88	Yes	
	Arm 2				90.57	Yes	
	Arm 3				99.74	Yes	
	Arm 4				93.84	Yes	
Exit width	Arm 1	ew	3.28	ew values similar to entry width	7.10	Yes	
	Arm 2				5.40	Yes	
	Arm 3				7.10	Yes	
	Arm 4				5.20	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	100	Yes	
	Arm 2				60	Yes	
	Arm 3				95	Yes	
	Arm 4				50	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	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	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	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	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	Assume no construction on central island	
	Arm 2				Yes	Assume no construction on central island	
	Arm 3				Yes	Assume no construction on central island	
	Arm 4				Yes	Assume no construction on central island	