PARAGRAPHS 5.17 AND 5.18 OF CD123

Diverge tapers and auxiliary lanes

General

Nearside diverging tapers and auxiliary lanes shall not be provided:

1) at simple junctions;
2) where the design speed of the major road is less than 85 kph; and/or,
3) at all other priority junctions that are on the inside of curves.

Where the minor road is on the inside of a curve, the diverging lane can adversely affect visibility for drivers emerging from the minor road.

At non-simple junctions which are not on the inside of a curve, a nearside diverging taper or auxiliary lane shall be provided in accordance with Table 5.18a and 5.18b.

Table 5.18a Criteria for provision of nearside diverging tapers or auxiliary lanes on A class major roads with a design speed of 85kph or greater

Minor road		A class major roads with a design speed of ≥ 85 kph	
		Flow ≤ 7000 AADT	Flow > 7000 AADT
A and B class road		Yes	Yes
Non A or B class road	left turning traffic ≥ 600 AADT; or, left turning traffic ≥ 450, > 20% HGV; or, left turning traffic ≥ 450, > 4% gradient.	Yes	Yes
	left turning traffic ≥ 300 and < 600 AADT; or, left turning traffic ≥ 225 and < 450, > 20% HGV; or, left turning traffic ≥ 225 and < 450, > 4% gradient.	Optional	Yes

Table 5.18b Criteria for provision of nearside diverging tapers or auxiliary lanes all other major roads

Minor road	Major roads other than A class with a design speed of ≥ 85 kph	
	Flow ≤ 7000 AADT	Flow > 7000 AADT
left turning traffic ≥ 600 AADT; or left turning traffic ≥ 450, > 20% HGV; or, left turning traffic ≤ 450, > 4% gradient.	Yes	Yes
left turning traffic ≥ 300 and < 600 AADT; or, left turning traffic ≥ 225 and < 450, > 20% HGV; or, left turning traffic ≥ 225 and < 450, > 4% gradient.	Optional	Yes

Diverging tapers and auxiliary lanes can also be provided on major roads where the design speed is 85 kph or above, and the minor road flows are below the thresholds described in Tables 5.18a and 5.18b.

Where the major road flow exceeds 7000 AADT, auxiliary lanes should be provided instead of tapers for diverging traffic.

Vehicles decelerating on main carriageways can have an effect on the capacity of the through carriageway by impeding following drivers. The provision of an auxiliary lane allows turning traffic to perform the majority of its deceleration off the mainline.

Designers Response to Paragraphs 5.17 and 5.18 of CD123:
The design speed for the A24 is 50mph or 80kph which is less than the 85kph design speed requirement for a diverge taper or auxillary lane according to Paragraph 5.17 of CD123. However the site already has an existing diverge taper at the access. The AADT of the A24 is 34,156 and the AADT turning left in from the minor road will be more than 600 vehicles. Pre application consultation was undertaken with the Highway Authority in April 2023 which advised that "WSCC agree this taper is currently under the recommended standards, at 58m, and support the proposal to reconfigure the taper to ensure it is in line with DMRB CD 123 standards of at least 80m in length". The A24 is not a trunk road and therefore the application of CD123 does not strictly apply and the design is subject to the agreement of the Highway Authority. The proposal complies with the specifications which have been requested.

EXTRACT FROM CD123 MAJOR/MINOR PRIORITY JUNCTION WITH NEARSIDE AUXILIARY LANE AND MINIMUM LENGTH DIMENSIONS

Figure 5.21b Major/minor priority junction with nearside auxiliary lane

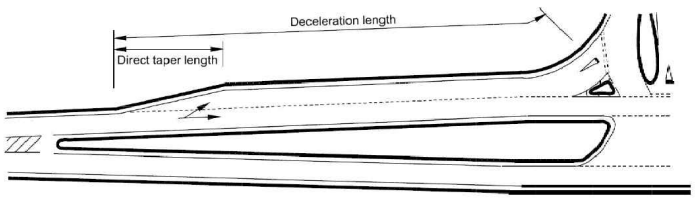


Table 5.22 Diverge taper, auxiliary lane and right turn lane lengths for deceleration

Design speed (kph)	Diverge taper or auxiliary lane deceleration lengths (metres)					Direct taper (metres)
	On 'up' gradient		On 'down' gradient			
				over 4%		
	0 - 4 %	over 4 %	0 - 4 %	Dual carriageways	Single carriageway (including ghost islands and SLD locations)	
50	25	25	25	25	25	5
60	25	25	25	40	25	5
70	40	25	40	55	40	15
85	55	40	55	80	55	15
100	80	55	80	110	80	25
120	110	80	110	150	110	30

NOTE The gradient is the average for a 500 metre length before the minor road.

5.22.1 For design speeds of 100 kph or less, auxiliary lane lengths should be a minimum of 80 metres, and sufficient to allow for the speed change from the major road to the turn into the minor road.

ADL TRAFFIC & HIGHWAYS

Title
PROPOSED DIVERGE AUXILIARY LANE WITH DIMENSIONS

Scale 1:500@A3

5469-09A