Element	Weaving section location ->	Eastbound to N17 Extracted Data From model	Eastbound to N17 (Including Peaking Factor for 30th Highest)	Westbound to N84 Extracted Data From model	Westbound to N84 (Including Peaking Factor for 30th Highest)
Flow 1	Flow as indicated in Fig 2/9 in vph (between junctions)	565	672	424	581
Flow 2	Flow as indicated in Fig 2/9 in vph (merging)	559	665	777	1064
Flow 3	Flow as indicated in Fig 2/9 in vph (diverging)	658	783	366	501
Flow 4	Flow as indicated in Fig 2/9 in vph (on mainline straight)	831	989	782	1071
Qnw	Total non-weaving flow in vph (Flow1 + Flow4)		1661		1652
Qw1	Major weaving flow in vph (max. of Flow2 , Flow3)		783		1064
Qw2	Minor weaving flow in vph (min. of Flow2 , Flow3)		665		501
D	Max. mainline flow from para 3.3 in vph per lane		1800		1800
Lmin	Desirable Minimum weaving length for road class as in para 4.34 to 4.37		330		330
Lact	Actual weaving length available (must be always >= Lmin). Note para 2.67.		670		670
N	Number of traffic lanes to formula in para 2.71		**2.1**		**2.1**

2.71 For weaving sections on motorways and dual carriageway roads, design flows must be calculated as in Chapter 3. In measuring L_{act}, it will be necessary to consider whether distance is available to adequately sign the second junction and allow adequate visibility to the sign from all lanes. To calculate the number of traffic lanes required for weaving the following equation must be used (and see Figure 2/9):

$$N = \frac{1}{D}(Q_{nw} + Q_{w1} + Q_{w2}\,(2\,L_{min}/L_{act} + 1))$$

Where N = Number of traffic lanes

Q_{nw} = Total non-weaving flow in vph

Q_{w1} = Major weaving flow in vph

Q_{w2} = Minor weaving flow in vph

D = Maximum mainline flow from paragraph 3.3 in vph per lane

L_{min} = Desirable Minimum weaving length for the road class as in paragraphs 4.34 to 4.37

L_{act} = Actual weaving length available

(L_{act} must always be greater than or equal to L_{min})

2.72 In calculating the number of traffic lanes required (paragraph 2.71) a fractional part will inevitably require a decision to round up or down. If it is possible to vary the position of the junctions and thus increase or decrease the weaving length, the fractional part will converge approximately to a whole number of lanes and the decision is simplified. However, if this is not possible the decision becomes more difficult. Where the fractional part is small and is combined with a low weaving flow rounding down is suggested, whereas a high fractional part with a high weaving volume suggests rounding up. For example the addition of a fourth lane would have operational advantages in releasing the two middle lanes for weaving traffic. Other factors which may influence the decision are:

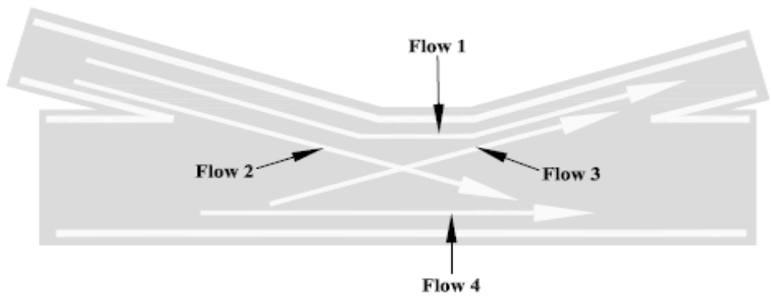
i the number of lanes required for merging and diverging (paragraphs 2.29 and 2.43);

ii when the fractional part is about 0.5 the uncertainty of the design flows (Chapter 3) suggests always rounding up from 2 to 3 lanes;

iii on recreational routes there can be a high proportion of drivers who are not local and therefore behave less efficiently than commuters would at the same flow levels;

iv the consequences of under provision should be borne in mind, as the acquisition of land at a later date could be costly or impossible;

v. relevant environmental factors should be taken into account.



Qnw (non-weaving flow) = Flow 1 + Flow 4

Qw1 (major weaving flow) = greater of Flow 2 or Flow 3

Qw2 (minor weaving flow) = lesser of Flow 2 or Flow 3

Figure 2/9 Terms used in Weaving