

Guidance for the assessment of Cycling Infrastructure Requirements in Wool

1. Government Guidance LTN1/20 identifies core principles for cycle infrastructure design which could assist in considering cycle routes in Wool. The guidance says that cycle routes should be:
 - **Coherent** – A cycle network should allow people to reach day to day destinations easily, along routes that connect, that are simple to navigate and are of consistently high quality. Where the most coherent route is a main road, then addressing the fear from the danger of motor traffic is crucial by ensuring cycle infrastructure provision is adequately safe, attractive and comfortable. Interchange between different sections of route need to be clearly marked and signed and routes for cyclists through complex junctions should be clear.
 - **Direct** – Cycling relies on physical effort and so minimising the distance and time of routes is important. Facilities which minimise the need for cyclists to stop and lose momentum is an important aspect of directness. Indirect routes with more distance and more stopping will either discourage cycling or may result in cyclists taking chances on more direct routes which are less safe. Facilitating cycle routes which are direct where motor traffic cannot go should be considered so that a more permeable network is created.
 - **Safe** – Cycling infrastructure must be safe and should also be perceived to be safe, else people will not be encouraged to cycle. Measures to improve coherence and directness of cycle routes discussed above are important, as is reducing the volumes and speed of motor traffic. Reducing motor traffic could release space to enable the construction of separate facilities for cyclists on links and at junctions. If this cannot be done on busy strategic roads, then safety for cyclists may involve the reallocation of existing road space to provide dedicated and protected space for cycling. There may be a need to create shared cycling/pedestrian surfaces and these need to be sufficiently wide to allow all users to feel safe in passing each other. (Different safety considerations may apply on remote rural roads where visibility is a key concern – solutions to reduce hidden spots, improve lighting and surveillance create different considerations about impacts on rurality).
 - **Comfortable** – The surfaces on which cycling occurs are very important to comfort. These should be smooth and well maintained. Cycle routes should avoid steep gradients if possible and excessive camber and crossfall of surfaces. Again, reducing or avoiding interaction with high-speed and high-volume motor traffic improves comfort for cycling through the reduction in stress and mental effort. Consideration of the needs of all types of cyclists from children to the elderly and disabled people may inform space requirements for cycle lanes.
 - **Attractive** – Cyclists experience their external environment more immediately and directly than drivers of cars and trucks or passengers on buses. This can be a positive experience giving pleasure resulting from the sensory interaction with natural and built environment through which cycle routes pass. Equally, personal security concerns about surroundings and the sense of danger from motor traffic are intensified. Giving consideration as to how the pleasure of cycling can be enhanced and the sense of danger reduced is therefore important in the design of cycle routes and networks. Opportunities to improve route attractiveness through route selection and design can be linked to wider approaches to improving the quality of the public realm in terms of maintenance, planting, paving and public/open spaces.

Protection of cyclists from motor traffic

- LTN1/20 also provides a guide as to the circumstances in which different types of cycle lane provision are suitable or unsuitable. This is influenced by the interaction of road speed limits and the volume of traffic on specific roads. If applying this to a local area, then it would be straightforward to map road speed limits as these are known. To understand traffic volumes on a given road, then recent data would be required which measured traffic volumes (measured in terms of passenger car units (pcu) over a 24-hour period) and speeds (to understand how fast traffic moves in relation to the speed limit). A car is one pcu and a heavy goods vehicle/bus is two pcu.
- Figure 1 shows the relevant Figure 4.1 from the LTN1/20 to show the range of potentially suitable types of provision for different situations. Of most interest to local communities will be the point at which mandatory/advisory cycle lanes or mixed traffic become unsuitable on 30mph roads in terms of motor traffic flow. Note 3 in the figure says that, in rural areas, mixed traffic on 30mph roads will generally be acceptable at flows of up to 1,000 pcu per day.

Figure 1 - LTN1/20 Guidance on the protection of cyclist from motor traffic on highways

Figure 4.1: Appropriate protection from motor traffic on highways

Speed Limit ¹	Motor Traffic Flow (pcu/24 hour) ²	Protected Space for Cycling			Cycle Lane (mandatory/advisory)	Mixed Traffic
		Fully Kerbed Cycle Track	Stepped Cycle Track	Light Segregation		
20 mph ³	0	Green	Green	Green	Green	Green
	2000	Green	Green	Green	Green	Green
	4000	Green	Green	Green	Green	Yellow
	6000+	Green	Green	Green	Yellow	Yellow
30 mph	0	Green	Green	Green	Yellow	Yellow
	2000	Green	Green	Green	Yellow	Yellow
	4000	Green	Green	Green	Yellow	Pink
	6000+	Green	Green	Green	Pink	Pink
40 mph	Any	Green	Yellow	Yellow	Pink	Pink
50+ mph	Any	Green	Pink	Pink	Pink	Pink

- Provision suitable for most people
- Provision not suitable for all people and will exclude some potential users and/or have safety concerns
- Provision suitable for few people and will exclude most potential users and/or have safety concerns

- Notes:
- If the 85th percentile speed is more than 10% above the speed limit the next highest speed limit should be applied
 - The recommended provision assumes that the peak hour motor traffic flow is no more than 10% of the 24 hour flow
 - In rural areas achieving speeds of 20mph may be difficult, and so shared routes with speeds of up to 30mph will be generally acceptable with motor vehicle flows of up to 1,000 pcu per day

Source: LTN1/20