SUPPORTING ENVIRONMENTAL AND SAFETY MEASURES

The following measures have a Speed Reduction Rating of "C" or less, and are recommended for use in combination with higher rated speed reduction measures.

3.15 OPTICAL WIDTH

OBJECTIVES

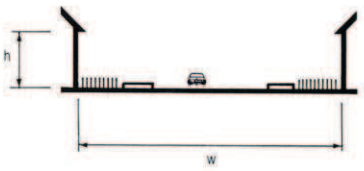
- To encourage slow driving and to enhance street character

DESIGN FEATURES

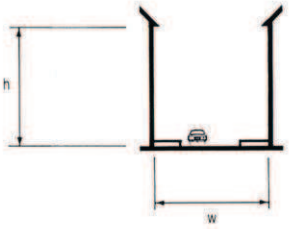
Drivers' perception of the appropriate driving speed is influenced by the relationship between the width of the street and the height of vertical elements. It can be shown that speeds are lower where the height of vertical features is greater than the width of the street. This effect can be created by a combination of carriageway narrowing and the introduction of adjacent trees or other vertical features as shown in Diagram 3.15.1.

APPLICATION

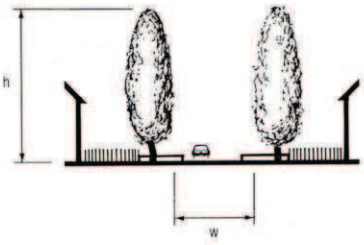
Suitable where the street has an "open" or broad aspect which encourages speeding. Suitable for both links and junctions (see 3.19).



A. Optical width which encourages speed



B. Optical width which discourages speed



C. Street as 'A' above with reduced optical width using tree planting which discourages speed

To achieve a good speed reduction effect

$$\frac{w}{h} = < 1$$

DIAGRAM 3.15.1 OPTICAL WIDTH

21

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23

21: The "optical width" of the street can be reduced with tree planting, as in this otherwise wide Berlin street. Berlin, Germany. (Photo: T. Pharoah)

22: "Optical width" influences traffic speed. Wide streets with long, open views encourage speeding. (Photo: T. Pharoah)

23: Where the height of vertical features exceeds the street width, speeds are moderated. Herne, Germany. (Photo: T. Pharoah)

DIMENSIONS

Speed reduction can be significant when the height of buildings (or other adjacent features) exceeds the width of the street.

SUPPORTING MEASURES

Physical speed reduction measures such as humps or lateral shifts are also required.

POSITIVE FACTORS

- If trees are used there will normally be other benefits such as improved street appearance and micro-climate

NEGATIVE FACTORS

- When trees are used the effects may be reduced in winter when they are without foliage