

4: Lateral shift and tighter corner using re-aligned kerbing and infill planting. Zuidwolde, Netherlands.
(Photo: T. Pharoah)

3.8 LATERAL SHIFTS IN THE CARRIAGEWAY

OBJECTIVES

- To reduce traffic speeds and thus improve safety
- To re-arrange street space, such as parking and footways
- To interrupt long views

SPEED REDUCTION RATING "B"

DESIGN FEATURES

Speed reduction is achieved in two ways: enforced turns and limitation of drivers' forward views. Lateral shifts are created by building alternate footway extensions or islands on the carriageway. Alternate angled parking can also be used, provided that it is defined with permanent features such as planters. Forced turns using road closures are another possibility.

The shift of lateral or horizontal axis must be sufficiently severe to enforce the physical turn, or to limit the forward view, and must not be dependent on the presence or otherwise of parked vehicles.

Limiting long forward views is not normally effective as a speed reduction measure in one-way streets. In all cases, care needs to be taken to ensure that safe stopping distances are maintained.

In two-way streets, the provision of sufficient carriageway width at lateral shifts to enable vehicles to pass allows drivers to take a "racing line", and thus negates the speed reducing effect. This problem applies



particularly when traffic flows are below about 100 vehicles per hour, or when traffic is predominantly in one direction. The problem may be avoided by dividing the carriageway at the shift.

Layouts for collector and local roads in new developments can incorporate speed restricting bends.

APPLICATION

Lateral shifts for forced turns are appropriate for streets in "living" areas with intended speeds of 20 mph or less. They are less well suited to bus routes or routes with

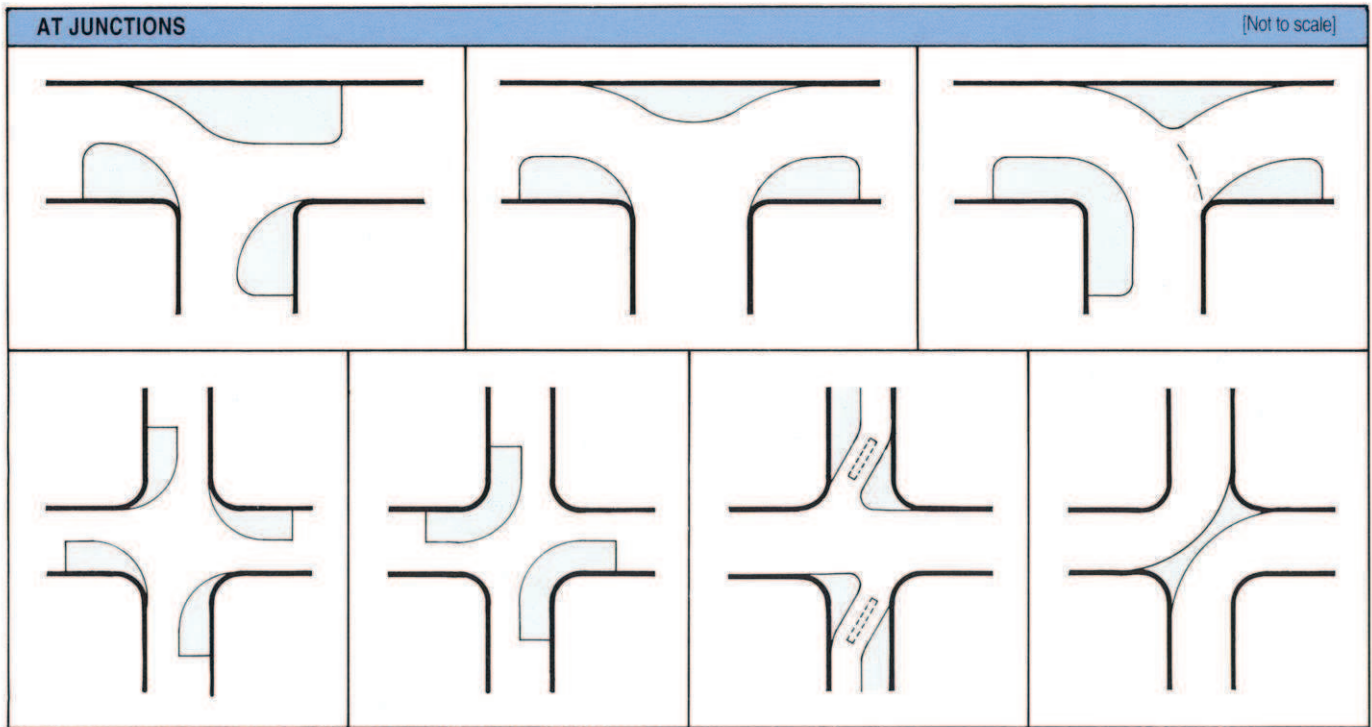
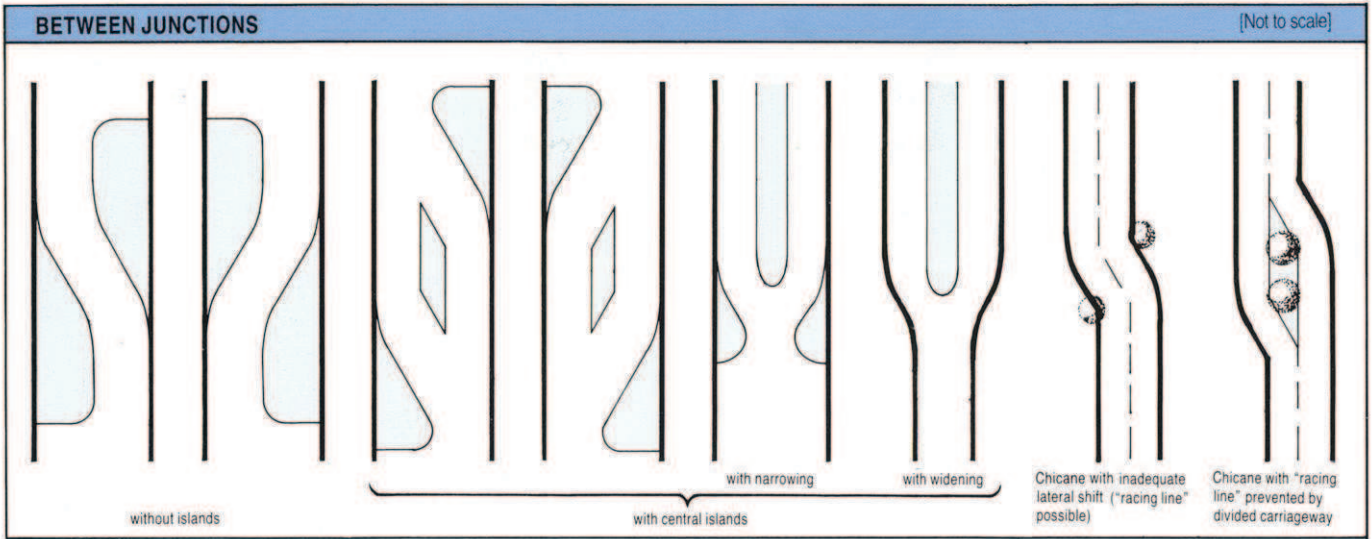


DIAGRAM 3.8.1 EXAMPLES OF LATERAL SHIFTS IN THE CARRIAGEWAY

5: In shared surface areas, lateral shifts must be severe. Here children play in safety. Nijmegen, Netherlands.
(Photo: T. Pharoah)



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significant HGV flows. They should be avoided where they might create hazards for cyclists, unless special provision is made.

Lateral shifts for limiting drivers' forward views are useful as supporting measures for speed reduction. "View blocking" helps to concentrate the driver's attention on the road immediately ahead, while long views are unnecessary in slow speed areas. Lateral shifts for this purpose do not need to be severe.

Lateral shifts on 30 mph roads are useful mainly for limiting long forward views or for purposes other than speed reduction, such as the reallocation of carriageway space.

DIMENSIONS

To produce an effective "forced turn", the lateral shift in the carriageway needs to be no less than the width of a traffic lane. Drivers should be required to make a turn of at least 45 degrees. Narrow carriageway widths are generally required and possible dimensions are given below. However, each case will need to be subject to the consultations detailed in Section 2.

- One way traffic - 3.0m to 3.6m
- Two way traffic - 4.5m to 6.5m

SUPPORTING MEASURES

Vertical shifts may be necessary to ensure adequate speed reduction. Planting is

desirable to lessen the impact of islands, build-outs, etc., to reduce visual dominance of parked cars, and to limit the forward view. A high standard of street lighting is required.

POSITIVE FACTORS

- Can be cheap and simple to construct if no rebuilding of the carriageway is required
- May avoid need for vertical shifts
- Alternate parking reduces pedestrian danger by providing unobstructed view of 50 % of footway
- Can allow interesting street design features

NEGATIVE FACTORS

- Can radically alter and sometimes spoil the linear character of the street
- Difficult to achieve good speed reduction effect whilst allowing access for larger vehicles
- Can be uncomfortable for bus passengers
- Can be hazardous for cyclists if speeds are higher than about 15 mph



6: Granite setts following the curved wall of a church mark out a lateral shift, and thus emphasize an attractive feature of the street. Nuremberg, Germany. (Photo: T. Pharoah)