6.8  Examples of Typical Countermeasures
6.8.1 Intersection Layout: Channelisation

**Background**

Intersections are potentially hazardous because they are the places where traffic movements conflict. Traffic streams which must cross, or merge, are more prone to accidents than those travelling in parallel or diverging. The first step in deciding on appropriate countermeasures is to prepare a collision diagram (e.g. see Fig 6.12). Reduction of conflicts to minimise these collisions by separating traffic streams either simply by road markings or by small islands to channelise traffic, is a very effective measure to improve safety. Channelisation can be applied under a wide range of circumstances ranging from uncontrolled rural intersections to busy urban signal controlled intersections.

**Problems**

If the channelisation is at a priority intersection then compliance with 'give-way' or 'stop' signs is vital. If drivers do not obey such signs then the effectiveness of the channelisation will be reduced.

Channelisation guides the driver along a desired path and must be carefully designed to ensure the motorist is not exposed to danger at any point of his manoeuvre. Often channelising islands are not wide enough to protect turning vehicles, leaving them protruding into through traffic.

Where the channelisation is created by road markings alone it requires regular maintenance and high quality reflective paint/thermoplastic to remain visible at all times. This can be a problem in many developing countries.

Channelisation will often require local widening. This may result in some drivers trying to overtake at the intersection where the road has been widened, especially if only paint is used to define the channelisation.

**Summary**

Most accident blackspots occur at road intersections. Accidents are more likely if conflicting manoeuvres at an intersection all occur in an undefined open space in the centre. By separating traffic streams and vehicles travelling at different speeds drivers will be given a clearer understanding of how the intersection is intended to operate. The complexity of the driving task ......
Possible Solutions/Benefits

Channelisation is often used as a countermeasure in order to separate traffic streams to make clear to drivers which vehicles are about to make which manoeuvre. If space permits traffic streams can be separated so that potential conflicts occur further apart, giving drivers more time and the opportunity to concentrate on one problem at a time.

Channelisation may be an appropriate remedial measure in situations where the following contributory factors appear consistently in accident records at an intersection.

- Collisions between through traffic and slow moving or stationary vehicles waiting to turn into the minor road(s);
- Conflicts between traffic turning into and out of the minor road(s);
- Vehicles overtaking at an intersection: and
- Confusion amongst drivers about the manoeuvres being made by other vehicles.

Islands and raised median strips can be installed initially with cheap local materials and adjusted as necessary until an optimum layout is determined at which point it can be made permanent. The geometry of the channelisation must ensure safety for large vehicles. Care must also be taken to allow adequate turning radii at corners and clearance of street furniture.

It may be necessary to modify street lighting at some sites to ensure proper illumination. Permanent islands will also need ‘keep left’ or ‘keep right’ signs. Islands are preferable if local driving behaviour is likely to lead to problems of drivers overtaking at the function.

Advance signing is necessary to ensure that drivers select the correct lane for the manoeuvre which they attend to carry out. Without adequate signing, inappropriate and probably dangerous vehicle movements will occur when drivers attempt to correct their previous mistakes.

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