

# ACCIDENT INVESTIGATION & PREVENTION

## Overview

The identification of Road Safety schemes follows a well-developed and established process. First adopted in 1999, the process was improved in 2002 and has since been further refined to take account of improvements in data availability and supporting technology but remains focussed on its core objective:

**the development and implementation of robust schemes that address the underlying causes of accidents and improve road safety.**

The process flows sequentially from the receipt of accident data from the local Police Authority at the onset to the implementation of safety schemes on the ground, and is repeated annually with ongoing refinement and adjustment.

**Intelligence:** receipt of monthly Personal Injury accident information from West Mercia Police. High-quality data with full details of possible contributory factors is received approximately 6 weeks from the date of an incident.

**Validation & verification:** Police Accident Record data is loaded on to Herefordshire Council systems. Once validated and verified, the data becomes live and generates the Council's Accident Records. This data is built up month by month to create annual records.



*Signing and marking scheme using a red central strip to guide drivers through the hazard*

**Site generation:** accident records for the preceding five years are interrogated to generate Accident Cluster sites. Separate criteria are applied for urban and rural sites to ensure the appropriate level of focus on each site and to ensure a balanced outcome.

**urban - sites with a limit of 40mph or less, require:**  
6 personal injury accidents within 5 years, clustering within a radius of 25 metres

**rural - sites with a limit of 50mph or more, require:**  
3 personal injury accidents within 5 years, clustering within a radius of 100 metres

**Ranking:** cluster sites are ranked to determine scheme priorities. The ranking formula gives greater priority to accidents in most recent years. Rural accident clusters receive an increased weighting to make up for the lesser number of accidents at each site and to ensure a balanced representation against urban sites, in keeping with the rural nature of the County.

**Site investigation:** an experienced member of the team, with in-depth knowledge of the county and the road network, undertakes detailed site assessments to determine the most appropriate package of measures to deliver a robust scheme.

**Scheme delivery:** close liaison with teams delivering the programme of planned maintenance, ensures a co-ordinated and comprehensive approach.

## Highlights

- **Quality data:** excellent working relationship with West Mercia Police underpins fast turnaround of high quality data and partnership working.
- **Differentiation:** separate criteria for determining rural and urban sites ensures a balanced outcome, reflecting the true balance of accident sites across the county.
- **Underlying causes:** the precision of formulae used to determine sites generates accurate clusters to pinpoint the underlying cause of accidents.
- **Focus:** scheme generation is focused to target sites where relatively low cost safety schemes can generate the highest return.
- **Consistency:** this is now an established process with in-built momentum. Consistent, rigorous application of the guiding principles delivers genuine and ongoing improvements.

## The Way Forward

The success of the Safety Projects Team in delivering schemes that have reduced road casualties has been widely recognised and the Team have already shared their learning with other local authorities via innovative web chats and via face-to-face meetings.

Within Herefordshire, there is now increased joint-working with Highway Maintenance colleagues which is extending the sphere of influence for road safety. The Annual Maintenance Programme includes accident priority data as a key guide. The identification of casualty rates linked to low skidding resistance plays an increasingly important role in developing the annual highway maintenance plan. This has led to the development of combined schemes, with the teams working together to deliver a complete site solution.

## Results orientation

Throughout the process, the focus is on targeting resources on where they can have the maximum effect in terms of casualty reduction.

■ **Clustering:** the adoption of different selection measures for urban and rural criteria delivers workable clusters that encompass sites with a real underlying cause to the accidents. In urban cases, a tighter radius captures the precise problem areas and avoids defining entire central districts as clusters, where, in reality, many differing and unlinked causes may be in operation. At rural sites, a more generous radius ensures identification of the underlying source of the problem. Recorded accident locations at rural bend sites can vary greatly. The same 'bend' can produce a dispersion of accidents dependent upon the nature of the loss of control and the direction of vehicle travel.

■ **Ranking:** without the increased weighting that rural sites receive, urban sites could artificially skew the priorities due to their higher number of initial accidents. These could then dominate and take all available funding. This would produce a considerable reduction in overall scheme effectiveness. A large number of urban sites have at their roots the inter-play of multiple factors, many of which may not lend themselves to engineering solutions. This is generally at odds with rural sites, where, in the main, causes are more readily identifiable and more responsive to engineering solutions.

This combination delivers an appropriate balance of schemes, where genuine priorities are highlighted and relatively low-cost safety schemes can deliver real improvements in road safety.



*Combined bend improvement schemes, including signing, surfacing and visibility measures to provide a complete treatment*