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ECONOMY AND ENVIRONMENT OVERVIEW AND SCRUTINY PANEL
13 MAY 2022

ROAD SAFETY AND REDUCTION OF SPEEDING BY USE OF BUILT HIGHWAYS INFRASTRUCTURE

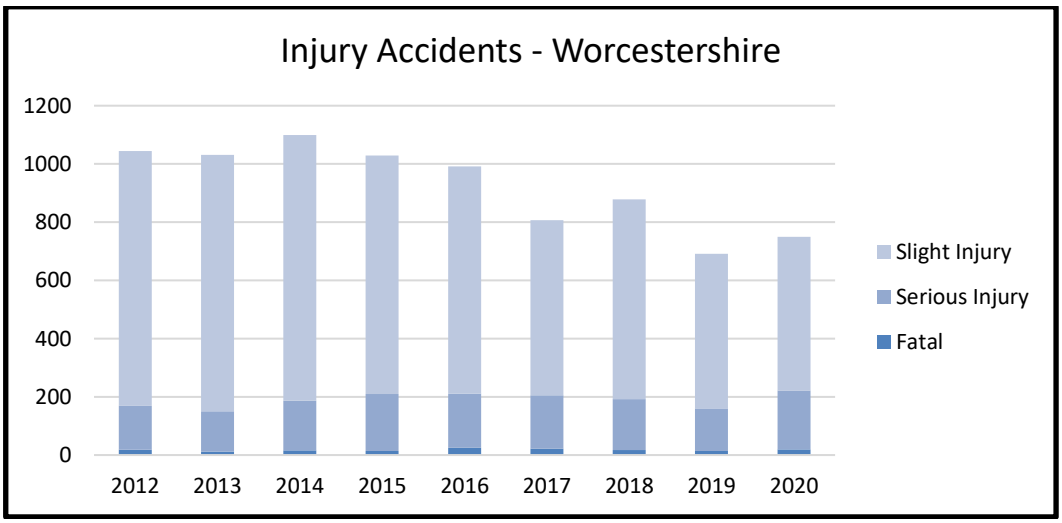
Summary

1. The Panel has requested an update on Traffic Calming following consideration of this issue by the Panel in July 2019.

2. The Cabinet Member with Responsibility for Highways and Transport and Senior Officers from the Council's Directorate of Economy and Infrastructure have been invited to attend the meeting.

Background

3. Detailed analysis of police reported accidents provide the basis for road safety highway improvements. Recent years have seen a reduction in overall accident numbers in Worcestershire and across the country due to the reduction in road travel during the Coronavirus Pandemic.



4. Worcestershire is in the best performing quartile for local highway authorities regarding accident rate per million vehicle miles travelled (low rate).

5. Road traffic accident prevention is a priority for Worcestershire County Council.

6. Road safety investment is based primarily on casualty accident reduction. The road safety highway improvement programme prioritises schemes which can reduce casualty accidents, with weighting given to the more vulnerable road users, such as pedestrians and cyclists.

7. Accident spots are identified through cluster site analysis which looks at sites where a number of accidents have occurred. The top ten locations across Worcestershire have five or more injury accidents within the last three years. A detailed review of each location is undertaken, including causation factors, and environmental and highway characteristics to determine the potential for road safety engineering improvement.

8. In addition to analysis on accident cluster sites, Worcestershire County Council's (the Council) Road Safety team also carries out route reviews to identify the collision rate of road links and routes, measured in accidents per million vehicle miles travelled.

9. The Road Safety team focuses on Police reported accidents as they operate a formal reporting process which provides a sound evidence base. However, concerns raised by communities through their Local Member are investigated to determine highway improvement measures, which are then assessed to reduce the potential for road traffic accidents.

10. There are a wide range of safety improvement measures including:

- Highway maintenance works
- New lighting
- Revised road geometry
- Vehicle restraint barriers
- Traffic signal control
- New signing and lining
- New pedestrian and cycling facilities
- Vehicle activated warning signs
- Education, Training and Publicity (Directorate for People)
- Speed enforcement (West Mercia Police)
- Traffic Calming

11. In addition to the improvements which are directly led by the Road Safety and Traffic Management teams, the Council's Road Safety Engineers provide input into other areas of Worcestershire highways including:

- accident studies to business case and preliminary design of major schemes
- the design and construction of all highway improvement schemes through a very comprehensive road safety auditing process
- response to planning applications
- the maintenance programme for road surface condition with respect to skid resistance

12. Examples of recent schemes identified through Accident Studies and progressed through the Casualty Reduction Capital Programme are:

- Middlepiece Drive junction with Blackstitch Lane cluster site. Mini roundabout junction improvement. +3 years after monitoring shows a very successful reduction in casualty accident rate.
- A442 at Curslow Lane junction cluster site. Junction improvement including visibility and warning signage.

- B4090/B4092 Edgioake Lane staggered crossroads cluster site. Junction improvement including visibility, warning signage and skid resistance.
- A456 junction at Clows Top killed/serious injury accident investigation. Junction improvement including visibility, warning and skid resistance
- A4117 junction with A456 Callow Hill Bewdley emerging accident cluster junction turning movement
- Houndsfield Lane/ Lea Green Wythall crossroads casualty accident investigation. Junction improvement including visibility and warning signage
- Frankley Hill Lane, Frankley casualty accident investigation
- Pulley Lane, Droitwich casualty accident investigation. Carriageway alignment improvements, bend warning signage and skid resistance
- A422 route Baughton to Cookhill casualty accident route accident rate. Bend and carriageway alignment improvements through signage, marker posts, lining and skid resistance
- New Road, Rubery casualty accident cluster site. Pedestrian safety improvements.
- A44 Whittington Road outside Whittington Hall: Killed or seriously injured accident investigation. Improvements to shared use path.
- Sutton Park Rd junction with A451 killed or seriously injured accident investigation. Pedestrian improvements
- A435 Becketts Farm to M42 J3 killed or seriously injured accident investigation. Detailed design stage. Improved visibility and signage to Fuel Filling Station and speed limit reduction

13. Examples of schemes promoted through alternative funding source (not casualty accident sites)

- Charford Road, Bromsgrove traffic calming speed cushions
- Broad Street, Bromsgrove traffic calming
- A456 Blakedown Footway widening and lining/signing modifications scheme to improve safety for children and crossing patrol
- Franche Road, Wolverley signing and line marking scheme to raise profile of school/crossing
- Feckenham localised narrowings to reduce speeds on B4090
- Belbroughton Road, Blakedown localised narrowings to reduce vehicular speeds
- Salters Lane, Redditch signing and lining improvements for uncontrolled crossing.
- Matchborough Way, Redditch speed cushions to improve safety outside school
- Wilden Lane, Stourport, visual traffic calming to reduce speeds outside school
- Church Lane, Woodbury Lane, Norton visual narrowing and cycle symbols
- Summerhill Avenue, Kidderminster improved markings and signs in response to damage only collisions.
- Eight new zebra crossing installations in last three years

14. Traffic calming, by reinforcing speed limits, can reduce the potential and severity of injury accidents and is particularly relevant as a measure for reducing injury accidents to pedestrians and cyclists.

15. In considering a traffic calming scheme, a review of the casualty accident data and the traffic flow data including volume, vehicle types and speed is required.

16. In addition to improving road safety, traffic calming may be assessed as being appropriate at a location where there is evidence of community severance due to traffic and increased walking and cycling activity.

Traffic Calming Features available

Transverse Bar Markings

17. The markings are prescribed in the Traffic Signs Regulation and General Directions 2016 and can only be used in very specific conditions, which are:

- They are to be laid on a one-way approach to a roundabout
- There is at least 3 km in advance of the site, with no major intersections or bends
- The road is subject to the national speed limit of 70 mph
- The collision record for the roundabout includes at least three collisions involving personal injury during the preceding three years, in which speed on the relevant approach was a contributory factor.

Road Humps

18. These are not used to slow traffic only to maintain lower speeds once within the traffic calmed zone. They must be accompanied by features that ensure a safe approach speed prior to the run of humps. They are not suitable for bus routes or locations with HGV traffic flow. They create vibration and noise to adjacent properties and may increase air quality concerns. These require street lighting to be in place.

Speed Cushions

19. These are raised rectangular areas. There can be one, two or three, depending on the width of the road. Like humps they are most suitable for built up areas and need slowing features on approach. They do not slow speeds to the same extent as humps but do give emergency vehicles and buses a smoother ride. They can cause the same issues as road humps. These require street lighting to be in place.

Speed Tables

20. These are similar to road humps but longer and with a flattened top, sometimes used to give pedestrians a level crossing between footways. They can also be used throughout a junction. They are especially useful where there are a lot of pedestrians. If they are long enough, they provide a smoother ride for buses than humps. These require street lighting to be in place

Lane Width Restrictions

21. Narrowing lanes, using traffic islands and/or road markings can give the impression of a more confined road and may result in reduced speeds. If a road is narrowed special attention must be given to the needs of cyclists. Bollards and signs highlighting the presence of these features will need to be lit.

Gateways and Entry Points

22. Identified by road markings, build outs, coloured surfacing and/or signs indicating that the driver is entering an area where road conditions change, for example entering an urban area or a change of speed limit. Most effective for drivers that only use the road occasionally

Dragons Teeth or Rumble Strips

23. Often used as part of gateway schemes. Rumble strips are a change in the road surface which alert the driver by a change in the sound and feel of the car. Dragon's teeth provide a visual change and narrowing of the road. They are suitable for village entry points. Rumble strips generate noise and can therefore be unpopular with residents.

Closed Road

24. Closed roads provide the ultimate deterrent to rat running. They can prove unpopular with residents as they sometimes cause long diversions and increase traffic on other roads. Emergency access and the needs of services like refuse collection need to be considered.

Vehicle Activated Signs

25. These detect the speed of oncoming traffic using a radar device. If a set threshold is exceeded, a sign indicating a specific hazard or speed limit is triggered. They can be temporary or permanent. There is an ongoing power and maintenance requirement although solar power can be an option.

Road Width Restriction

26. Localised widening or construction of footway can narrow the road and slow traffic. This reduces crossing distance and improves visibility for pedestrians crossing the road. Positioned alternately they provide chicanes. Roads can be narrowed to such an extent that only single file traffic is allowed.

27. They can also be used to provide sheltered parking. Suitable for use in urban or rural locations, as initial slowing features and as part of gateway features. Single lane build outs are not suitable for roads with high traffic flows as they create congestion and can promote dangerous driving manoeuvres. Where a build out juts into the carriageway the bollards and signing indicating the presence of the build out will need to be lit.

Residential development design

28. Roads on new residential developments are (and have been for several decades now) built to constrain speeds by design. Although these roads would meet the Department for Transport criteria for a **20 mph speed limit,** it would be difficult to justify the investment required to make and signpost a legal Order which merely formalised existing driver behaviour and made no noticeable improvement.

29. Specifically the Council's Streetscape Design Guide pursued a maximum design speed for all residential roads of 20mph, which the developer can achieve by restricting straight lengths of carriageway to no more than 100m in length and where this cannot be achieved, through changes to surfacing materials at junctions, horizontal deflection involving the use of central refuges and on-street car parking provision and visual narrowing.

Major Projects

30. All major projects consider accidents and pursue measures to reduce occurrence of accidents. Traffic calming measures and low speeds relate particularly to urban public realm improvements.

Delivering improvements for walking and cycling

31. Projects which support the improvement of the highway environment for pedestrians and cyclists can be a further avenue to utilise 'traffic calming' measures to assist lowering speed.

Purpose of the Meeting

32. The Panel is asked to:

- Consider and comment on the update on traffic calming schemes
- Determine whether any further information or scrutiny on a particular topic is required.
- Agree any comments to highlight to the Cabinet Member

Specific Contact Points for this report

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Background Papers

In the opinion of the proper officer (in this case the Assistant Director for Legal and Governance) the following are the background papers relating to the subject matter of this report:

Agenda and Minutes of the Economy and Environment Overview and Scrutiny Panel – July 2019 Agenda and Minutes

All agendas and minutes are available on the Council's website here.