

## **Guidance on small animal traffic sign placement**

*NB Please note that People's Trust for Endangered Species (PTES) and The British Hedgehog Preservation Society (BHPS) are unable to advise on the placement of individual local small animal traffic signs and instead have produced this guidance document outlining relevant research and considerations for where to place signs.*

### **Background**

Millions of wild animals are killed on UK roads each year, including many species of small mammal. Wildlife road casualties can represent a hazard to motorists, as well as posing a threat to the long-term survival of wild populations. The most commonly recorded wild animal road casualties include hedgehogs, rabbits, foxes, and badgers, although greater numbers of smaller species, such as mice and voles, that are less easily spotted, may be killed. For some species, such as otters, whose populations are recovering and becoming more widespread, road mortality can be particularly significant.

In 2019 a traffic sign was released to remind drivers to look out for small mammals on our roads. According to Department for Transport figures, hundreds of people are injured each year in collisions involving animals in the road. The sign, which warns road users of hazards due to small animals in the road ahead, could be placed in areas where collision rates are highest.

While the sign features a picture of a hedgehog, it is designed to warn drivers to be careful of all small animals. Existing warning signs include smaller animals such as migratory toads and wildfowl, and large animals such as deer and livestock. This small animal sign serves to complement these signs.



Hedgehogs have been classified as 'vulnerable to extinction' on Britain's Red List and roadkill is likely to be a contributing factor to hedgehog declines over recent years. *The State of Britain's Hedgehogs 2022* (SOBH) report revealed that hedgehogs in rural areas are in severe decline, with their numbers plummeting by between 30% and 75% since the millennium. The report also showed that the rate of decline in urban areas is slowing. Hedgehog roadkill is an issue in both rural and suburban areas.

Raising awareness and mitigating for this danger is therefore extremely important in conserving hedgehogs and other small animals in the UK.

### **Small animal traffic sign placement**

Based on various research studies into hedgehog road mortality it is suggested that the following factors are considered in positioning these traffic signs. Although this focuses on hedgehogs, the advice may be relevant to other small animals as well:



### Location:

- Areas associated with a higher probability of hedgehog roadkill are **urban and grassland**, with the highest danger being on the **suburban edges of large cities** and throughout **small towns and villages** (Wright et al., 2020).
- The primary purpose of the sign is to reduce collisions caused by small animals on roads, so their placement at locations outside the parameters below is useful, if small animal roadkill numbers are high.

### Speed:

- Roadkill risk is greater close to areas of signposted speed limit change (i.e. on the outskirts of towns/villages from 50/60 mph to 20/30 mph).
- Risk is also greater on flatter roads, which likely promote faster and less careful driving.

Taking this into account, and being mindful of sign clutter, an ideal place for a small animal traffic sign would be **in between the speed limit sign and the residential area**. This would give drivers a warning about wildlife as they drive into areas of high hedgehog activity. Hilly roads often have more signage already, so prioritising signs on flatter roads may be more suitable (and would also avoid sign-clutter).

### Traffic volume:

Greater traffic volumes are correlated with higher levels of roadkill up to a point, but particularly busy roads (with greater noise levels) deter hedgehogs from crossing and, in effect, act as barriers that are avoided (Moore et al., 2020). Additionally, such roads often have physical barriers that prevent crossings, for example roadside fencing. Annual numbers of hedgehog road casualties were found to be greatest on B-roads. If putting a hedgehog traffic sign wasn't feasible for all roads in/out of a town, **focusing on the busy B-roads, which have the highest incidence of hedgehog roadkill**, may have the greatest cost-effectiveness.

### Roadside habitat:

The position of **roadside habitat** such as **hedgerows** should also be considered. Hedgerows provide important nesting and foraging habitat for hedgehogs, but can be linked to increased road mortality when positioned perpendicular to a road, as hedgehogs follow the linear direction of a hedgerow towards the road (Moore et al., 2020). This can also be the case for other linear features such as **fences**. Some studies also suggest hedgerows are more critical for the movement of rural hedgehogs than urban ones. With these research findings in mind, it would be useful to suggest that:

- 1) In urban and suburban locations, placing the signs where hedgerows and fences are **perpendicular to the road** rather than parallel would be beneficial.
- 2) In more **rural locations**, placing the signs in close proximity to hedgerows, regardless of their position, because of their importance as hedgehog habitat in the rural landscape.



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### Timing:

Research into hedgehog road mortality has shown that numbers of animal casualties were found to rise steadily during the year, reaching a peak in July, before declining to their lowest in winter, when hedgehogs are less active and mostly hibernating (Wright et al., 2020). A pop-up seasonal sign between April and October, for example placed on an 'A' frame, might be effective in warning drivers of the hazard and prompting behaviour change in areas where roadkill rates of hedgehogs are high. This measure may not be as beneficial for small animal species that do not hibernate and are therefore active throughout the whole year.

### Roadkill data sources

Records of roadkill across the UK are gathered through:

- PTES' *Mammals on Roads* survey: <https://ptes.org/all-about-the-mammals-on-roads-survey/>
- Hedgehog Street's BIG Hedgehog Map: <https://bighedgehogmap.org/>
- The Road Lab (formerly Project Splatter) at Cardiff University: <https://www.theroadlab.co.uk/>
- The Mammal Society's Mammal Tracker app: <https://www.mammal.org.uk/volunteering/mammal-mapper/>
- NBN Atlas: <https://nbnatlas.org/>
- Hedgehog roadkill hotspots: <https://www.mammal.org.uk/science-research/hedgehog-hotspots/>

### Monitoring

If you are interested in collaborating on research into traffic sign efficacy, please contact [hedgehog@ptes.org](mailto:hedgehog@ptes.org) to register the location of your traffic sign (8 figure Grid Reference), the local authority responsible for the sign, the date it was/ is due to be put up and a contact name and email.

### Additional information

#### References:

Moore, Lauren & Petrovan, Silviu & Baker, Philip & Bates, Adam & Hicks, Helen & Perkins, Sarah & Yarnell, Richard. (2020). Impacts and Potential Mitigation of Road Mortality for Hedgehogs in Europe. *Animals*. 10. 1523. 10.3390/ani10091523.

Wright PGR, Coomber FG, Bellamy CC, Perkins SE, Mathews F. 2020. Predicting hedgehog mortality risks on British roads using habitat suitability modelling. *PeerJ* 7:e8154 <https://doi.org/10.7717/peerj.8154>