Road Verge Management Guidance – Case Study

Living Highways

Promoting a wide variety of species and plant-life – biodiversity – is a priority for conservationists, especially to protect species that are threatened by habitat loss, pollution and climate change. Road verges are linear habitats which can be remnants of original habitat or created as new habitats, and can connect other larger areas of habitat as part of ecological networks. How they are managed can have a big impact on the diversity of plants, invertebrates and other wildlife that they can support.

The Sheffield Living Highways project has been a collaborative project involving Sheffield and Rotherham Wildlife Trust, the University of Sheffield, Sheffield City Council and Amey, which aims to trial whether changes to the management of the city's grass verges can have a positive impact on the city's ecosystems.

Amey is responsible for the maintenance of 2.9 million m^2 of roadside verges in Sheffield as part of the 'Streets Ahead' contract. Most of these verges are areas of regularly mown grass, but they also include some rural verges, shrubs and small patches of green space.

The 'Streets Ahead' contract is very specific about how these verges should be managed, with a focus on the frequency of the mowing cycle and the height of the grass sward. However, over the last few years the Sheffield Living Highways Project partners have been looking at whether changes to the way the verges are managed, such as leaving it to grow longer, replacing some grassed areas with wildflowers, and introducing native hedgerows or trees, could increase the biodiversity value of these habitats.

Mowing Trials

In 2016 and 2017 a mowing trial was conducted on 17 urban roads in Sheffield. On one side of each road, mowing proceeded as normal (every 3-4 weeks) but was reduced by half on the other side of the road (every 6-8 weeks) during the entire mowing season (April – October). Grass cuttings were left on grass verges after mowing took place.

Plant and insect surveys were conducted by the University of Sheffield on these trial roads to measure the impact on biodiversity, the results of which are still being analysed. Roads were a mix of residential streets and non-residential key transport links. The mowing trial was communicated to the public through a press release, signs on lamp posts and leaflets delivered to every house on the mowing trial roads. Research also examined the public perception of the mowing trial; preliminary results suggest that although local residents do not always like the appearance of unmown grass, there is some appreciation that it is better for biodiversity.

Liz Ballard, CEO for Sheffield & Rotherham Wildlife Trust said:

"*We have been working with Amey and the University of Sheffield to trial a number of sites across the city with a focus on changing mowing frequency. Trial sites have ranged from broad open road verges such as on Bochum Parkway to small patches of grass in residential areas.*

The data analysis is still being done to evaluate how the changes in mowing frequency impact on the biodiversity – plants, insects, etc as well as what the public think about the changes. Initial results indicate that in some areas changing the mowing regime will not work due to understandable concerns by local residents and practicalities.

Elsewhere, such as Bochum Parkway, which supports remnant high quality grassland, the wildflowers, including orchids, have been allowed to flourish."

Orchids on Bochum Parkway before and after the Living Highways trial

Sheffield & Rotherham Wildlife Trusts | The University Of Sheffield. | amey working with | Sheffield City Council

Additional trial sites

Shrewsbury Road/South Street, near the back entrance to the city's main train station, was one of the first verges to benefit after the Living Highways project sowed wildflower seeds on a verge in the area. The results were spectacular, with a host of poppies taking hold and transforming the character of the street

The species composition is changing over time as annual species that were present in the first year are no longer flowering, but in 2019 the site still supported 35 herb species and 12 grass species.

Another plot at the Capita Building near West Bar has also been seeded by Amey as part of the trial and again was a mass of colour in its early years and is now maturing as a site due to the seed mix used.

Another trial site near Tinsley roundabout was seeded with yellow rattle and green hay from the Trust's Carbrook Ravine nature reserve. Volunteers collected the seeds from the yellow rattle seeds in July, before they set seed, and dried them out until autumn when they were sown. The seeds were sown along with the hay cut that day (known as 'green hay') to spread on the site which was frequently mown amenity grassland. Yellow rattle is a parasitic plant which reduces the vigour of dominant grasses, allowing other species to flourish. The trial has been encouraging and has reduced the frequency of mowing needed at this site.

Tinsley site 2015 before re-seeding

Staff and volunteers surveying the trial site at Tinsley 2017

Reduced mowing in some urban areas

In 2018, Amey (outside of the partnership project) implemented plans to conduct one annual grass cut in late summer on 20% of the urban road verge network.

This resulted in swathes of dandelions flowering and setting seed in addition to localised displays of cowslips, cuckoo flower and cats-ear during the spring.

However, the visual appeal and diversity of the majority of verges reduced during the summer as a result of the fertility and productivity of the majority of sites, leading to some complaints to Streets Ahead. The results of this 'one cut a year' approach suggest that high soil fertility will limit the capacity of many urban verges to support biodiverse swards and that at least one additional cut may be required for wide-ranging public acceptance. The experience of 2018 also confirms the earlier research that public education is critical to the long-term success of altered road verge management in a city context. Therefore, the final consideration when selecting verges is the level and costs of public relations work that would need to be undertaken.

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