

Green Infrastructure

Green Infrastructure (GI) is defined as: “A network of multi-functional green space, urban and rural, which is capable of delivering a wide range of environmental and quality of life benefits for local communities”[1]. Green infrastructure can also be taken to include the associated water environment (blue infrastructure) including rivers, streams, lakes, ponds and canals.

The transport and connectivity network (such as roads, railways, cycleways, bridleways and footpaths) across Oxfordshire provide an important opportunity to bring green infrastructure closer to everybody’s lives with significant, long-term benefits.

The national context is provided by the Government’s 25 Year Environment Plan which sets out actions to deliver improvements in the natural environment and the commitment to be the first generation to leave the environment in a better state than we found it.

Transport and connectivity corridors include a significant ‘soft estate’, where natural habitats can develop and contribute to mitigating the negative effects of road and rail schemes and work towards the aims of the 25 Year Plan. Establishing well designed GI can deliver benefits to people and the natural environment, including noise reduction, improvements in air and water quality, sustainable drainage, benefits to biodiversity and future resilience to climate change.

Benefits

The benefits of GI improve lives. At a county-wide scale these individual improvements add up to a significant economic benefit. As one example, the adverse effects of noise pollution on people are estimated to indirectly cost the county more than £98m per year. In the correct location vegetation can significantly reduce noise levels and so help to reduce this burden as well as improving people’s health and wellbeing.



Transport and connectivity corridors are valuable habitats for the movement of plant and animal species, providing linear connectivity between important wildlife sites and assisting in the migration of species as they adapt to climate change. These benefits of GI are seen at a landscape scale. Well designed and maintained GI associated with transport and connectivity routes can also enhance the sense of place and reduce the visual impact of traffic. The aesthetic value of well-designed natural spaces and greater closeness to nature has proven benefits to people’s health and mental wellbeing. Well-designed green spaces encourage more people to cycle and walk which reduces demand on and the costs of maintaining the built transport (grey) infrastructure.

The transport and connectivity network can be an important part of the nature recovery network for Oxfordshire. Roadside verges, if appropriately managed, can provide a

corridor for pollinating insects to move through the county. The identification and maintenance of Roadside Verge Nature Reserves can help to protect and enhance the county's most valuable roadside habitat.

Opportunities

There are many ways in which GI can be incorporated into the transport and connectivity network. Examples include:

- Planting and maintaining vegetation to enhance cycle ways, bridleways, footpaths, canals and other green routes can buffer the effects of traffic, and also create areas rich in nature and provide important habitat connectivity.
- Park and Ride sites can provide a point of access out to the wider countryside as well as a route into urban areas.
- Green walls, barriers and green-roofs on adjacent buildings and incorporated into highway structures can reduce the impact of traffic noise, air pollution and help to manage water run-off.
- Carefully designed tree planting pits can provide the basis for sustainable drainage systems that reduce road flooding and help to clean water.
- Planting trees alongside bus stops, parking sites, primary walking and cycling routes will provide shade and cooling during warmer summers.
- Roadside trees and vegetation can be a source of biomass providing a low- carbon source of energy.
- Green bridges and underpasses that allow some species to cross roads and railways more safely, help to reduce the effects of habitat severance.

Natural England – *Review of literature – how transport's soft estate has enhanced green infrastructure, ecosystem services, and transport resilience in the EU*. December 2014 <http://publications.naturalengland.org.uk/publication/5752930789490688>

Land Use Consultants, 2016; *Review of Environmental Sensitivity in Oxfordshire*. Prepared for Oxfordshire County Council.

<https://www.oxfordshire.gov.uk/residents/environment-and-planning/countryside/natural-environment/environmental-policy-and-planning/environmental-sensitivity>

[1] National Planning Policy Framework, Feb 2019

Question 14

Green Infrastructure - What do you think?

Your views on how best to incorporate green infrastructure into the Local Transport and Connectivity Plan would be welcomed. For example:

- What do you like most / least about the existing transport and connectivity GI in the county?

- What sorts of green infrastructure benefits would you particularly like to see and where?
- Are there any particularly important routes that you think could be identified as strategic green routes for additional investment?

To respond please use the online consultation form.