

STREETWORKS AND ROADWORKS

Our Discovery Phase is complete. This is an important milestone on our journey to help reduce carbon emissions in the UK.

www.roadtonetzero.org.uk

The UK's Streetworks and Roadworks sector has completed a Discovery Phase that kickstarts a plan to reduce the carbon emissions in all of its processes and products. This is the first part of the sector's **Road to Net Zero** project – a roadmap for change that's jointly sponsored by Transport for London (TfL) and the Highway Authority and Utilities Committee (HAUC).

OUR SECTOR'S EMISSIONS

In 2022, more than 4 million streetwork and road works were carried out across the UK.

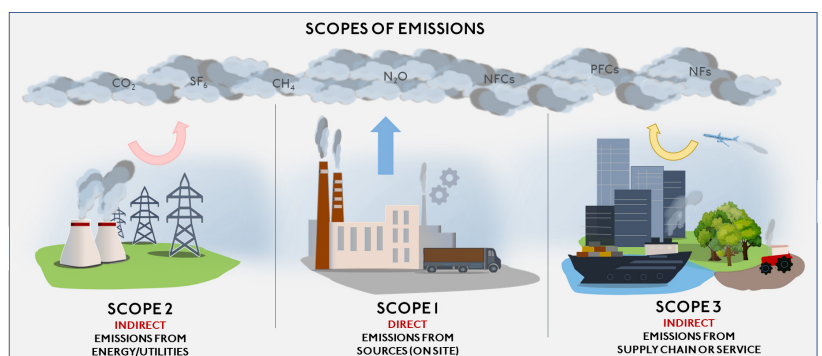
Our entire quality of life depends on good levels of accessibility and movement, so our sector's activity has a large impact on society.



Estimates show our streetworks and road works create about 38 MtCO₂e of carbon emissions every year. That's the equivalent of 76,000 flights on a B747-400 from London to New York.

This means we currently account for about 9% of the UK's carbon emissions (this takes our whole supply chain into consideration), but we're now creating a plan to reduce that.

The Discovery Phase of our Road to Net Zero plan has examined where we create those emissions, how we work, and what we now need to do if we want to be effective at measuring improvement.



WE WANT TO DELIVER SIGNIFICANT CHANGE

Our 'Street Manager' system captures details of all streetworks and road works in the UK. These activities are highly labour intensive and have had a tendency to be energy inefficient. To make sure change is effective, we've classified our carbon emissions in three ways:

- Scope 1 emissions are created directly 'on site'.
- Scope 2 emissions are created through the production of the energy and other utility services we use.
- Scope 3 emissions stem from our associated supply chain, and the products we use to do what we do.

Even though they only comprise 17% of our total activity, we know major street and road works account for 43% of our sector's total emissions, and the biggest contributor is Light Good Vehicles (LGVs) taking people and equipment to site.

In the future we'll need vehicles with zero emissions wherever possible. But in our next phase on the Road to Net Zero, we'll be looking at how to measure the impact of all our practices as well as the emissions created by materials we use. This may mean reducing the need for machinery altogether, for example, by moving to new road designs or no dig technologies. A 'whole-supply-chain' approach is crucial.

MATERIALS

We're looking at every aspect of our supply chain. Our next steps will include assessments of all the products, processes, and materials we use to determine their precise carbon footprint.

One of our aims will be closer collaboration with suppliers and manufacturers to create new, more sustainable options that have a lower carbon footprint from the outset. As part of this activity, we'll also look at how we make decisions about designs, products, and processes, so that we can support the widest number of stakeholders connected with streetworks and roadworks.



STREET TREES

Street trees are trees that grow in urban areas, usually next to a public footway. They're a vital factor in improving the quality of life. We believe street trees will also help us decarbonise through reductions associated with improved air quality, energy efficiency, targeted species planting, stormwater management, carbon sequestration and sustainable landscaping.

DESIGN OPTIONS

Generally, we use one of four design options for streetworks and road works in the UK: trenching, minimal dig, trenchless technologies or robotics. We'll evaluate these carefully. If there's not enough data then we may consider scenario based approaches instead, to help us make more informed choices. This is likely to draw from the 'Designing Resilient Cities' (DRC) method, developed at the University of Birmingham, which can take the needs of multiple stakeholders into account.

IMPROVING OUR PRACTICES

All local authorities and agencies work to common regulations, but there is very little standardised data on the UK's streetworks and roadworks' emissions. This makes it hard to evaluate strategies or set targets.

Our Discovery Phase let us highlight those knowledge gaps. In the coming months, we'll be assessing how to better collect, share and analyse data around the works themselves, the life-cycle emissions of materials, research around green infrastructure, and information about emerging technologies (such as electric vehicles).

CHANGING OUR APPROACHES, BUSINESS MODELS, GOVERNANCE, AND TOOLS

Ultimately, our focus is on steering the streetworks and roadworks industry towards a more sustainable ethos - embracing opportunities for growth and revenue while reducing our impact on the environment.

Approach: We know that we need an effective, accessible, and integrated strategy to achieve our aims - a strategy that aligns with UK Government's 'data first' philosophy. We'll be looking for ways to feed other sectors' insights into our plans and deliver cost savings and improved stakeholder engagement for the public good. The greatest benefits are likely to come from adopting a modified Life Cycle approach.

Business models: For sector-wide change, it's likely that our stakeholders will also need to adopt multi-faceted business models. To assess their effectiveness, detailed oversight and good governance will be pivotal.

Governance: At the moment, our sector's governance has distinct 'discipline' boundaries. The subsurface isn't recognised as a national resource, so conflict can exist between the New Roads and Street Works Act and the utility industry's regulations.

More partnerships are needed, with a strong governance framework that's structured to nurture success. Joint enterprise between street authorities and utilities should help us optimise our carbon emissions' outcomes.

Tools: At the moment, there aren't any tools that capture sector-wide carbon emissions. We've identified several tools that could help and, with support from EA Technology and the University of Birmingham, HAUC(UK) is now exploring the development of an accurate and effective carbon calculator for our sector. We've also discussed an 'all consequences framework', as an alternative - a tool that would provide richer, more impactful conclusions.