



CASE STUDY: Crossrail – Reducing The Consumption of Plastics and Packaging

Established in 2001, Crossrail Ltd is the company that has been founded to build the Elizabeth line through central London. The Elizabeth line will stretch over 60 miles from Reading and Heathrow in the west through central tunnels across to Shenfield and Abbey Wood in the east. The new railway will stop at 41 accessible stations, 10 newly built, and 31 newly upgraded, and is expected to serve approximately 200 million people every year.

As an environmentally conscious business, Crossrail Ltd recognises that building new infrastructure requires the use of natural resources and materials which will impact the communities and local ecosystems surrounding its projects. In turn, protecting and preserving the environment is a core component of their Sustainability Strategy. The Crossrail project is the first of this scale to consider sustainability from the beginning of construction and to embed sustainable thinking into its decision making.

Crossrail Ltd's Sustainability Strategy includes the following objectives, with the fundamental aim of minimising the impact of construction on the environment:

- Addressing climate change.
- Living within environmental means.
- Caring for the physical environment.
- Promoting sustainable consumption and environmental protection.
- Protecting natural resources and enhancing the physical environment.

Collaborating With The Supply Chain

Crossrail Ltd recognises that more needs to be done if the construction industry is to protect the environment and local ecosystems. Crossrail Ltd is actively working towards reducing the environmental impact of materials, particularly plastics, in efforts to preserve the natural environment.

In their Environment Policy, they specify that all contractors must try to use materials with a high recycled content where possible. They expect to derive at least 15% of total material value from reused and recycled content. Crossrail Ltd is exceeding this target with 39% of total material derived from reused or recycled content.

Crossrail Ltd is working to reduce waste through consistently reviewing the amount of plastics and packaging provided by suppliers and purchased by contractors. Opportunities have been explored to avoid non-sustainable materials, and plastics and packaging which can be successfully reused or recycled.

Bond Street Station

Contractors Costain and Skanska are working on Bond Street station. The work comprises the construction of the east and west ticket halls and platforms for the new Bond Street station on the Elizabeth line.

There is a prominent focus for designing out waste and diverting waste produced on site from landfill, with an objective to achieve zero waste to landfill. A comprehensive Site Waste Management Plan was established before construction commenced, and is regularly updated and assessed to ensure waste is recycled or reused.

The site emphasises that the use of primary, secondary, and tertiary packaging, must be minimised and made from sustainable materials that can be either reused, recycled, or recovered. Materials used on site are reused and recycled where possible, and sustainable alternatives are encouraged. For example, timber crates are used for deliveries instead of plastic containers to avoid the use of plastic packaging, and any excess packaging must be taken back for subsequent reuse or recycling.

Site inductions include an environmental briefing, and one in three toolbox talks cover environmental issues such as air pollution, carbon footprint, and plastic pollution, to encourage operatives to undertake environmentally friendly behaviour. In recognition for its efforts in preserving the environment, the project has been awarded a Green Line Environmental Award and Sustainability Award from Crossrail Ltd.

Whitechapel Station

BBM Joint Venture, comprising of Balfour Beatty, Morgan Sindall, and Vinci Construction, are working at Whitechapel station. The construction involves the fitting out of new low level platforms and the redevelopment of the existing Whitechapel station in east London.

A thorough environmental assessment was carried out at the start of the project and environmental issues are fully monitored ahead of any construction works. An Environment Team is based on site to encourage the preservation and protection of the local ecosystem where possible.

Environmental training is provided to all site operatives and regular toolbox talks are hosted to encourage environmentally conscious behaviour among operatives.

Green Line Recognition Scheme

The Green Line Recognition Scheme is an environmental strategy introduced by Crossrail Ltd which rewards individuals and site teams on its construction projects for tackling environmental issues and for supporting best environmental practice.

The strategy aims to improve awareness of environmental issues amongst the construction industry and to achieve positive environmental behaviour across all Crossrail Ltd projects, with the ultimate aim of improving environmental performance.

The Scheme involves all individuals from senior leadership to site operatives, and all are encouraged to adopt best environmental practice and to implement environmental initiatives on site to achieve 'Green Line' status.

Educating The Workforce

Crossrail Ltd places high importance on environmental issues and promotes a positive environmental culture throughout its organisation, from the designers and contractors, to the site managers and operatives.

They encourage the designers to undertake a series of '**Designing Out Waste**' workshops and to identify opportunities for reducing plastics and packaging on the design process. While contractors are required to consider measures to minimise plastic consumption on site and how waste will be diverted from landfill before construction commences. Many contractors are now using suppliers who procure plastics and packaging which can be successfully reused in the future, or recycled, avoiding the disposal of waste to landfill.

On site, site managers are expected to communicate environmental issues at weekly briefings and host regular environmental toolbox talks to encourage operatives to protect and preserve the environment. Site managers should ensure campaigns, posters, leaflets, and booklets, regarding environmental and sustainability issues are visible on site to promote positive environmental behaviour among operatives. For example, during World Environment Week in June 2018, all Crossrail Ltd projects were encouraged to focus on reducing single-use plastics and were provided with practical advice on how to avoid consuming single-use plastics.

To find out more about the Crossrail project, please click [here](#) to visit their website.