

# case study - drainage maintenance Essex Highways

## How it started

Essex has 8,000km of highway with around 310,000 drainage assets that need to be maintained regularly and at different frequencies throughout the year, including 83,000 priority network gullies. Essex Highways needed a way to optimise the cleansing and jetting of their gully assets. Initially, gullies were being cleansed on a district by district basis with a priority network completed once per annum.

## The solution

map16 processed and meticulously analysed 4 years worth of historical drainage data from Essex Highways' previous maintenance system, including flow rates, sediment build up, structural integrity, and maintenance history. Leveraging this data, map16 crafted a bespoke risk-centric asset management system tailored to the specific needs and challenges of Essex Highways. This system facilitated real-time monitoring of cleansing schedules across the expansive PR1 and PR2 networks, and enabled predictive maintenance strategies, pre-emptively addressing potential issues before they escalated. This streamlined process eliminated the necessity of waiting for a priority model that considered historic silt levels to be introduced, ensuring more proactive and efficient maintenance strategies.

## The benefits

As a result of the risk analysis carried out, Essex Highways have achieved a remarkable cleansing reduction of 40% having optimised operational functionalities and more effective resource allocation across the network. They have also seen substantial financial savings of over £90,000 per annum. By seamlessly integrating all of Essex's assets onto a unified platform, Essex Highways' can now be assured of long-term asset sustainability and adaptability. This future-proof approach guarantees that the system evolves alongside infrastructure requirements, safeguarding investment and enhancing operational resilience for the entire lifecycle of each asset.

**"The outcome based approach of map16 has allowed us to transform the drainage service in Essex...The move to a risk-based cleansing approach has so far saved Essex over £250,000"**

Will Young  
Innovation and Efficiency Manager  
Essex Highways

