

MAYOR OF LONDON

DIG ONCE APPROACH



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I’m pleased to see how impactful these collaborative efforts have been – this innovative approach is transforming the way streetworks are planned, successfully influencing both when and how projects are delivered. Partnership across the sector is pivotal and we value how the Dig Once approach is fostering systematic, proactive planning of collaborative works, achieving benefits at a scale rarely seen in London previously.”

Clive Bairsto
Street Works UK Chief Executive Officer and Chairman

1 EXECUTIVE SUMMARY

London can only function effectively if its road network is reliable, and its infrastructure, electricity cables, water pipes, heat assets and telecom ducts beneath the road surface are effectively managed. As the city’s Net Zero transition unfolds, whilst delivering economic growth and housing targets, collaborative streetworks are essential to minimising disruption on London roads to the benefit of residents and businesses.

Developed by the Greater London Authority (GLA) Infrastructure Coordination Service (ICS), the approach brings utilities and highway authorities together, by providing a structured framework to plan and deliver streetworks collaboratively. This coordinated approach enables joint delivery, avoids repeated works, and reduces disruption to road users, residents, and businesses.

Since its inception in 2019, Dig Once has delivered clear benefits including reduced congestion, lower carbon emissions and more reliable journeys. These results highlight the value of collaboration and the need for a consistent framework.

This strategy outlines how Dig Once works in practice, setting out the roles, regulation, data, tools and delivery methods that support collaborative infrastructure activity across London. It offers practical guidance to help partners identify opportunities, overcome common barriers and deliver infrastructure in a way that maximises benefits for Londoners.

We are inviting all streetworks promoters, highway authorities and contractors to adopt the Dig Once approach as standard practice across the sector. By sharing long-term plans, identifying opportunities earlier, and engaging proactively with the collaboration process, partners can help minimise disruption, unlock greater social and economic benefits, and ensure infrastructure is delivered efficiently and responsibly.

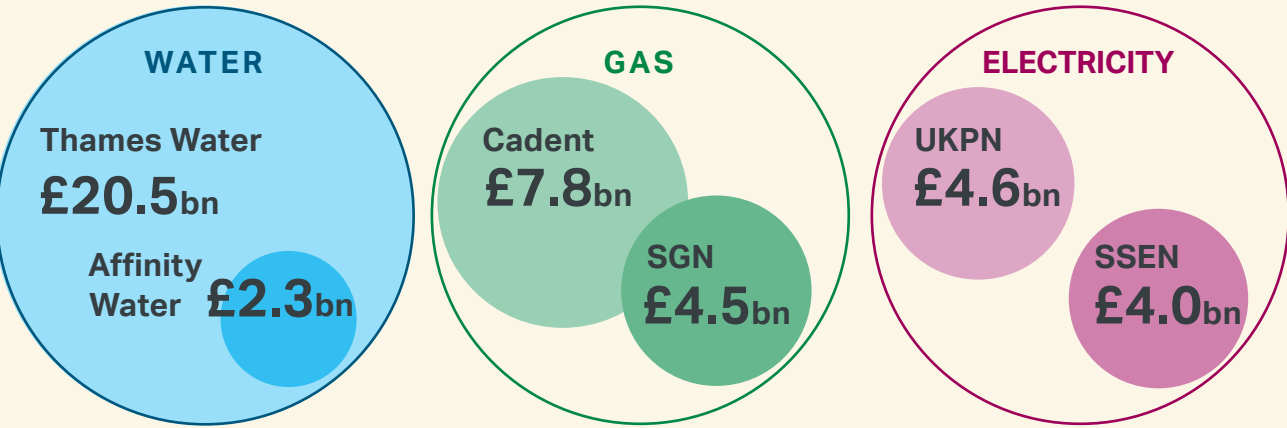


2 THE CASE FOR THE DIG ONCE APPROACH

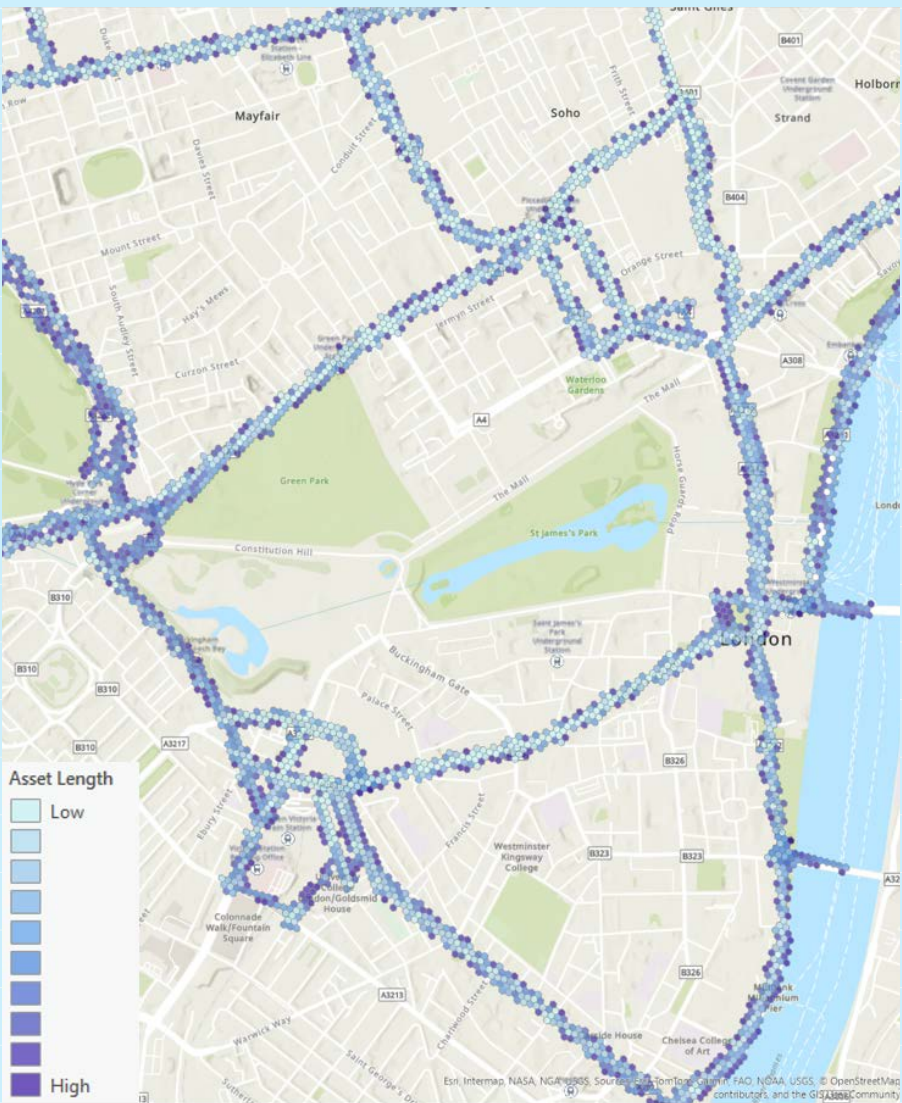
Streetworks-related disruption is a major economic, environmental and social challenge for London. It is one of the biggest drivers of congestion, with around 196,000 major, standard and urgent works taking place across the capital in 2025.¹

In 2025, traffic congestion in London, the highest in Europe and seventh globally, cost the economy £5.2bn,² estimates attribute up to 30% of this to planned utility works. But this isn't the full picture – the impacts extend far beyond congestion, contributing to wider economic, environmental and wellbeing challenges for the communities where streetworks take place.

In future years, the GLA expects disruption to increase as works promoters invest heavily across infrastructure sectors to meet climate change ambitions, and housing and economic growth pressures. Record investment has been committed by regulated utilities operating within London to upgrade their existing networks, in addition to developer-driven growth projects, and unplanned reactive repair works.



1 GLA internal analysis (2025). Planned streetworks in 2025. Greater London Authority (unpublished).
2 INRIX (2025), Global Traffic Scorecard, unpublished dataset.



Alongside this, London is also facing significant subsurface asset congestion. This makes installation and rehabilitation works more complex, leading to longer programmes and higher costs for works promoters – in turn amplifying the financial, environmental and wellbeing impacts on local communities. The above image presents GLA analysis of current subsurface asset congestion, represented in decile increments.

Recognising these challenges through engagement with the Mayor's London Infrastructure Group, the GLA established the ICS in 2019 at the request of industry.

The core aim of Dig Once is to reduce disruption by coordinating streetworks earlier and more effectively. Since its initial application, the approach has delivered approximately 3,000 days of avoided disruption and realised £22m in net economic benefit to Londoners.

There is a significant opportunity to embed the Dig Once approach as business as usual in London and realise benefits at a far greater scale. GLA internal analysis of historic major works permit data (2022-25) identified that only 3% of relevant projects were delivered collaboratively.

3 WHAT IS DIG ONCE?

Dig Once is an approach to streetworks where organisations coordinate their immediate planned, and long-term speculative works through early-stage data-sharing, planning and delivery. The approach brings together people, regulation, data and tools, and collaborative delivery methods. Buy-in across utilities, local authorities, highway authorities and wider industry partners is essential to coordinating works typically undertaken in isolation.

There are various levels of Dig Once maturity – from simply coordinating work at the same time to delivering fully integrated projects – all of which require earlier coordination than standard statutory processes. By sharing early stage, speculative programme and investment data, organisations can better align and integrate work programmes, providing opportunity to deliver greater benefits at scale.

- As a minimum, Dig Once projects must include:**
- Temporal overlap – works carried out during the same time period
 - Early sharing of phasing and traffic management plans between utilities
 - Joint communications to local residents and businesses
- At a more advanced level:**
- Spatial overlap – when works by different organisations take place in the same physical location, allowing for trench sharing or joint excavation (described further in Section 5.6). This requires deeper planning and coordination between partners, typically generating significantly greater benefits for residents and road users.



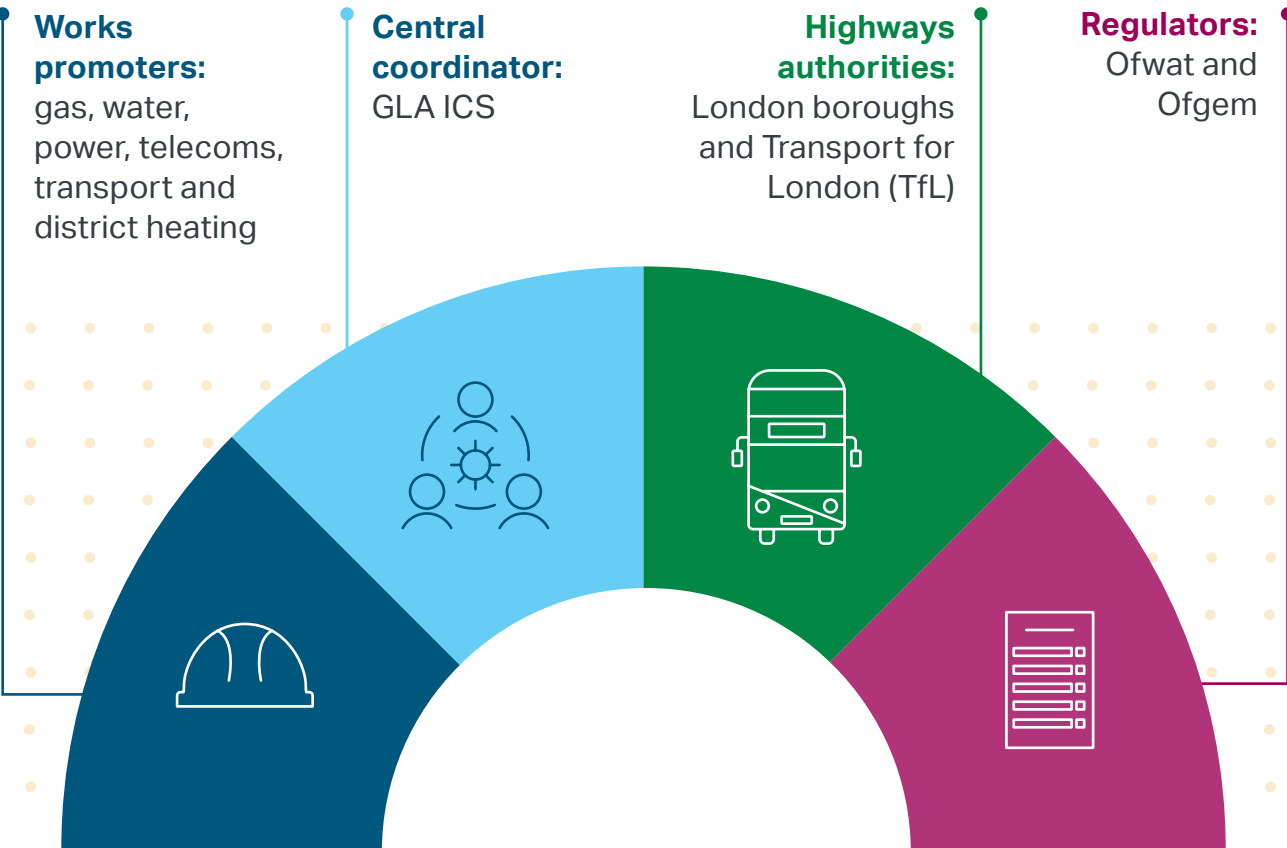
3.1 COLLABORATION LEVELS

The table below shows the difference between isolated working and Dig Once projects. At a minimum, Dig Once requires shared phasing, traffic management and communications. Additional elements can realise higher collaboration levels (1-3).

Collaboration	Level	Supplementary items
Isolated	Level 0 Statutory coordination	Business as usual – ‘typical’ statutory coordination of works timings
Dig Once	Level 1 Spatially isolated working	Works are delivered concurrently with no spatial overlap of footprint
	Level 2 Overlapping collaboration	Works are delivered concurrently, and with overlapping spatial footprint
	Level 3 Integrated delivery	Planning, design and delivery of works are fully integrated, incorporating elements such as single contractor delivery or trench sharing

3.2 DIG ONCE GOVERNANCE

Dig Once involves many different organisations, each with their own roles and responsibilities. The following groups take part in delivering Dig Once in London:



A multi-tiered governance approach facilitates effective implementation of Dig Once across stakeholders, providing clear channels of escalation and decision making.



3.3 MAYOR’S LONDON INFRASTRUCTURE GROUP

Chaired by the Mayor of London, the purpose of this group is to create a common vision for long-term infrastructure planning in London and to jointly tackle issues in the infrastructure sector. The group convenes senior executives across infrastructure providers, regulators, government, and wider industry, and has responsibility for setting the strategic direction for the implementation of Dig Once in London.

3.4 SPONSORS AND STEERING GROUP MEETINGS

Led by the GLA’s ICS, these groups bring together senior leadership and wider colleagues from the works promoters involved in Dig Once projects. Their purpose is to discuss strategic issues in the Dig Once project pipeline and function as an escalation point to unblock projects at risk of being delayed or dropped.

3.5 COLLABORATION SPECIALISTS

The ICS holds regular meetings with collaboration specialists to support delivery of the Dig Once pipeline. The purpose of these meetings is to oversee, from end-to-end, effective delivery of Dig Once projects, proactively identifying and addressing blockers should they arise.

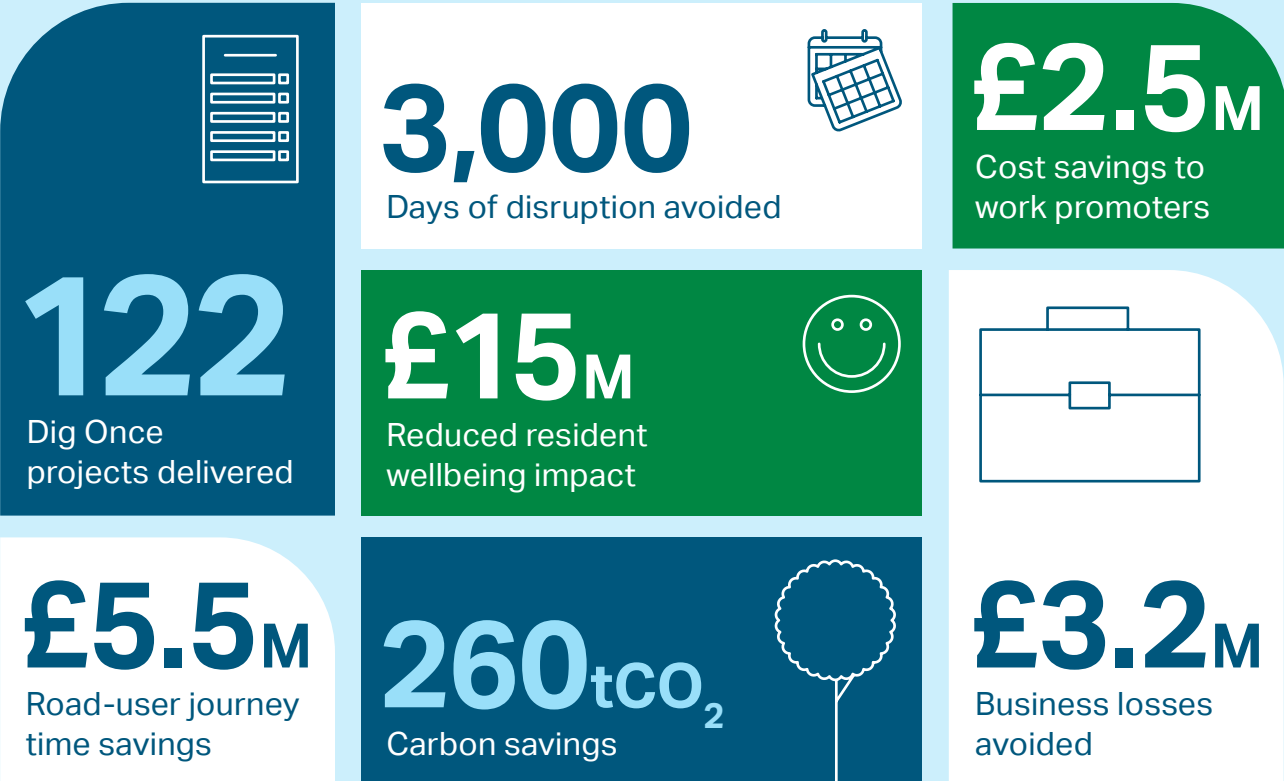
4 WHAT’S THE VALUE OF DIG ONCE?

Since 2019 the GLA has identified, and consistently estimated, a wide range of social, economic, and environmental benefits for road users and communities through implementation of the Dig Once approach. These include:

Benefit (Unit)	Definition
Days of disruption avoided (total)	Reduction in duration of streetworks, achieved through pre-construction efficiencies, concurrent working, and delivery optimisation
Reduced road-user journey time impact (£)	Monetary value of lessened impact to road users
Reduced resident wellbeing impact (£)	Social value improvement to households within 500m radius of works, resulting from lessened construction impact and access to amenities, monetised through a willingness to pay model
Business losses avoided (£)	Reduced financial impact to businesses adjacent to works
Cost saving to work promoters (£)	Reported financial saving from work promoter and associated supply chain, achieved through joint-working and construction efficiencies
Carbon savings (tCO ₂)	Operational carbon emissions savings from lessened road user impacts – including diversion routes
Air quality benefit (£)	Monetary value per road user class associated with reduced journey time impacts



To monitor and track these benefits on each Dig Once project the GLA has developed a bespoke Monitoring and Evaluation (M&E) Tool (outlined in section 5.4). To date, the net benefits generated by Dig Once projects, are:



Transport for London and the GLA Infrastructure Coordination Service partnership helped to create the Dig Once approach, which provides a practical and collaborative way of reducing disruption on the capital’s roads.

“By fostering early-stage data sharing and coordination of capital delivery programmes, we can reduce costs, cut carbon emissions and balance the need for infrastructure investment with minimised disruption to the customer.”

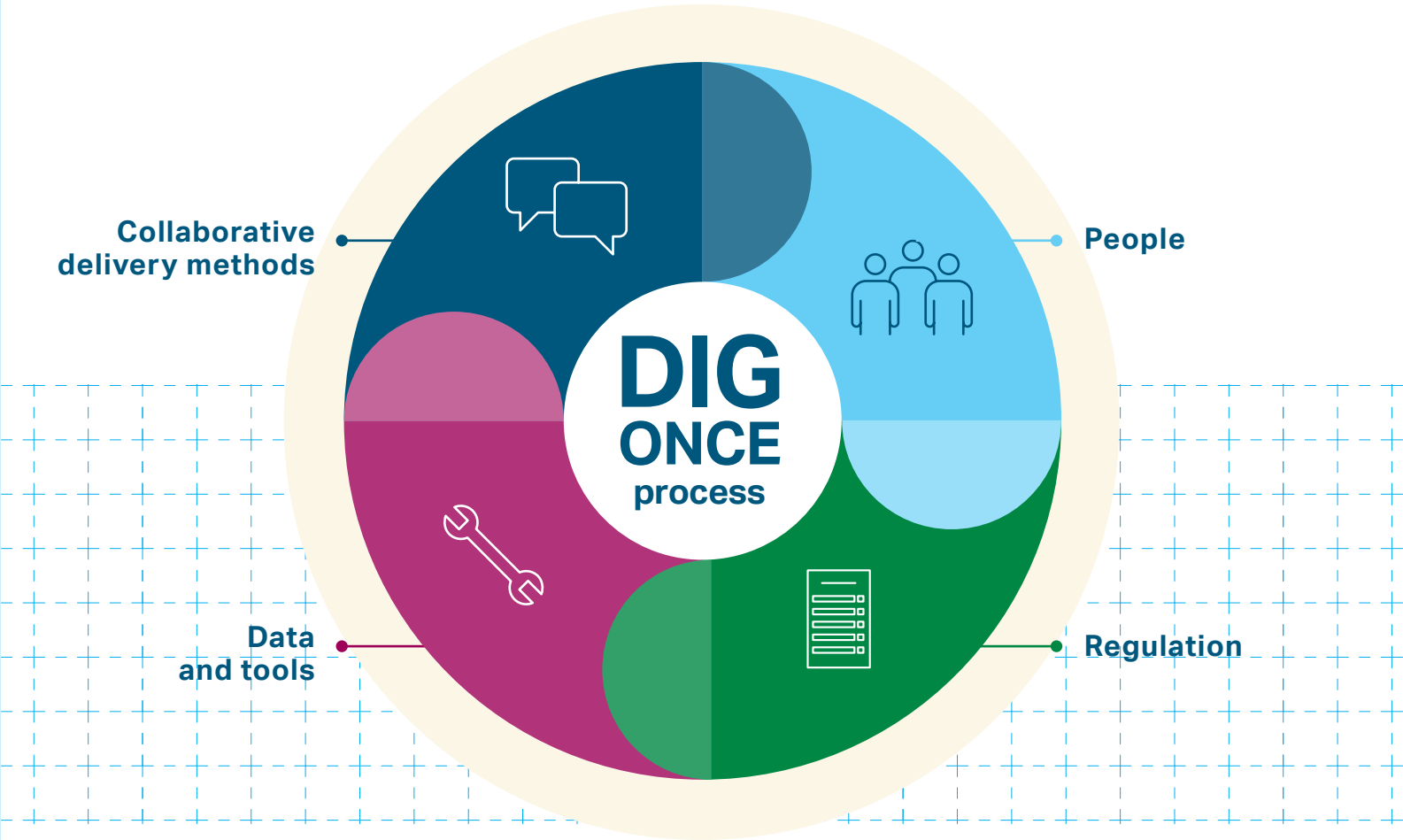
Andrew Sherry
GLA Infrastructure Coordination Service Programme Lead
and Coordination Manager at Transport for London

5 HOW DO YOU DO DIG ONCE?

5.1 OVERVIEW

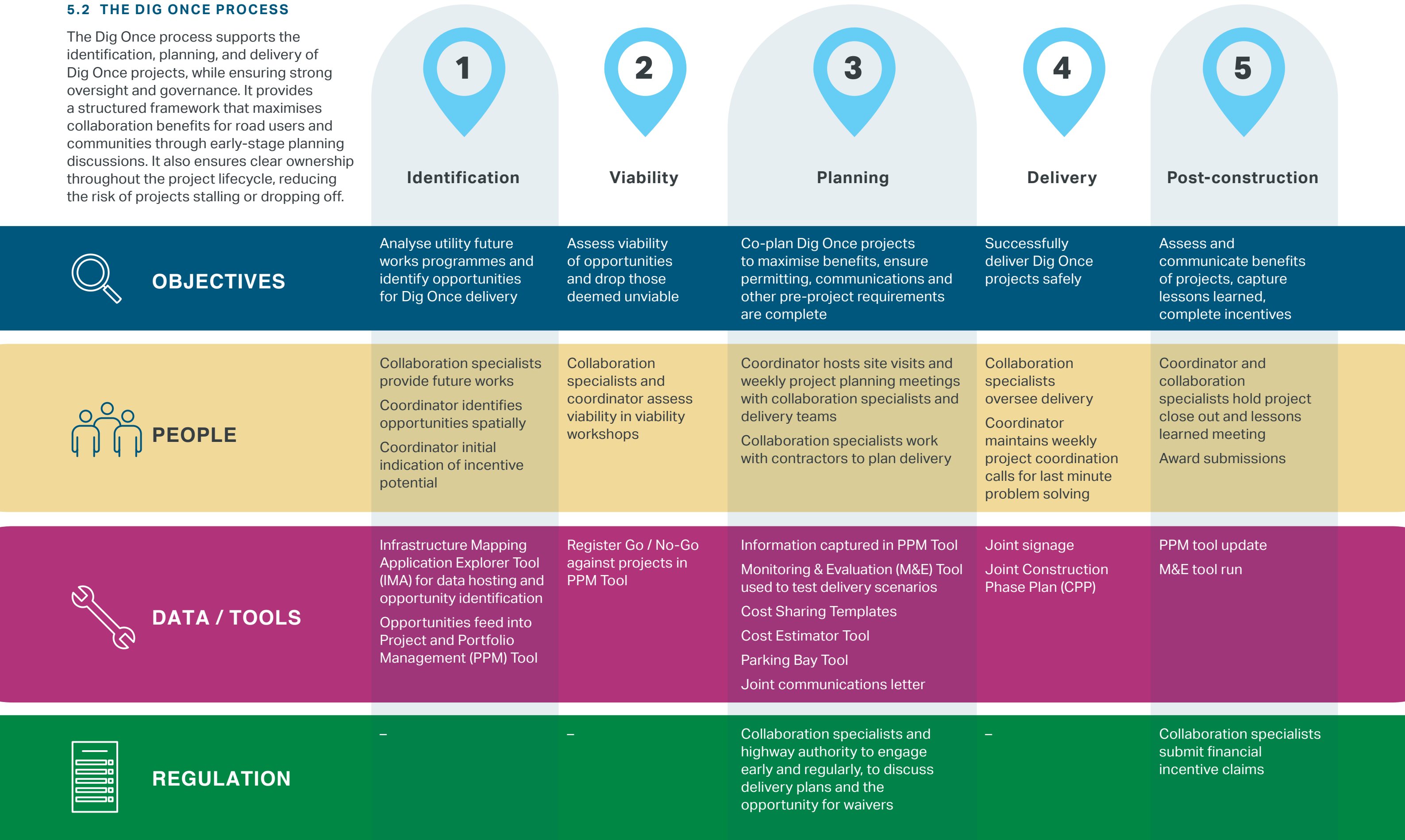
This section describes the systems, resources, methods, and processes needed to successfully Dig Once. The content is based on lessons learned from implementation in London, drawn from partner organisations’ experience since 2019.

Successful implementation of the Dig Once approach requires the bringing together of: people, regulation, data and tools, and collaborative delivery methods. These elements form part of the five ‘pillars’ of Dig Once, and successful implementation depends on having all of them in place. As shown in the image below, the Dig Once process is the overarching pillar – it provides the framework that brings the other four pillars together effectively and efficiently.



5.2 THE DIG ONCE PROCESS

The Dig Once process supports the identification, planning, and delivery of Dig Once projects, while ensuring strong oversight and governance. It provides a structured framework that maximises collaboration benefits for road users and communities through early-stage planning discussions. It also ensures clear ownership throughout the project lifecycle, reducing the risk of projects stalling or dropping off.



5.3 PEOPLE

To implement the Dig Once process and embed it as a business-as-usual approach, a wide range of organisations need to buy in and play an active role. Based on our experience in London, we have identified a set of typical roles, mapped to a RACI matrix, to present essential involvement across the different organisations required for delivery of Dig Once projects:

- A. **Central Coordinator (GLA ICS):**
Responsible for overseeing the Dig Once process from end-to-end, convening collaborating parties and ensuring benefits are maximised.

B. **Collaboration Specialist (Works promoters):** Responsible for championing Dig Once within their organisation and managing the planning and delivery of Dig Once projects. Acts as the single point of contact for the Central Coordinator throughout the Dig Once process.

C. **Sponsor (Works promoters):**
Responsible for championing Dig Once, providing a channel for escalating and unblocking projects at risk, and providing leadership
- within their organisation to embed Dig Once as a business-as-usual delivery mechanism.

D. **Network Management (Highway authorities):** Responsible for ensuring Dig Once projects are appropriately permitted and that any appropriate supporting discounts or waivers for lane rental and parking bay suspensions are made available.

E. **Regulator (Sector economic regulators):** Responsible for ensuring that the right financial and reputational incentives are in place to support the implementation of Dig Once.



Process stage	Central Coordinator	Collaboration Specialist	Sponsor	Network Management	Regulator
1 Identification	Accountable	Consulted	Informed	-	-
2 Viability	Accountable	Responsible	Informed	-	-
3 Planning	Consulted	Accountable	Consulted	Consulted	-
4 Delivery	Informed	Accountable	Informed	Informed	-
5 Post-construction	Accountable	Responsible	Informed	Informed	Informed



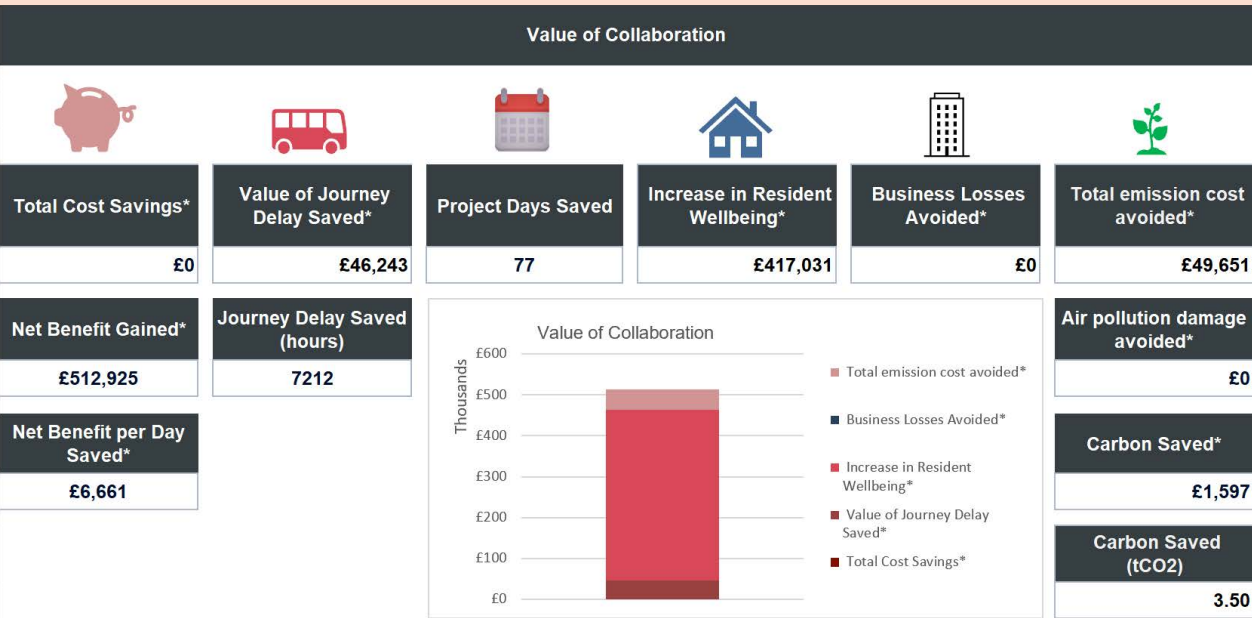
As a collaboration specialist at Cadent, I see first-hand how the Dig Once approach transforms the way we work. When organisations plan together, we reduce unnecessary excavations, accelerate delivery, and achieve outcomes none of us could reach alone. It’s a partnership model that benefits customers, local authorities and the wider road network.”

Lloyd Downing
London Collaboration and Reinstatement Specialist at Cadent

5.4 DATA AND TOOLS

To facilitate the Dig Once process and provide opportunity for more impactful collaboration across partners we have developed a series of data platforms and tools.

- A. Infrastructure Mapping Application Explorer Tool (IMA):** A secure web-based Geographic Information System tool which hosts long-term, speculative future investment data from all of London’s streetworks promoters. The IMA is governed by a multi-party non-disclosure agreement which facilitates this information sharing. The platform is used for identifying spatial and temporal programme overlaps, creating batches (or ‘sweeps’) of Dig Once opportunities.
- B. Monitoring and Evaluation (M&E) Tool:** Used in the post-construction phase of each project. Using core project information including location, works phasing and traffic management plans, it calculates the benefits of each Dig Once project by comparing them to the scenario where the works were carried out in isolation. The M&E Tool is essential for consistent quantification of the benefits of Dig Once, identifying opportunities for further improvement and making the strategic case for further scaling of Dig Once as a business-as-usual delivery model.



- C. Cost Sharing Template:** Used during the joint planning phase of the Dig Once process and identifies opportunities for sharing project overhead costs between collaborating parties.
- D. Cost Estimation Tool:** Used during the post-construction phase of the Dig Once process to quantify the cost savings compared with delivering the works as business as usual.
- E. Joint communication letter:** Useful during the planning phase to inform residents and businesses of how Dig Once efforts will reduce disruption.
- F. Joint signage:** Provides visibility of partnership working and highlights collaborative working on the highway.
- G. Joint Construction Plan:** Achieves coordinated delivery, reducing duplication, cost and programme risk.
- H. Parking Bay Tool:** Helps partners plan and share parking suspensions once, enabling multiple works to be delivered through a single occupation.

5.5 REGULATION

Regulatory incentives are essential to the Dig Once approach, rewarding streetworks promoters for evolving organisational structures, and data and delivery processes to unlock greater benefits to communities, road users and the environment.

There are two incentives key to embedding Dig Once as a business-as-usual approach by helping streetworks promoters justify the additional time, effort and coordination required to transform approaches and scale delivery:

- 1. Regulatory incentives:** Bespoke Output Delivery Incentives (ODIs) are performance commitments introduced by Ofgem in the gas and power sectors, and by Ofwat in the water sector, that recognise efforts of regulated utility companies delivering Dig Once projects that meet: Minimum (>200m collaborative length), or Strategic (prescribed in Final Determination publication) qualifying criteria.
- 2. Lane rental and parking bay suspension charges:** Projects delivered in isolation typically incur, where applicable, lane rental and/or parking bay suspension charges. However, through Dig Once, utilities and highway authorities are encouraged to explore a discount or full waiver of charges in recognition of the disruption savings unlocked through collaborative working.



5.6 EXAMPLE COLLABORATIVE DELIVERY METHODS

A range of collaborative working arrangements can be used to deliver Dig Once schemes.

These vary in their level of integration, and the choice of approach is often shaped by engineering, safety and logistical constraints. Such collaborative arrangements are critical to achieving disruption savings, with more integrated methods typically delivering the greatest benefits.

Level 1: Spatially isolated working

Work is carried out in the same project area but in separate locations, allowing different utilities to operate without interference. Each contractor works in their own section with no overlap, enabling simultaneous work.



Level 2: Dovetailing

Work is closely timed so one utility finishes with the next following on, reducing repeat road openings but requiring robust programme management.



Works area sharing

Multiple utilities operate at the same time within one permitted area, using a single traffic management setup/closure.



Level 3: Trench sharing

Utilities install infrastructure utilising the same excavation – maximising coordination and minimising impact, but requiring strict technical agreements on spacing, safety, and ownership.



5.7 EMBEDDING COLLABORATION AS BUSINESS AS USUAL

Embedding collaboration as business as usual means making coordinated planning and delivery a routine part of how organisations manage their programmes, assets and supply chains.

To achieve this, it's important to embed:

Speculative Long-Term Data Sharing

Regular sharing of forward plans and asset data (>1 year) enables early identification of collaboration opportunities and supports long-term programme alignment.

Batching Projects with Contractors

Grouping multiple collaborative schemes into shared work packages helps contractors plan integrated delivery, unlocking efficiencies in mobilisation, traffic management and procurement.

Optimising Asset Management

Asset managers should factor collaborative potential into intervention planning, allowing for minor timing adjustments where joint delivery can significantly reduce disruption.

Overcoming Common Blockers

Progress can be limited by Construction (Design and Management) Regulations, liability concerns and shifting investment priorities. Clear governance, contractual clarity and agreed escalation routes help reduce these barriers and make collaboration repeatable.



At Thames Water, we recognise the Dig Once approach as a key enabler for more efficient, coordinated delivery. Working in partnership allows us to streamline activity on the ground, reduce unnecessary repeated works, and provide a better service to customers and local communities."

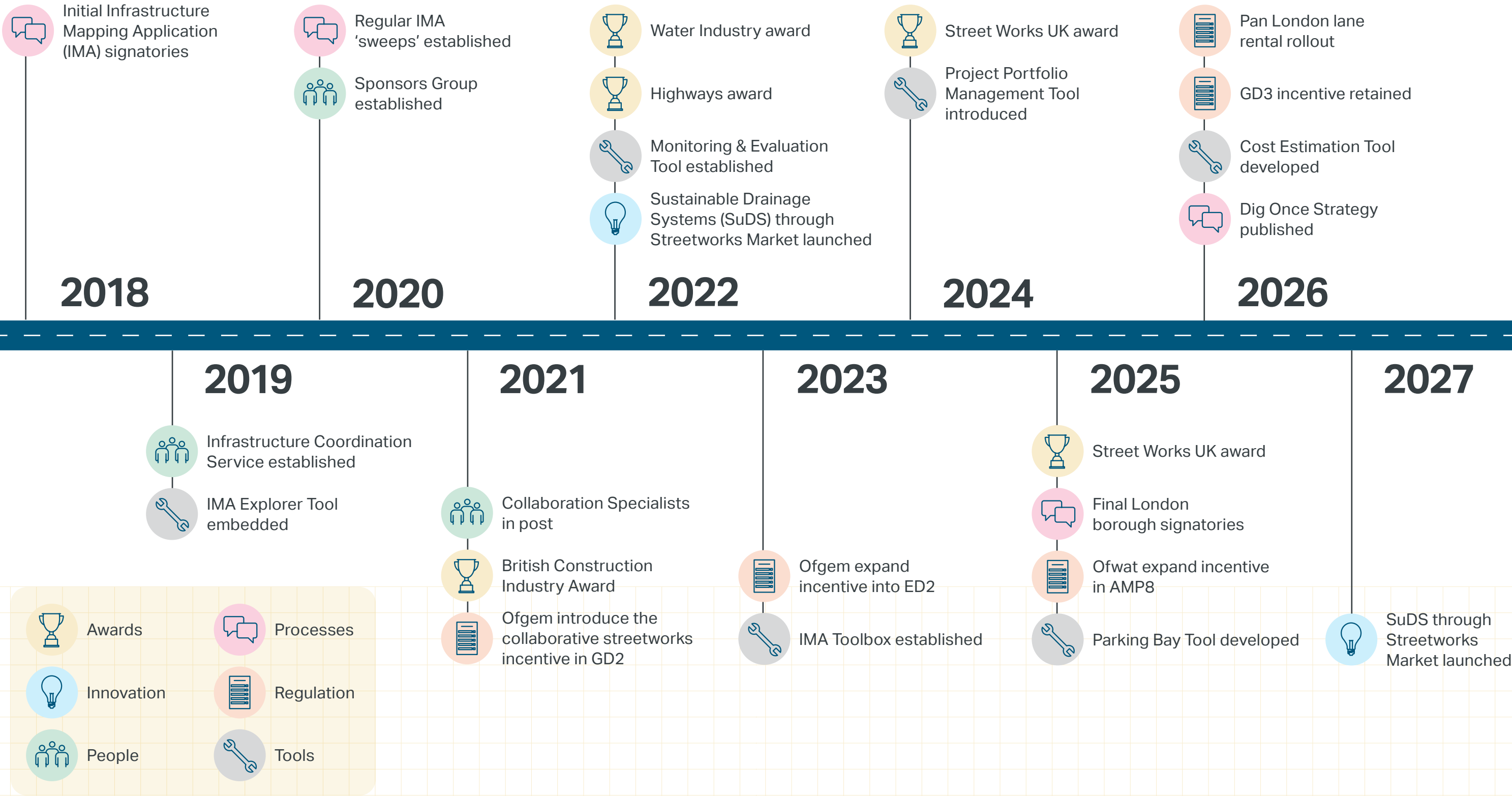
Paige Bearman
Lead Sponsor at Thames Water



Browne fully endorses the Dig Once approach as it drives better collaboration across the industry. By aligning works across utilities and stakeholders, we can streamline delivery, minimise disruption, and create long-term value for the communities we serve."

Lisa Blundell
Head of Planning and Streetworks at Browne

6 THE DIG ONCE TIMELINE



7 DIG ONCE EXEMPLAR CASE STUDIES

The following examples highlight a range of Dig Once projects delivered across London, demonstrating the value of collaborative working through the number of days of disruption saved for local communities.

STOKE NEWINGTON

Significance
Multi-utility, multi-highway authority collaboration

Borough
Hackney

Collaborators
Cadent, Thames Water, TfL, Hackney Council

Days saved
242



PARLIAMENT HILL

Significance
SuDS through streetworks pilot in location of repeat surface water flooding

Borough
Camden

Collaborators
Cadent, Camden Council

Days saved
21



CABUL ROAD

Significance
School street location with collaboration delivered outside of term time

Borough
Wandsworth

Collaborators
Cadent, Thames Water

Days saved
49



EARL'S COURT ROAD

Significance
Shared excavations in traffic-sensitive TfL Road Network (TLRN)

Borough
Kensington and Chelsea

Collaborators
G.Network, Modus Utilities Ltd

Days saved
144



CABLE STREET

Significance
Adjacent to London Overground station and required TfL cycle superhighway diversion

Borough
Tower Hamlets

Collaborators
Tower Hamlets Council, UK Power Networks

Days saved
23



FIELDGATE STREET

Significance
Location of religious and cultural importance; initial trench-sharing pilot

Borough
Tower Hamlets

Collaborators
Tower Hamlets Council, UK Power Networks

Days saved
30



GIPSY HILL

Significance
Major junction closure requiring diversion routes impacting five boroughs

Borough
Lambeth

Collaborators
SGN, Thames Water

Days saved
42



BYNG STREET

Significance
Future-proofing pilot scheme with empty ducting installed in anticipation of planned development

Borough
Tower Hamlets

Collaborators
Tower Hamlets Council, Thames Water

Days saved
10



HENDON WOOD LANE

Significance
Collaboration accelerated to utilise already-planned road closure

Borough
Barnet

Collaborators
Affinity Water, Cadent, Openreach, Barnet Council

Days saved
69



LOWER GREEN WEST

Significance
SuDS through Streetworks pilot

Borough
Merton

Collaborators
SGN, Thames Water, Merton Council

Days saved
77



CRYSTAL PALACE PARK ROAD

Significance
High-profile project culminating in Mayor of London visit

Borough
Bromley

Collaborators
Thames Water, UKPN

Days saved
28



SUNNYHILL ROAD

Significance

Four-way collaboration

Borough

Lambeth

Collaborators

G.Network, SGN,
Thames Water,
Lambeth Council

Days saved

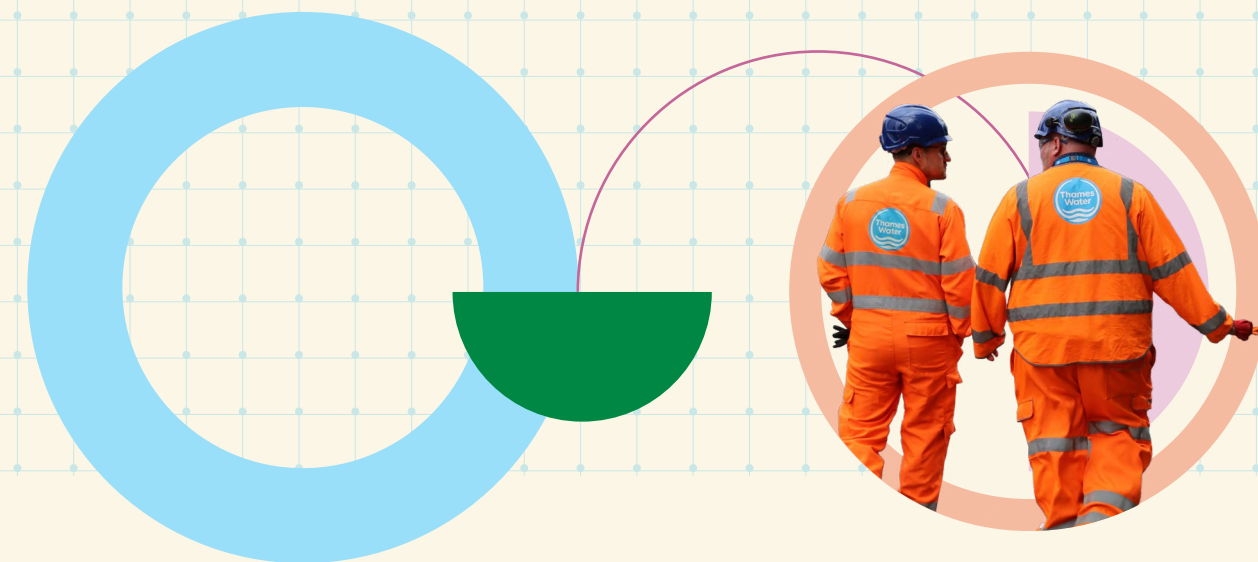
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Adopting a Dig Once approach is essential to improving network infrastructure for our residents and businesses in Bexley. By working collaboratively and planning infrastructure upgrades more efficiently, we can reduce disruption while delivering faster, more reliable connectivity – helping to create a future proof network that supports local growth and better services for our communities."

Michala Bearham

Street Works Manager at Bexley Council



In Lambeth, the Dig Once approach has become an invaluable way of reducing disruption for our residents. By coordinating programmes early and working closely with utilities through the ICS, we're able to keep our roads moving, reduce repeated excavations and deliver upgrades in a more planned and predictable manner. It's a smarter, more collaborative way of working that supports both local priorities and the infrastructure needs of the wider city."

Ben Stevens

Highway Network Manager at Lambeth Council



At SGN we believe that Dig Once enables smarter collaboration and more transparent communication with local communities. By engaging residents, businesses, and schools early, we can reduce disruption and better demonstrate the long-term benefits of essential infrastructure works."

Sharon Dorrington

Stakeholder and Community Engagement Manager at SGN

WITH THANKS TO
OUR CONTRIBUTORS

The GLA would like to thank the many organisations who have supported the development and delivery of the Dig Once approach.

This includes the Mayor’s London Infrastructure Group representatives and Sponsors Group members for their strategic leadership and continued commitment to collaboration.

We recognise the vital contributions of work promoters, including collaboration specialists and contractors who have been at the operational forefront of these pilots and supported project delivery.

We are grateful to London’s highway authorities and network management teams, across both Transport for London and London borough councils, for their efforts to promote collaborative delivery.

Thanks are extended to Ofwat and Ofgem for their role in enabling regulatory frameworks that have fostered collaborative working.

Finally, we thank all partners who have contributed data, tools, and analysis to support the ongoing development of the Dig Once approach.

GLA Infrastructure Coordination Service, 2026



UK Power Networks is fully committed to embracing collaboration opportunities.

The positive impacts can be felt whether the projects are large or small, so it is important that the ethos of the Dig Once approach is embedded across organisations.

With everyone pulling together to achieve this, we are looking forward to collaborative delivery becoming business as usual.”

Richard Boissieux
Streetworks Manager at UKPN

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