Stantec

Highways

INNOVATIVE SOLUTIONS FOR DESIGN, PLANNING AND MANAGEMENT OF TRANSPORT INFRASTRUCTURE

Transforming communities by improving connectivity

At Stantec, we understand that the success of the UK is dependent on connectivity and the efficient movement of goods, services and people. The UK economy relies on freight and logistics to construct, supply and service our towns and cities in a sustainable way. And our communities rely on effective highways and transport links to access employment, health care, education and social connections.

We help develop transport infrastructure projects from conception in national, regional and local transport strategies, through planning to business cases, design and construction.

Our leading transport economics and modelling teams, our policy and regulatory understanding, innovative approach to technology, operation and design ensure that we help our clients understand people's movements, their choices and their requirements – now and in an ever-changing world.

Our knowledge, skills and experience cover all modes of transport and we are at the forefront of the latest thinking on key issues such as smarter mobility, transport funding, digital transformation and net zero.

ROAD MAP OF SERVICES

Our services

Highways and Civil Engineering Design

Our strong engineering culture and capability means we know how to best use our technical skills to add real value to our transport clients. From small-scale road and transport schemes through to large-scale highways infrastructure projects, we work closely with our clients to make their vision a reality with cutting-edge and cost-effective engineering solutions.

Civil structures

Our team offer a comprehensive bridge engineering and civil structures experience with a history of designing and inspecting all types of highway and railway structures. Where we believe we differ from other consultants is that we truly aim to understand the clients' goals. We then deliver using the integrated approach we adopt on all our schemes, working closely with other disciplines within Stantec and the wider project team to meet your needs.

Environmental Design and Consents

Proactive identification and management of environmental aspects is an essential step in optimising design solutions and efficiently delivering construction activities so they address project constraints and environmental regulations. Our experienced team of environmental specialists work with engineers, logistics specialists and planners to deliver integrated solutions that enable the delivery of complex design and construction projects on time and on budget.

Transport Planning

Our teams are expert in the development of transport strategies and plans helping identify the need for transport infrastructure improvements. Whether we work for national, regional or local transport authorities or for our private developer clients, we use our in-depth understanding of the entire transport system to develop the best multi-modal solutions.

Transport assessments

Our geographical coverage across the UK allows us to draw on local experience and relationships with local authorities and key stakeholders when advising our clients. We are adept at assisting clients in the interpretation of model outcomes and market leaders in the application of behavioural economics to transport modelling and know how to tackle emerging issues relevant to current transport policies.

Transport appraisal and business cases

To secure funding that will enable transport infrastructure interventions, it is crucial to develop a robust case for investment supported by strong evidence. We can advise and support on the methods, principles and techniques to deliver evidence-based appraisals and business cases in line with best practice guidance.

Securing funding for transport infrastructure

Our geographic information system (GIS) enabled Funding Opportunities Toolkit helps you identify and unlock funding opportunities by detailing available sources, matching your project against the eligibility criteria, keeping you up to date with application deadlines, and sharing valuable intel on fund administrators and successful projects.

Together with the experience of our technical experts, the Funding Opportunities Toolkit provides you with a unique opportunity to secure your transport project potential.

Transport Modelling

Our transport team is skilled in undertaking appraisals of transport schemes, policies or programmes using the techniques recommended in best practice guidance such as the Department for Transport's WebTAG or Transport Scotland's Scottish Transport Appraisal Guidance. We have extensive experience in advising local and central governments on the economic appraisal of transport schemes, option appraisal, cost-benefit analysis, demand forecasting and economic impact assessments.

Transport Project Evaluation

We understand the importance of monitoring and evaluating transport projects to understand whether they are delivering their intended objectives. Our dedicated team can provide all aspects of evaluation, from developing monitoring and evaluation frameworks and gathering and assessing data to develop project baselines, to assessing the social and economic impacts of projects.

Future Mobility

We bring together a fusion of skills from transport planning to engineering to data analytics and programming to deliver innovation in transport and smart cities projects from concept to deployment. We have a strong background in research and development and knowledge exchange projects, both UK and EU funded, which are very much focused on the urban environment as well as supporting our community development colleagues in bringing future thinking to development planning.

Freight and Logistics

The UK is dependent on the efficient movement of goods, services and people. The UK economy relies on freight and logistics to construct, supply and service our towns and cities in a sustainable way. Our knowledge, skills and experience cover all modes of freight transport (road, rail, water and air) and we are at the forefront of the latest thinking on key issues, such as consolidation, kerbside management, construction logistics and last-mile logistics.

Programme Management and Integrator Services

We support our transport clients delivering major capital projects and programmes of work. Providing services ranging from programme management, programme controls, governance, reporting, risk management and technology systems. We enable clients to successfully deliver project outputs, programme outcomes and wider business benefits in accordance with industry best practice. We bring a global reach with practitioners in programme management operating across five continents in multiple industry sectors.

Climate solutions for transport

In the varied transport sectors we serve, our ability to help clients and communities lower carbon emissions and bolster resilience against climate change takes many forms.

We plan and design electric vehicle charging station networks and zero-emission transport systems.
We help assess the vulnerability of bridge and road infrastructure to climate change impacts—and then help design resilient solutions.

We also have a successful track record of designing net zero transport facilities and our smart mobility, intelligent transport system, and complete streets experts are helping clients implement technology-forward, multi-modal approaches to reducing the environmental impact of getting from A to B.

Only by addressing climate change today can we create the resilient and sustainable communities of tomorrow.

Digital solutions

Making informed decisions is a lot easier if you have the information you need at your fingertips. From managing an entire community's bridges or highway's assets, to providing methodologies and digital solutions for smart mobility implementation, we help our transportation clients develop their knowledge base.

Our teams of engineers, planners, and specialists have dedicated themselves to leveraging industry tools like 3D modelling and Building Information Modelling (BIM), as well as creating our own tools, to improve our transportation networks. For example, our AV Learning Center and Industry Analytics Platform help our clients establish a level of confidence in AV technology.

As technology evolves, so do the options for innovation. We're with you every step of the way with digital solutions that help the decision-making process, create efficiencies, and keep our communities moving.

Our industry networks

Professional organisations

We support our staff to secure professional qualifications in their chosen discipline and are members of and contribute extensively to professional organisations such as the Institution of Civil Engineers, the Transport Planning Society, the Chartered Institution of Highways and Transportation, The Design Review Panel, ACE and the Clean Growth Network.

Contributing to local networks

Our people are active members of a wide network of regional organisations in your local commercial markets such as local Chambers of Commerce, property forums and the Forum for the Built Environment.

Supporting the transport industry

Stantec deliver master planning, buildings, transport and environmental solutions that deliver sustainable project outcomes and make a positive impact to our clients in the industrial and logistics sector.

CPD Events

We partner with fellow professionals and institutions to host webinars, masterclasses and Continued Professional Development (CPD) sessions, both online and in person.

Who we are

Stantec is a top tier global consultancy. We have worked with our clients and communities in the UK for over 150 years.

We have consistently been at the forefont of planning, design and delivery of infrastructure and development in the UK.

With offices across the UK, Stantec has a strong reputation for its work with public and private sector clients on a diverse range of high-profile infrastructure and development projects.

3000+
STAFF ACROSS
THE UK

Global reach.
Local presence.

Stantec offices in the UK

Who we are

Communities are Fundamental

Whether around the corner or across the globe, they provide a foundation, a sense of place and of belonging. That's why at Stantec, we always design with community in mind.

The Stantec community unites approximately 25,000 employees working in more than 350 locations across six continents. We collaborate across disciplines and industries to bring buildings, energy and resources, environmental, and infrastructure projects to life.

We're designers, planners, engineers, scientists, transport specialists and project managers, innovating together at the intersection of community, creativity, and client relationships. Balancing these priorities results in projects that advance the quality of life in communities across the globe.

Our Core Values

Our core values unite us as a firm: we put people first, we do what is right, we are better together, and we are driven to achieve.

Our commitment to the health and safety of our people and to being ethical underpins our values and strengthens everything we do. We truly are better together; great things happen when smart people get together and are guided by their imaginations and ambitions to achieve real-world goals. We aim to support our clients at every stage their energy transition.

Reducing air pollution by increasing the use of electronic vehicles requires a significant increase in charging infrastructure. Stantec is at the forefront of planning and designing for the zero- emission vehicles. Our approach involves using digital tools and space more effectively, reducing costs, and optimising production flows.

Local Delivery, Global Expertise

At Stantec, we strive to exceed your expectations by fully comprehending your needs, interpreting them in creative and cost-effective ways, and by providing superb service and responsive follow-up regardless of location. How do we achieve this?

We start by bringing in the right staff at the right locations—driving lower-cost, higher quality, and more timely reporting to deliver best value services.

Our integrated team will provide the best of both worlds: global knowledge and understanding coupled with a local appreciation for your unique needs, resources, and constraints— informing the project's agenda from the start and delivering the advantage of local solutions.

BUILDINGS
- Airports
- Civic
- Commercial
- Education
- Health
- Industrial
- Science & Technology
- Workplace

ENERGY & RESOURCES
- Energy
- Mining, Minerals, and Metals

ENVIRONMENTAL SERVICES
- Buildings
- Community Development
- Mining
- Oil & Gas
- Power
- Transportation
- Water

INFRASTRUCTURE
- Airports
- Bridges & Structures
- Land Development
- Municipal
- Parks & Open Spaces
- Ports & Marine Terminals
- Roadways
- Smart(ER) Mobility
- Transit & Rail
- Urban Places

WATER
- Conveyance
- Industrial Water
- Management & Technology Consulting
- Waste Management
- Wastewater Treatment
- Water Resources
- Water Treatment
- Wet Weather Flow & Urban Stormwater

Our experience

M6toll Design Services Partner

PROVIDING DESIGN, IMPLEMENTATION AND SUPPORT FOR A NEW COMMERCIAL BACK OFFICE (CBO) AND A NEW TOLLING SYSTEM (NTS)

Using Stantec's international experience to create a new 'world class' tolling system for the M6toll road.

The M6toll opened in 2003 as an alternative to the congested M6 and to improve connectivity between the north and south. Up to 18 million journeys are made on the M6toll annually, around 50,000 per day, rising to 60,000 at peak times.

Midland Expressway Limited (MEL), who operate the M6toll, want to build on this success, improving the experience to move vehicles away from the M6 and other adjacent roads allowing travellers and freight companies to realise the reliability and time savings offered by the M6toll.

To achieve this, they have begun an upgrade programme to improve the tolling system and introduce new digital systems, including Automatic Number Plate Recognition (ANPR). The upgrade will lead to broader interactions with customers, and ultimately position the Midland Expressway for future developments in the tolling industry.
MEL appointed Stantec as their Design Services Partner to facilitate the full development and implementation of their roadside and systems architecture. The appointment was based on our international experience delivering some of the best constructed and most technically efficient tolling systems in the world.

The Stantec team undertook a review of the current tolling system and infrastructure and specified a programme of work that incorporates new roadside ANPR technology, as well as improvements to the operational and commercial back-office systems. Stantec assisted MEL with the procurement of an Implementation Services Partner and we are currently supporting the implementation as Principal Designer. The New Tolling System will be operational in early 2023.

A27 East of Lewes

REDUCING CONGESTION AND IMPROVING ACCESSIBILITY FOR ALL USERS

We're always looking at new technologies to help improve efficiencies and performance.

The A27 to the east of Lewes suffers from congestion due to the narrow carriageway and low capacity at junctions. There are limited overtaking opportunities, meaning that traffic regularly queues behind cyclists and other slow-moving vehicles. Our roads team are undertaking the detailed design of new junctions, carriageway widening and a new 12km length of improved facilities for cyclists and pedestrians.

The aim of this scheme is to address safety, capacity, sustainability and accessibility issues on this stretch of the A27. The scheme junctions designs utilise the latest technologies including microprocessor optimised vehicle actuation (MOVA) and split cycle offset optimisation technique (SCOOT) traffic signal control, passive safety, and low power LED systems. Our design teams managed the proposals through the design stages and liaised with the stakeholders for input.

The design deliverables incorporate building information modelling (BIM) designs; this included production of 3D CAD design models to assist with visualisation and improve efficiency of clash checking infrastructure across disciplines.

Working collaboratively throughout the design, we have secured technical approval to the detailed design from Highways England. Our detailed design included roads, bridges, civil structures, geotechnical and environmental services. Going forward, we'll be involved in the works construction and testing to ensure that all standards and requirements are met.

At all these stages, we actively manage risks and record lessons learned to ensure these are fed back into the wider design team to drive efficiencies. When complete, these new junction improvements will make crossing the A27 much easier for pedestrians and cyclists, providing safer roads, reducing travel time and improving journey time reliability along the A27.

A82-A814 Upgrade, Bowling, Scotland

INCREASING ATTRACTIVENESS FOR FUTURE DEVELOPMENT

Enabling the release of developable land that would help to support the local economy.

West Dunbartonshire Council was keen to explore access options to the former oil terminal Exxon site at Bowling. With a goal of attracting potential developers, opening up the site was essential in enabling the release of developable land that would help to support the local economy.

We assisted in the preparation of a business case for City Deal funding for the delivery of the project. This involved developing a masterplan to map out a blueprint for the land-use proposals for the development and detailed design of the access infrastructure. The business case was submitted under the Glasgow and Clyde Valley

City Deal programme, seeking funding support of £27.89 million for the implementation of the road infrastructure required to open up the site for development.

Since the business case stage, we have continued to be the Council's strategic adviser, providing a range of services including: environmental impact assessments, ecological studies, environmental assessment, preliminary drainage strategy, and Governance for Railway Investment Projects (GRIP) 2 and 3 studies of two railway crossings.
We also performed geo-technical, preliminary flood mitigation design works, an initial planning strategy, stakeholder consultation, topographic and utility survey work including on the railway and assistance with land acquisition.

We completed the Preliminary Design of the spine road, a railway underbridge and an overbridge and an upgrade to the NCN7 and we secured Planning Permission in Principle for the entire project in January 2020.

Currently, Stantec is supporting Balfour Beatty as Designer in a Design & Construct contract due for completion in 2024.

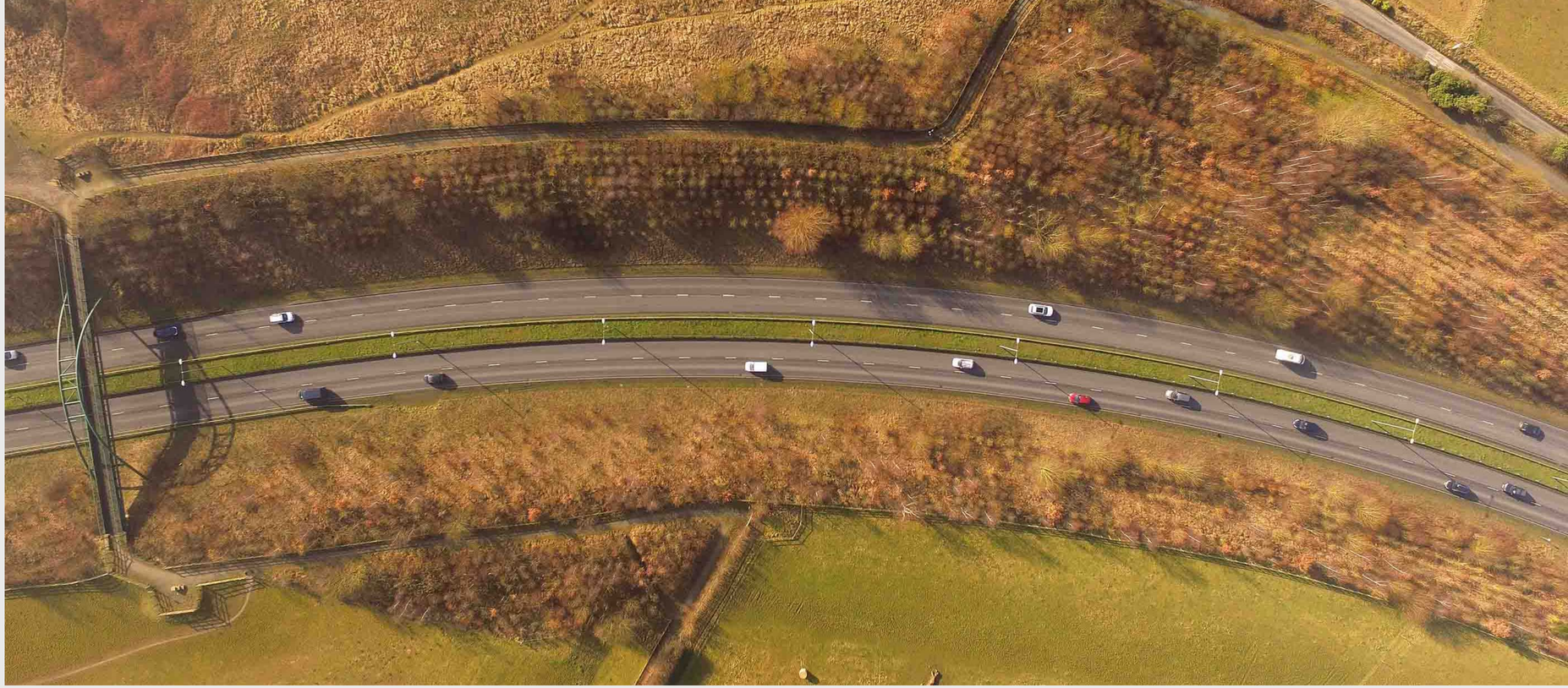
A228 Leybourne and West Malling Bypass

PLAYING A KEY ROLE IN REDUCING CONGESTION AND FACILITATING DEVELOPMENT

A vital transportation artery that promotes community growth.

The A228 road is an important transportation artery in Kent, England—it serves existing communities and promotes the expansion of future housing developments and commercial enterprises. Because of this, the road needed to be upgraded to lessen anticipated traffic congestion. We stepped in to help.

For this project, we supported Kent County Council through a successful planning application, securing funding, and a compulsory purchase order enquiry. We coordinated the environmental impact assessment and prepared the environmental statement, including prediction of noise and air quality effects, route evaluation studies, traffic study and economic assessments.



Following planning approval, we were appointed as engineering consultant to undertake the detailed design of the works, including highways, civil structures, geotechnical, and environmental services.

The scheme provides improved access between Kings Hill and the M20 Motorway, and includes a new road-over-rail bridge, a two-span reinforced concrete highway bridge, a steel arch pedestrian bridleway bridge, and a bypass to the local community of Leybourne.
With the upgrades now complete, the A228 is helping both the business community and the people who live in the surrounding areas get where they need to go in record time.

M4 Junction 11, Reading

REDUCING TRAFFIC AND INCREASING SAFETY

£65 million scheme to improve traffic conditions into and out of Reading.

Junction 11 of the M4 had become a bottleneck, causing congestion in and around the junction. To resolve this, Reading Borough Council appointed our team as project manager and designer on the £65 million scheme to improve traffic conditions for all users of the junction.

The junction is Reading's main traffic gateway, which meant the project had to be completed while keeping traffic flowing. A detailed acoustic model of the area was produced to assist in the planning application. We provided solutions that reduced noise levels below the existing levels, leaving receptors in the vicinity of the site with a positive impact of lower noise levels than before development.

Our Intelligent Transport System team used microsimulation and Transyt modelling tools to optimise the design of the scheme, including lane markings and spiral markings which enabled it to be legible to drivers and has maximised its resilience to changing traffic flows over time within the constraints of the scheme.

Since completion in the summer of 2010, journey times in peak rush hour have been reduced and queuing on the motorway is now a rare occurrence. New pedestrian cycle bridges have provided a segregated route through the junction away from traffic to increase safety for all junction users.

To top it off, more than 4,000 trees and shrubs were planted and four new wetland areas were created to attract wildlife to the area.

Rodbourne Road Bridge Replacement

DETAILED DESIGN FOR A REPLACEMENT RAIL BRIDGE

Helping Network Rail and their contractor replace a bridge nearing the end of its life.

Three rail tracks are carried across Rodbourne Road rail bridge and run right next to the historic Swindon Railway Works. As the bridge neared the end of its life, Network Rail's contractor commissioned our team to provide the detailed design of the essential new Up Reception bridge deck and the supporting cill beams that would keep one of the tracks operational. We were also responsible for the design of an abutment anchorage system and for the design of a new reinforced concrete robust kerb.

Although the design was based on the standard Network Rail design for a Z type deck, our team varied the design to include weathering steel.

This meant the main girders on the replacement bridge, a fabricated steel half-through deck of deep steel main girders with a filler beam floor (steel cross girders and reinforced concrete infill), had increased resistance to corrosion, reducing the need for disruptive maintenance.

Stantec's excellent understanding of railway works and the Network Rail system, together with close site support, meant the team were able to help the client complete all works on time, avoiding prolonged disruption to surrounding transport systems.

M3 J9 Improvements

DESIGNING AND PROGRESSING A NATIONALLY SIGNIFICANT INFRASTRUCTURE PROJECT (NSIP) IN A VIRTUAL WORLD

Stantec CommunityEngage provided a platform for the public to virtually experience of the outcome of a £120m scheme.

National Highways works to keep the country connected and the maintenance of major roads is a priority. When improvements to reduce congestion were needed on Junction 9 of the M3, we were appointed to progress the preliminary design and help obtain the permissions needed.

The improvements, deemed a Nationally Significant Infrastructure Project (NSIP), needed a Development Consent Order (DCO) to obtain permission, a process which usually requires face-to-face consultations. COVID-19 prevented this so once our team had designed the scheme, they created a range of alternative ways to connect the project team with the public.

They held webinars, virtual appointments, and created an online exhibition using Stantec CommunityEngage that included an interactive map and a virtual drive through of the scheme so the public could experience exactly what it would look like when complete.

The improvements will reduce congestion, improve safety, reduce environmental impacts, and provide additional cycle, bridleway and footpaths. Stantec was appointed as the designer for VolkerFitzpatrick through the Highways England Regional Delivery Partnership Framework.

Bicester Eco-Town Rail Underbridge and Pedestrian Underpass

DESIGNING STRUCTURES TO BRIDGE A BUSY RAIL LINE AND CONNECT THE UK'S FIRST ECO-TOWN TO AN EXISTING COMMUNITY

Ensuring the successful installation of two major structures in a 100-hour window. How can you build a bridge across a major rail line in just 100 hours? Oxford City Council faced this problem when creating a new transport link to connect the local community with the proposed site for the United Kingdom's first eco-town.

The council hoped to build 6,000 new zero-carbon homes but plans were stalled by the Chiltern line: a railway separating the proposed site from the nearby community in Bicester. To overcome this barrier, a new underbridge and underpass were planned and looked to our team to design them. The primary challenge was installation—the Chiltern line is a busy route, and Network Rail allocated a 100-hour possession of the line during which the bridge and underpass had to be installed before normal rail services resumed.

The original design, put forward by another consultant at the planning stage, proved to be unworkable. We designed an entirely new solution that saw the structures built in the neighbouring field, allowing them to be simply lifted into place during the 100-hour possession.

The solution involved a temporary works concept where two ground bearing mass gravity abutments were hung from the ends of a 1,500ft steel superstructure, which was lifted by Self-Propelled Modular Transporters (SPMTs). The SPMTs removed the need for cranes which could have jeopardised the installation had the wind speed been too high during the allocated possession.

A trial lift was also conducted to further reduce the risk of the installation failing.

The five-year scheme saw many changes in the project team, but we remained committed, and our collaboration and continuity ensured the underbridge and underpass were successfully built with maximum safety and minimum disruption.

Wichelstowe Southern Access

BUILDING A NEW UNDERPASS BENEATH THE BUSY M4 MOTORWAY

Creating an additional route into Wichelstowe, a new community in Swindon.

Wichelstowe is a mixed urban extension to the southwest of Swindon which will include 4,300 homes. The scheme involves major infrastructure works, the latest of which is the creation of an underpass and a new road access to Junction 16 of the M4 which will provide residents with new access to their community.

Our team has been involved at Wichelstowe for over a decade and was appointed lead designer for the underpass. The M4 is one of the United Kingdom's busiest motorways and progressing work with minimal disruption is a challenge. By working with the client, local communities, and the contractor, we devised a methodology that lessened impact for motorists and residents. Advanced engineering methods were used, including building the bridge in stages and the construction of an embankment to redirect lanes of traffic, providing space for work to progress while drivers continued using the motorway.

Credit: Alun Griffiths (Contractors) Ltd

The excavation of the underpass and construction of the new road underneath the motorway have all progressed with no significant road closures.

The underpass is now ready to open and, once in operation, the road will provide a fourth access into Wichelstowe, helping support the new community and around 2,000 new jobs, by unlocking 12.5 hectares of employment land.

CONSTRUCTION LOGISTICS AND COMMUNITY SAFETY (CLOCS) CHAMPION

We have joined CLOCS which is a national standard in construction to take health and safety beyond the hoardings of a construction site. As a Champion, we will work and communicate with clients, principal contractors, and vehicle operators to minimise the impact of construction projects and eliminate harm to communities. We are alive to the challenges that construction brings to more vulnerable road users and we can work to eliminate those problems and raise the standards of our industries.

CLOCS | Construction Logistics and Community Safety

STANTEC.IO

Our subject matter experts are working with digital practice teams to develop creative, technology-forward approaches that accelerate and improve our ability to solve the most difficult challenges facing our clients, communities, and industries.

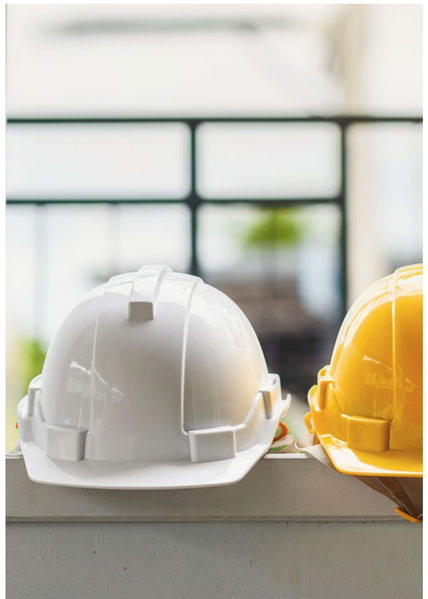
Know more →

FUNDING OPPORTUNITIES TOOLKIT

The infrastructure funding landscape can be complex for developers to navigate. At Stantec, we have a solid history of identifying and securing Government grant or loan funding for our clients—supporting the delivery of their development and infrastructure projects

Our geographic information system (GIS) enabled Funding Opportunities Toolkit helps you identify and unlock funding opportunities by detailing available sources, matching your project against the eligibility criteria, keeping you up to date with application deadlines, and sharing valuable intel on fund administrators and successful projects. The goal? Helping you make a successful submission.

Know more →



HSSE

At Stantec, we believe in being SaferTogether™—looking out for the health and safety of ourselves and those around us, whether we're at work, at home, or in our communities. We have proactive discussions on the prevention of injuries and loss, equip our people with the knowledge they need to work safely, promote trust and cooperation, and recognise that safety is crucial everywhere, not just at work. Stantec UK awards include the Order of Distinction from the Royal Society for the Prevention of Accidents (RoSPA), and an International Safety Award with Distinction from the British Safety Council

Know more →

FRAMEWORKS

For clients in the public and regulated sectors, our services can be appointed through a number of national framework contracts. Using a framework can save significant time and money, while still delivering a first-class service specific to project requirements.

Know more →

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