



# Highways and airport infrastructure

VolkerWessels UK offers clients extensive experience and expertise in highways and airport infrastructure, working collaboratively and using innovative working practices to deliver complex projects.

We work across a range of projects in these sectors both as a main contractor and specialist subcontractor, delivering high-profile projects for repeat clients.

In the last 10 years we have laid in excess of 2 million m<sup>2</sup> of pavement quality concrete at UK airports. Airport infrastructure works are a core part of our business and our teams are experienced in providing the engineering skills and technologies necessary to deliver both airside and landside support facilities. VolkerFitzpatrick paving teams also deliver pavement quality concrete for commercial and industrial projects including container ports and harbours.

VolkerFitzpatrick completes major highways infrastructure projects and airport rehabilitation for both civil and military clients. Our market-leading concreting expertise dates back over 70 years, when we began constructing wartime airfields across the UK. We continue to invest in plant, equipment, the latest technologies and designs to deliver a high-quality service that is ahead of the market.

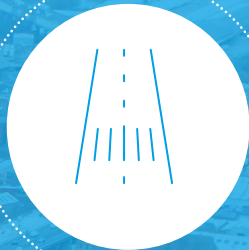
VolkerHighways specialises in public and private sector highways and lighting term maintenance contracts, civil engineering and civil engineering/public realm projects. Specialist divisions provide surfacing, traffic management and street lighting services to both the highways and lighting term contracts as well as our business units and external private and public sector clients.

-  VolkerHighways
-  VolkerFitzpatrick
-  VolkerStevin
-  VolkerLaser

VolkerHighways has delivered a solid performance in 2017, continuing to work in partnership with its clients to deliver on its highway maintenance contracts. Medway Council continues its collaboration with VolkerHighways, with repeated yearly extensions awarded to its Highways Term Maintenance Contract (HTMC) and a new five-year HTMC contract that began in August 2017. Our highways maintenance expertise sees many local authorities turning to us, with HTMCs in place with Luton Borough Council, West Berkshire Council, Camden Borough, Royal Borough of Windsor & Maidenhead Council and Hackney Council.

Our other business units help us deliver a range of highways and airport infrastructure projects. VolkerStevin provides design services and earthworks for bridges and carriageways and work on the construction of large-scale landmark structures. VolkerLaser delivers a range of strengthening and waterproofing solutions to bridges, tunnels, and structures across the highways network.

We harness the expertise of our dedicated and long-established supply chain and work together to develop solutions that deliver best value. Together, we deliver high-performing services, buildings, concrete surfaces and lighting that improve communities, cities and towns and the lives of people.



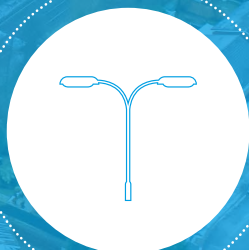
Through our highways term maintenance contracts we maintain in excess of **6,200km** of highways network



Working in a three-way joint venture to replace the waterproofing system on the **3.2km** elevation on Oldbury Viaduct in the Midlands



Delivered highways maintenance projects as part of the **1,278km** urban and rural highways network for Luton Borough Council, West Berkshire Council and Camden Borough



VolkerHighways will maintain Medway's **26,000** street lighting columns and introduce professional services and consultancy support during the term of the contract



VolkerFitzpatrick delivered **71,000m<sup>2</sup>** of concrete surfacing at UK international airport London Stansted



Extensive contract awarded with Medway Council

Renowned for our delivery of extensive highways maintenance, we were awarded a new highways term maintenance contract with Medway Council, running for five years from August 2017, with a possible extension up to a further five years. The contract comprises both planned and responsive maintenance, including carriageway and footway resurfacing, winter maintenance, drainage cleansing and road markings.

VolkerHighways will maintain Medway’s 26,000 street lighting columns and introduce professional services and consultancy support during the term of the contract. The company will also deliver maintenance and inspections in the Medway Tunnel, which accommodates approximately 40,000 vehicle journeys each day.

VolkerHighways has collaborated with Medway Council to provide highways maintenance services since 2007. In this period the company has resurfaced approximately 650,000m² of carriageway and 145,000m² of footways and completed 9,000 emergency response incidents.

Highways Maintenance

Through our highways term maintenance contracts we maintain over 6,200km of highways network, in both urban and rural environments. This includes A roads, principal urban traffic routes, as well as local residential and rural roads.

Our responsibilities include the maintenance of all associated footpaths, lighting and highways structures. This service includes all aspects of the highway network management from emergency response managed through our own call centre, to planned infrastructure enhancement and safety works.

Continued Local Authority Trust

VolkerHighways’ integrated highways servicing capabilities and wide-ranging expertise in multiple highway disciplines allow the company to continue to work closely with local authorities throughout the lifespan of a contract.



In 2017 VolkerHighways was awarded highways maintenance projects with Luton Borough Council, West Berkshire Council and Camden Borough. In Luton, the contract spans a large range of multi-disciplinary works, including highway maintenance works to carriageways, footways and street lighting, together with winter maintenance and gully cleansing as well as 24/7 cover for emergency repairs. The deal combines the Department for Transport’s HMEP contracting model with an innovative approach to work, and commenced in January 2017, running for 10 years with a possible five years of extensions. The development of a strong client relationship with West Berkshire Council will continue as, through competitive tender, we have been awarded a new maintenance contract for a further 10 years. The new contract will cover approximately 1,278km of urban and rural highway network. As part of the contract, the VolkerHighways team will carry out inspection and maintenance works of roads, street lights and pavements. It will also carry out improvement schemes, salt the roads and provide a full emergency response service.

Our new four-year public realm maintenance improvement contract with Camden Borough incorporates highways and lighting maintenance services across the borough until 2020, with extension options to 2023. Other highways maintenance contracts awarded in 2017 include a five-year contract with a possible two-year extension with Royal Borough of Windsor & Maidenhead Council and ongoing highway maintenance services for Hackney Council.

LED Lighting Conversion

VolkerHighways provides a wide variety of street lighting and electrical services as part of its integrated highways delivery approach. The business continues to build up its street lighting capability through the National Electrical Registration Scheme (NERS), which allows us to deliver power connections to metered and unmetered power sources. This brings enhanced programme certainty to clients as we are not reliant on power network contractors for connections.

This investment has helped us deliver further Light Emitting Diode (LED) conversion programmes including recent awards for the London Borough of Barking & Dagenham. The existing LED contracts in Poole and Bournemouth and Slough, Wokingham and Reading have continued through the year with enhanced environmentally-friendly lighting now in place across these boroughs saving many thousands of pounds in electricity consumption.



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Cranfield University MUEAVI

Cranfield University MUEAVI (Multi User Environment for Autonomous Vehicle Innovation) and AIRC (Aerospace Integrated Research Centre) car park in the village of Cranfield, Bedfordshire and the site of a former RAF airfield is a project by VolkerHighways. This is our second project for Cranfield University having successfully completed the university sports centre car park. The main works comprised the MUEAVI road, which is the proposed main entrance to the university and AIRC car park, landscaping and cycle shelter. The road was prepared and then surfaced by VolkerHighways, while other works comprised road and car park lighting, kerbing, drainage and ducting. VolkerHighways has helped Cranfield University transform a large brownfield site from unused airside land into a new and exciting development area. The now accessible land will enable significant growth at the University for years to come.

M5 Oldbury Viaduct

VolkerFitzpatrick is working in a three-way joint venture with BAM and Morgan Sindall to replace the waterproofing system on the Oldbury Viaduct in the Midlands. The 3.2km of elevated viaduct requires significant deck repairs to increase its lifespan. To achieve this, the team, along with specialists from VolkerLaser, has removed the viaduct’s surface and carried out a series of tests to establish where repairs are required.

Work began on the southbound carriageway to investigate the condition of the concrete underneath. Once repaired, a new waterproofing layer was applied. The process is to be repeated on the northbound carriageway. The scheme has required a range of specialisms including hydro-demolition, concrete repair, verge construction works and waterproofing operations.

Carrying 120,000 vehicles a day, the elevated section of the M5 motorway between junction 1 and 2 is one of the busiest routes in the country. The scheme is part of an investment from Highways England that will support economic growth locally and in the wider West Midlands. The project is expected to be completed in Autumn 2018.

For Medway Council we have resurfaced approx 650,000m² of carriageway



Stansted Airport Works

VolkerFitzpatrick has delivered two projects as part of the development and expansion of UK international airport, London Stansted.

At the Echo-Cul-de-Sac, an apron where aircraft will park and passengers enter and disembark the aircraft, the team laid 61,000m<sup>2</sup> of concrete, at a location with eight aircraft stands and associated taxi lanes.

The VolkerFitzpatrick team also facilitated the movement between runways and parking areas for aircraft with 10,000m<sup>2</sup> of concrete to the Hotel taxiway at the airport, the fourth busiest in the UK.

Ely Southern Bypass

The Ely Southern Bypass will connect the A142 at Angel Drove with Stuntney Causeway. The project includes the design and construction of a 1.7km-long single carriageway road, a viaduct crossing the River Great Ouse and a bridge over two railway lines. Previously, the area around Ely station has suffered from heavy congestion, with lorries and other vehicles unable to use the low underpass and queue for the level crossing. The bypass diverts lorries and through traffic away from the crossing.



Before beginning construction of the road itself, the team needed to construct embankments. Due to the nature of the ground beneath the embankments, a period of time was required for them to settle before construction could continue. Once settlement was complete the team prepared the west embankment for road construction.

Large pre-cast concrete sections, measuring 2.7m in height and width were designed to carry water within the ditches beneath the bypass embankment. These were placed to form the culvert between the north and south sides of the west embankment. As part of the larger project, the team is also delivering structural works, including permanent piling for the river viaduct and railway bridge.

The construction of the reinforced concrete ‘V-Piers’ within the river floodplain is a challenge due to the extremely complex temporary works required to form the architectural ‘V’ form in the confines of a cofferdam within the river.

The cofferdams consist of interlocking sheet piles, which are watertight to allow construction to take place below the river’s water level. Works to lift the steel structural elements of the bridge deck will take place into 2018.

The Future

The long-term goal to improve and enhance the nation’s motorways and major roads and build a better future for all road users is an opportunity for us to deliver complex engineering projects. We intend to extend our area of operational capability while developing value driven solutions.

SMART, our bespoke works order management system, integrates some of the best technologies available to support the business’ end-to-end works order process and workforce management. SMART uses graphical planning and programming tools to automatically schedule works based on client response priorities and a geographically efficient programme that reduces travelling time and therefore our environmental impact.

VolkerHighways continues to strive to become the UK highways service provider of choice. Our aim is to meet the needs of road users and the public in ways that are economically, socially and environmentally sustainable, both now and in the future.

New Forth Road Crossing

VolkerLaser has carried out niche main works for Forth Crossing Bridge Contractors (FCBC, comprising American Bridge International Corporation, Dragados, Hochtief and Galliford Try) on the world’s longest three-towered cable-stayed bridge. The new Forth Road Crossing, Queensferry, also has the tallest bridge towers in the UK (210m) and the bridge has taken in excess of 19 million man hours to complete. Works included surface preparation by enclosed grit blasting and 90,000m<sup>2</sup> of waterproofing.

This was a challenging project and the VolkerLaser team had to be innovative in its approach when faced with delays that included inclement weather, difficult access and release of areas.

While bridge construction commenced in 2011 and had an original completion date of December 2016, VolkerLaser’s niche main works commenced in January 2017. The Queensferry Crossing was officially opened to traffic by Her Majesty The Queen in September 2017.



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