THE MERSEY GATEWAY
LASTING INFRASTRUCTURE
CONNECTING SOCIETIES

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THE MERSEY GATEWAY

SHARED PASSION AND ENTHUSIASM

The Mersey Gateway project was the largest infrastructure project in the North West of England, featuring a new 1km six-lane cable-stayed toll bridge over the River Mersey, and a further 1.2km of raised approaches. It is an integral part of the local Sustainable Transport Strategy and covers around 9km of road improvements and a series of major new junctions running throughout Runcorn and Widnes.

Halton, which borders each side of the Mersey, is one of the smallest boroughs in the country, yet it has delivered one of the largest infrastructures in the country.

It will improve journey times and reliability for millions of people and attract massive inward investment and regeneration in the region. Halton, which borders each side of the Mersey, is one of the smallest boroughs in the country, yet it has delivered one of the largest infrastructures in the country.

01 Bridge and approaches under construction
Looking north. The project included extensive highway construction on both sides of the estuary. Image: Merseylink

02 Pylons at sunrise
Image: Merseylink
SERVICES WE PROVIDED:

- Bridge engineering
- Environmental impact assessment
- Road & motorway engineering
- Structural engineering
- Transport planning, traffic engineering and traffic safety
- Construction and contract management
- Ground engineering
- Ports & marine structures
- Survey
- Technical and contractual advice
- Construction assurance
- Procurement advice
- Statutory applications (inc. Transport and Works Act (TWA) Order)
- Project management
THE REALISATION OF LONG HELD ASPIRATIONS

Cllr. Rob Polhill, Leader of Halton Borough Council, said upon the announcement of the bridge opening on time: “This is excellent news – the contractors and all involved in the construction effort are doing a phenomenal job to deliver this bridge on time. The Mersey Gateway Project is an incredible feat of engineering and will be a landmark for our region for years to come. We are already seeing its impact as a catalyst for regeneration and economic investment in the area and it will mean that the drivers who collectively make 27 million trips across the Mersey every year have quicker, easier and more reliable journeys in Halton.”
LONG TERM COLLABORATION

“Ramboll played a critical role in the project right from the very start, partnering us to secure funding, leading the remediation work and ensuring the designs and delivery met the very highest standards throughout. Quite simply the project wouldn’t have happened without their continuing support.”
Rob Polhill, leader of Halton Borough Council

It was a momentous occasion when Government approved funding for the Mersey Gateway scheme in 2006. For ten years Halton Borough Council had campaigned for the new bridge, which would bring increased prosperity to the region. Partnering with Halton Borough Council since 2001, Ramboll has played a key role in supporting this ambitious project. From the earliest stages of route planning, through conceptual design development and planning to the procurement process, Ramboll has been there to advise and to guide. We have shared in their vision and passion to deliver this incredible scheme, which is of huge strategic importance to the performance, economy and expansion of the North West.

The Mersey Gateway is a commercial venture which will recover the investment through tolls. Mersey Gateway Crossings Board Ltd was set up by Halton Borough Council to deliver the project on their behalf. They worked closely with the Merseylink consortium, who were appointed as the project company to design, build, finance and operate the Mersey Gateway Project in March 2014. They will continue to run and maintain the road until March 2044, with a tolling system in operation throughout.
FROM CONCEPT TO DELIVERY

2001 Ramboll appointed Lead Technical Consultant

2003 Mersey Gateway Group formed

2006 Initial approval from the Department of Transport

2008 Orders and applications submitted

2009 Public inquiry held

2011 Funding approval and further planning consultation

2012 Competitive dialogue process commenced

2014 Construction of Mersey Gateway commenced & Technical Advisor team formed, including Ramboll

2013 Merseylink consortium appointed as the preferred bidder

2014 Mersey Gateway Board formed

2017 Mersey Gateway completed

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MORE THAN A BRIDGE

The new Mersey Gateway Bridge is accompanied by a new-look road system stretching across Widnes and Runcorn. It’s nine kilometres of road improvements and new junctions connect the M56 Junction 12 in Runcorn to the Widnes Eastern Bypass and Speke Road heading towards Liverpool.

The bridge is the centrepiece of the project, forming a landmark structure that will become an icon throughout the North West and beyond. The design is based on a cable-stayed structure similar to the new Queensferry Crossing, with three slender towers rising from the estuary. The 80m high central tower stands shorter than the two outer towers, with the north tower standing 110m high and the south tower at 125m high. This unusual design was chosen to minimise the environmental impacts on the estuary.

The bridge carries a highway made up of three lanes in each direction spanning 1km across the river. In total the crossing is 2.13km long including the approach viaducts on each side.

- Three towers
- Highest tower 125m
- 1km across the Mersey
- 9km end to end
- 12 new bridges and 7 junctions

01 The north pylon
Image: Merseylink

02 The new Mersey Gateway with the Silver Jubilee bridge in the background
Image: Merseylink

03 Towers in construction at sunset
Image: Merseylink
INCREASING ROAD CAPACITY ACROSS THE MERSEY

The existing Silver Jubilee Bridge was opened in 1961 on the expectation that 9,000 vehicles a day would make the crossing. By the time the bridge turned 50 it was struggling to cope with 10 times that traffic in four narrow lanes. Inevitably this placed stress on the bridge and the surrounding infrastructure, affecting the whole region.

The new six lane Mersey Gateway crossing, approximately 1.5km to the east, will take the strain, enabling the Silver Jubilee Bridge to be transformed into a layout similar to its original two lanes. It is anticipated that the Silver Jubilee bridge will allow 10,000 to 30,000 vehicles over the Mersey each day and also provide a safe crossing for pedestrians and cyclists.

On 30th October, just over two weeks after opening, it was announced that the millionth vehicle had passed over the bridge, with over 65,000 vehicles using the new road system every weekday, enjoying faster more comfortable journeys. “Last Monday morning I travelled from Chester to Liverpool at 8:30am and returned to Runcorn two hours later with no hold ups”, Peter Cook, Chair of Halton Chamber of Commerce.

“Over the past three and-a-half years the Merseylink team has transformed the Halton Borough landscape, designing and constructing the magnificent cable stay bridge, over nine kilometres of new roads, seven junctions and 12 new bridges and associated highway signal and control systems.”
Hugh O’Connor, General Manager at Merseylink

Building capacity
The 6 lane deck spreading out from the supporting pylons. Image: Merseylink
The Mersey Gateway Bridge is the spearhead of a 20 year regeneration project in the Halton region. The benefits of this new bridge to the local community and the North West as a whole are clear. From a transport perspective the bridge provides a significant cut in journey times, easing congestion and reducing carbon emissions.

The bridge will contribute regeneration activity and encourage inward investment. Over 4,640 permanent direct and indirect jobs will contribute £61.9 million a year in Gross Value. Add to this cleaner air, the remediation of the contaminated land surrounding the crossing, improved pedestrian, cyclist and public transport access to the existing Silver Jubilee Bridge, and it’s easy to see why the opening was so eagerly awaited.

“While the Mersey Gateway Bridge itself has always been our centrepiece, this project is about much more than just a bridge and the complexity and scale of the engineering challenge has reflected that.”

Hugh O’Connor, General Manager at Merseylink

01 Southern approach
The project necessitated the clean up of contaminated industrial land adjoining the estuary. Image: Merseylink

02 Looking east
Image: Merseylink
Lead technical consultant 2001 to 2014
As lead technical consultant, we provided the technical advice that underpinned the successful approval of the Mersey Gateway project. In addition to the technical services, we supported Halton Borough Council’s negotiations with the three international bidding consortia, and the preferred bidder’s design development under a Design Development Agreement. This initial commission extended to the project’s financial close, when plans were agreed and capital guaranteed in April 2014.

The bespoke contract for the Mersey Gateway Project was formally awarded to the preferred bidder, the Merseylink consortium as the project company to design, build, finance and operate the Mersey Gateway. The consortium consisted of Macquarie Capital, Bilfinger Project Investments and FCC Construcción S.A who employed a Construction Joint Venture of Kier Infrastructure and Overseas Limited, Samsung C&T Corporation, and FCC Construcción S.A.

Technical and contractual advisor from 2014 on to 2018
Ramboll continued its involvement on the scheme in 2014, working under a new commission as part of a technical advisor team. This comprised CH2M Hill, Ramboll, IBI Group and Knight Architects, to support the Mersey Gateway Crossings Board with the technical and contractual administration of the project and to help it fulfil its contractual obligations. The team also provided technical staff for both the core (site based) and non-core (remote) elements of the team, ensuring the efficient construction of the bridge. Over 3,000 technical submissions were reviewed. We provided advice on design submissions, departure from standard applications, construction works assurance and statutory issues in relation to statutory utilities, structures, geotechnics, highways, the environment and contaminated land.

The team also provided support to Halton Borough Council in the discharge of their responsibilities and advice on future obligations.

We provided expertise in:
- Route selection
- Construction methods investigation
- Engineering design
- Environmental impact assessments
- Transport assessments
- Remediation
- Provision of expert witness services
- Technical advice during the competitive dialogue procurement

LONG TERM TECHNICAL GUIDANCE TO THE PROJECT

Bridge under construction
The pylons standing above the tidal estuary, still to be connected. Image: Merseylink
CLEANING DECADES OF CHEMICAL ACCUMULATION

Remediation work
A key element of the project is the £1.5m remediation works at Catalyst Trade Park in Widnes.

Parts of the crossing and surrounding routes cross areas of contaminated land on both sides of the estuary. With 70 years of environmental experience, Ramboll was asked to plan and manage the remediation work, necessary before construction could begin. This included cleanup of Catalyst Trade Park in Widnes, removing almost 17 tonnes of chlorinated solvent from beneath the ground.

The remediation work was singled out for its quality, thoroughness and efficiency. In 2014 Ramboll won the North West CIHT Best Practice Award, the Ground Engineering Sustainability Award and the CIHT Technological Application Award, where judges commented, “[We] were impressed by the innovative remediation process, which recovered a substantial volume of technically challenging solvents, using in-situ technologies rather than bulk excavation...The project was delivered at a fixed cost, on time and within budget, with close stakeholder engagement being maintained at all times.”

17 tonnes of chlorinated solvent recovered from Catalyst Trade Park in Widnes, a necessary pre-requisite to construction of the Mersey Gateway

Clean-up
The bridge passes over once contaminated land. Image: Merseylink
INSPIRING FOOTBRIDGES, MOVING BRIDGES AND MAJOR CROSSINGS

Major estuary crossings have a major impact on a region’s identity, productivity and prosperity. Our award winning bridge and major crossings team have the skills in creating integrated, sustainable solutions that are sensitive to their settings and have worked on major landmark crossings across the world. Most recently in the UK, we have supported the Mersey Gateway and the Queensferry Crossing, which opened to universal acclaim, while the New Wear Crossing opens early 2018. From major crossings to smaller scale bridges we take pride in creating crossings that inspire and immeasurably improve local communities.
THE MERSEY GATEWAY PROJECT TEAM

THE PROJECT TEAM

Halton Borough Council. The client, with Ramboll as lead technical consultant.

Mersey Gateway Crossings Board Ltd set up by Halton Borough Council to deliver the Mersey Gateway Bridge project and to administer and oversee the construction and maintenance of the new tolled crossings, including the tolling of the existing Silver Jubilee Bridge.

Technical and Contractual Advisor team composed of CH2M Hill, Ramboll, IBI Group and Knight Architects, to support the Mersey Gateway Crossings Board with the technical and contractual administration of the project and to help it fulfil its contractual obligations.

Merseylink Consortium Macquarie Capital (Australia), BBGI and FCC Construcción S.A.

Merseylink Construction Joint Venture Kier Infrastructure and Overseas Limited, Samsung C&T Corporation, FCC Construcción S.A.

Merseylink Design Joint Venture Aecom/Cowi/Fhecor/Eptisa

Toll Operator Emovis
Ramboll would like to extend a special thanks to the entire project team, whose collaboration and shared passion has seen the realisation of this ambitious project that is so vital for the region. It will not only leave a lasting legacy for the region and those who live and visit, but for all those who have been involved in its delivery.