Highways & Bridges

HATCH

Bridging communities – the road to success

Reliable, safe, sustainable infrastructure is key to determining the economic health and growth of any country. Roads, bridges, and highways connect people and places. That strengthens commercial activity and enables geographically distant communities to grow.

Organizations like yours are looking for innovative and sustainable solutions that improve the transport of people, services, and goods while minimizing delays and community disruption. Existing highway infrastructure struggles with increasing commuter and freight traffic, and decisions made today will have a long-lasting impact on the future.

We need to develop smarter solutions to solve these problems by embracing the present and emerging needs of our communities. Create smart highways. Improve passenger safety. Facilitate autonomous vehicular traffic. Leverage digital technology. Shorten construction schedules. Enhance reliability. Extend the life of expensive infrastructure assets.

For decades, all over the world, organizations like yours have counted on Hatch to provide innovative, sustainable, and best-value solutions to their complex infrastructure challenges.

Perhaps you need full-scope design services like the ones that met Canada's infrastructure commitment with building a new highway from Vancouver to Whistler for the Olympics. Or professional evaluations, like determining the asset value of a Peru highway network for investors. Or detailed traffic analysis and 3D site modeling for the free-flow Umgeni Interchange in Durban, South Africa.

We invest in training for our people, and we hone our technology. Our team of multidiscipline engineers and specialists work with public agencies, contractors, and private-sector clients. And we deliver. The structure you want, the performance you expect, with the best engineering advice and professional knowledge possible.

Sandton Rea Vaya BRT Bridge (Johannesburg, South Africa)

Cover page: Rt. Hon. Herb Gray Parkway | DBFM (Windsor, Canada)

Your needs, our services – the two go together

Your complex projects need to meet the most stringent standards for planning, design, project delivery, and construction management. Our team offers the full range of expertise in highway and roadway design, bridge engineering, traffic and transportation planning, drainage and stormwater management, utilities and related services, and project management.

Planning phase

- Corridor & major investment studies
- Pre-feasibility & feasibility studies
- Environmental documentation & permitting
- Environmental assessments & community involvement
- Traffic & transportation planning
- Context sensitive solutions & sustainable design

Design phase

- Conceptual engineering
- Preliminary engineering
- Final plans, specifications & estimates
- New, rehabilitation & replacement solutions
- Quality assurance & quality control
- Value Engineering & risk assessments
- Building Information Modeling (BIM)
- Design visualization

Project delivery phase

- Project & program management
- Design & construction procurement
- Design-build, 3P & Integrated Project Delivery
- Owner's Engineer
- Technical Advisor
- Independent Engineer
- Lender's Technical Advisor

Construction phase

- Resident engineering
- Contract administration
- Construction management
- Project controls
- Agency coordination
- Engineering/technical services
- Inspection services

Umgeni Interchange (Durban, South Africa)

Highways & roadways

There are few things that reliably predict the lifestyle, safety, and economic viability of a region so well as the roadways or highways that connect and interconnect it. Building or improving these connections can be important decisions for owners and users alike.

Highways and roadways don't just move goods, services, and people. They create and connect centers for business, culture, education, and home. They are the legacies we leave to our grandchildren and theirs.

As the demand for safe, resilient highway and roadway infrastructure grows, we'll help you meet any challenge. Our professionals are transportation, civil, and structural engineers and specialists, with experience working in every kind of condition, terrain, and climate imaginable.

Our highways and roadways portfolio includes:

- Toll highways & expressways
- Multi-lane highways, major arterials & other roads
- System, service & diverted diamond interchanges
- Roundabouts & other types of intersections
- Bus rapidway, high occupancy vehicles & toll lanes
- Toll plazas & parking lots.

Sea-to-Sky Highway Improvements | DBFO (Vancouver-Whistler, Canada)

Nipigon River Bridge
(Thunder Bay, Canada)

Bridges

As the world's infrastructure continues to age and decline, there are opportunities for much-needed condition surveys, inspections, and structural analyses.

These help make a better case to governments and funders for general repair and renovation, seismic retrofits, management systems, and maintenance measures to extend the life of these valued facilities.

Function and economy can be complementary. Even with tight budgets and environmental, social, and developmental constraints, we can provide the best experience and know-how to meet your needs. Our structural experts can help you plan, design, inspect, and supervise construction for all new builds and rehabilitation work.

Our experience encompasses a wide range of bridge types, include multi-span, suspension, cable-stayed, arch, truss, box-girder, and girder. To this, we add our knowledge of wood, concrete, and steel; and modern materials such as high-performance concrete, prestressed and post-tensioned concrete; high-performance steel; composite and hybrid materials; and bridges from modular elements.

Wimmera River Bridge
(Horsham, Australia)

Transportation planning & design

Almost every project has a transportation component, whether it is optimizing the internal site circulation or managing the external transportation impacts. Transportation planning is a diverse field. It encompasses multimodal safety, traffic simulation, complete street design, active transportation accommodation, and transportation demand-management. Our team can help you address your project's transportation needs and ensure that all the affected modes of travel are accommodated during the project lifespan.

Drainage & hydrology

Each highway or bridge project is unique in its geographical location and the climate variations its structures must face and withstand. Effective designs must always consider site specific conditions - drainage and stormwater management facilities form a crucial part of this. Our experts analyze current situations and put effective facilities in place. These meet all the required regulatory criteria to ensure the efficient, uninterrupted movement of goods and traffic.

Utilities

Growing urbanization has led to a huge upswing in infrastructure, both new construction and rehabilitation. These projects are seeing more and more utility conflicts due to run-ins with existing infrastructure.

Our team has invaluable experience coordinating utilities on various large, multidiscipline projects where road right-of-way space is congested. We have a detailed utility-coordination process that helps ensure a good understanding of the utility issues facing a project. The foundation of this process is a constant flow of communication with utility stakeholders and internal design disciplines.

Rt. Hon. Herb Gray Parkway
| DBFM (Windsor, Canada)

World Way West
Realignment, Los Angeles
World Airports (USA)

Our innovations

How clients benefit

Every project begins with us thinking about how can we provide a better solution, one that benefits the client. Can the construction schedules be shortened? Can we provide enhanced reliability or prolong the life of expensive infrastructure investment? We stay on top of engineering innovations and continually invest in our people and technology. You can trust us with your current and future projects.

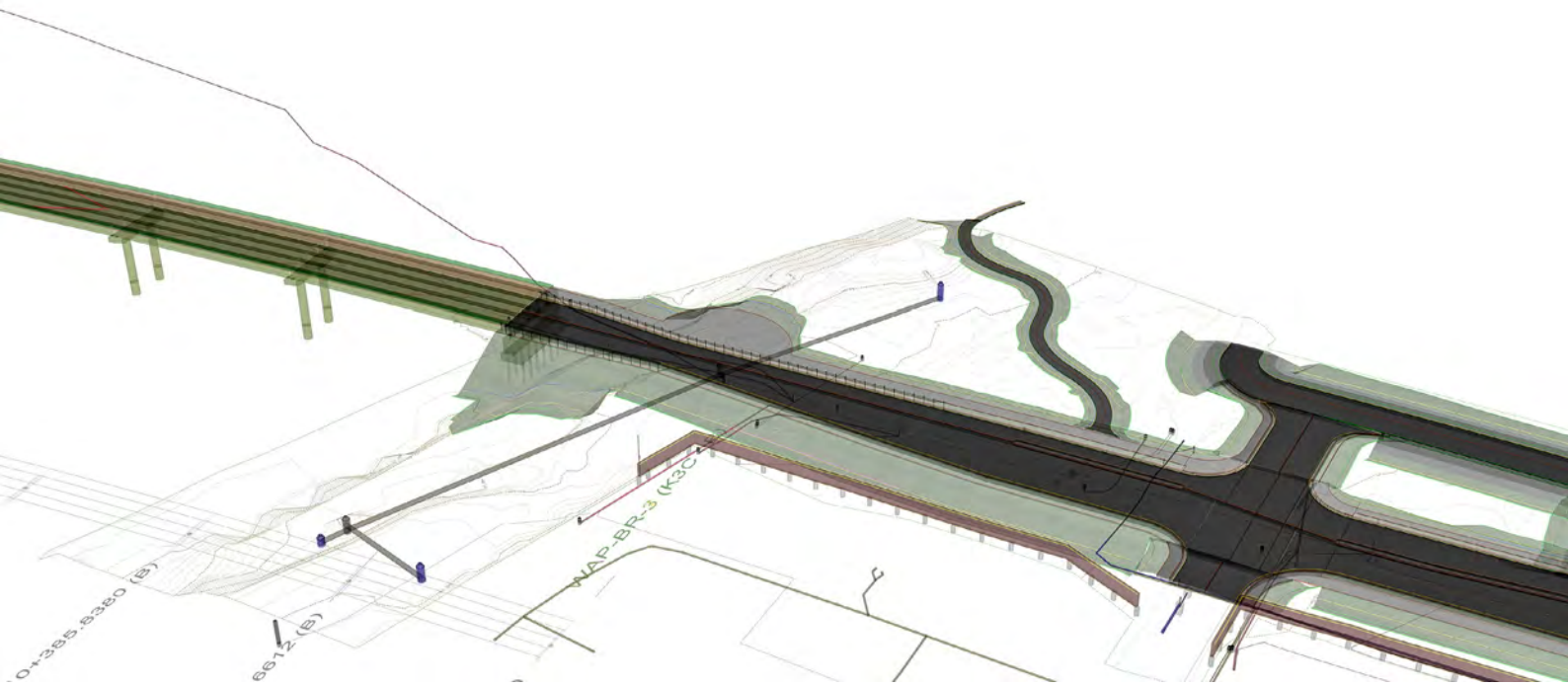
Alternative project delivery

Public agencies, contractors, developers, and financial institutions need a partner who can provide the full range of project management services. We believe that whatever our clients dream, we can design and build. And we have the experience working with public-private partnerships, unconventional funding options, and different decision-making bodies to back that up.

"The Hodder Avenue Underpass is proof that the extensive use of UHPC in a modular construction project delivers versatility, durability, and design excellence."

Precast/Prestressed Concrete Institute

Hodder Avenue Underpass
(Thunder Bay, Canada)



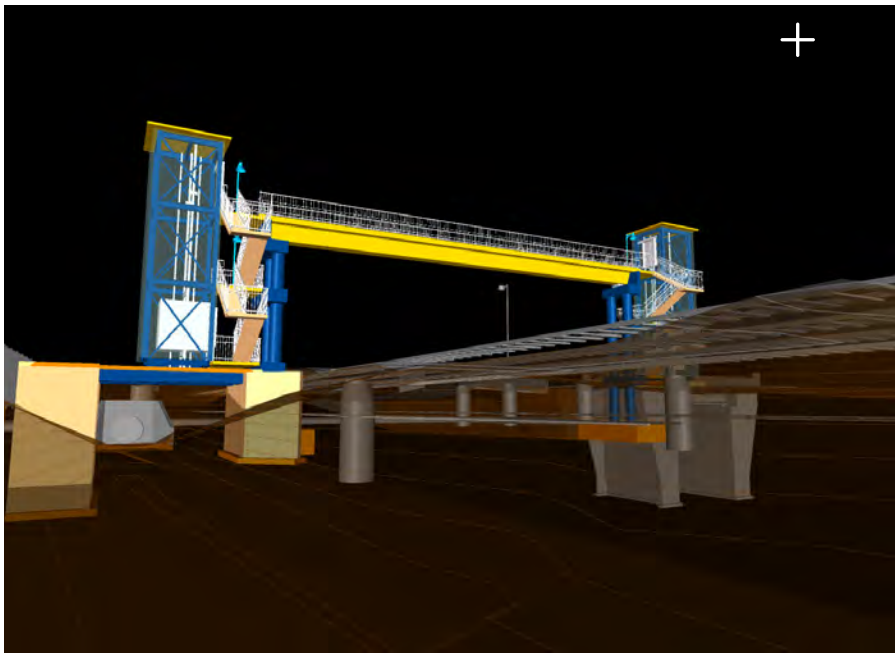
Scarborough Street Pedestrian Bridge (Toronto, Canada)

Building Information Modeling

Building Information Modeling (BIM) technology enables a better visual understanding of a project's concepts and scope. It lowers risk and construction costs and reduces construction time overall.

BIM also minimizes errors and rework. That mitigates conflict and lessens the need for changes during construction.

Our experts can help you select the right delivery tools for the work you're doing, and the appropriate technology for the successful completion of your project.



Western Roads Upgrades
(Melbourne, Australia)

Project Experience

Western Roads Upgrades

Melbourne, Australia

The Western Roads upgrades project represents a significant investment of 1.8 billion AUD and Hatch has been appointed to provide detailed civil and structural design services. The high-profile program comprises eight high-priority road upgrades with maintenance on more than 700 kilometers (kms) of roads. Victorian motorists will benefit from new high-quality roads while maintaining the high standard of the existing network.

Rt. Hon. Herb Gray Parkway (RHHGP)

Windsor, Canada

RHHGP was the roadway component of the new Detroit River International Crossing, a joint Canada/US initiative. The 1.4 billion CAD project included 11 km of a six-lane extension of Highway 401 to a proposed new customs inspection plaza in Windsor. The project also included 7.5 km of a four-lane service road, three interchanges, 14 overpass structures, 12 cut-and-cover tunnels, 12 signalized intersections, ten pedestrian bridges, and 20 km of recreational trails.

Port Mann (Highway 1)

Vancouver, Canada

The Port Mann (Highway 1) project was a critical component of British Columbia's Gateway Program, addressing growing regional congestion and predicted growth through 2031. The project included replacing the Port Mann Bridge across the Fraser River, widening 37 km of highway, constructing/rehabilitating 42 onshore bridges, and rebuilding 12 interchanges. Hatch also provided detailed design for the new Port Mann Bridge highway alignment.

Sandton Rea Vaya BRT Bridge

Johannesburg, South Africa

Africa's first full Bus Rapid Transit (BRT) system is a multi-Rand project that has created a new public transit bus system and alleviated congestion and traffic volumes in this busy, highly populated area. We created a unique construction design that still allowed traffic to flow, and also had to accommodate existing services like water pipes, electricity mains, and fiber-optic cables.

Port Mann (Highway 1)
Onshore Work | Design-Build
(Vancouver, Canada)

About Hatch

Whatever our clients envision, our engineers can design and build. With over six decades of business and technical experience in the mining, energy, and infrastructure sectors, we know your business and understand that your challenges are changing rapidly.

We respond quickly with solutions that are smarter, more efficient, and innovative. We draw upon our 9,000 staff with experience in over 150 countries to challenge the status quo and create positive change for our clients, our employees, and the communities we serve.

hatch.com

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