

Issue 135

## Mergers enhance global capabilities

CDL, Winzler & Kelly, CET, MGF Consultants and RobsonWoese join GHD

## Transport strategy & economics

The key to maximising your investment

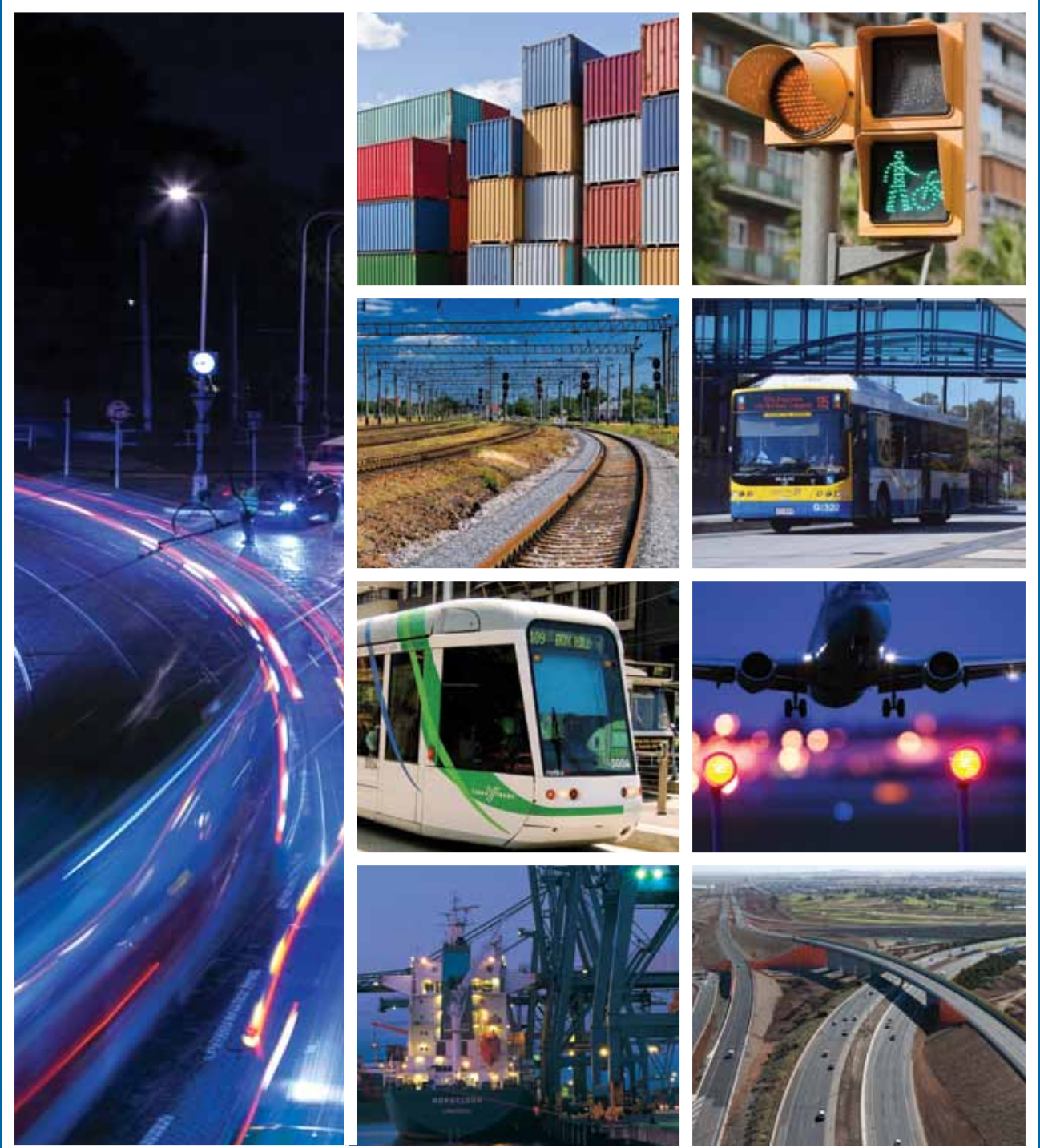
## Water in coal seam gas

Exploring opportunities for treatment and reuse





# Transportation



Delivering whole-of-life solutions across the transportation lifecycle

# 135

Welcome	01
News	02
Opinion	06
Insights into the world of transportation with our leaders	
Transportation	10
Leading transportation projects	
Infrastructure	20
Strategies and projects in the global markets of water, energy and resources, environment and property and buildings	
Communities and people	26
Social improvements and contributions to global communities	



Welcome to Issue 135 of GHD NEWS, a publication that demonstrates our client-centred culture and teamwork-based approach known as One GHD.

In this edition, we focus on transportation, a complex discipline that is crucial to the economic development of communities around the world.

In the pages that follow you will hear from our leaders and respected professionals as they showcase recent projects and share the benefits of their experiences. From roads and highways to rail and ports, we are helping clients build a better future.

GHD continues to expand its capabilities and resources across our five global market sectors and we are delighted to announce recent integrations with CollinsonDutton in the UK, MGF Consulting in north Queensland as well as Winzler & Kelly, CET and RobsonWoese in the USA.

GHD's commitment to corporate social responsibility is a large part of who we are. Our people continue to make valuable contributions to the global communities in which we operate. This can be seen by our support of the Queensland and Christchurch rebuilding efforts as well as a range of charitable causes featured in the newsletter.

I trust you enjoy reading this issue.

Ian Shepherd  
**Chief Executive Officer**



02



14



17



25

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**FRONT COVER:** Wodonga Rail Bypass - GHD played a key role in this project, providing a range of services including planning, environmental review and community consultation, preliminary and detailed design, signalling arrangement design as well as design of the new railway station.

# Mergers fuel GHD's expansion

GHD's presence in the Americas has grown with a series of strategic mergers that build on our core services.

Three leading multi-disciplinary engineering and environmental consulting firms, Winzler & Kelly on the west coast, CET in the midwest region and RobsonWoese on the east coast, have joined GHD.

## **Winzler & Kelly**

Having operated for more than 60 years throughout California and the Pacific Islands, Winzler & Kelly is well respected on the west coast. Its 300-strong team has been integrated into GHD's operations and is already collaborating on a range of projects.

The merger broadens GHD's presence on the west coast. New offices include Santa Rosa, Eureka, Sacramento, San Francisco, San Diego, Portland, San Jose and Santa Ana in the USA as well as Guam and Saipan in the Pacific.

## **Commonwealth Engineering & Technology, Inc. (CET)**

CET is another company that has joined GHD with nearly 100 employees operating in the midwest across three offices in Pennsylvania: Harrisburg, Huntingdon, and Doylestown. The company offers multi-disciplinary engineering, architecture and GIS services.

This integration adds further depth and capability to our existing offering in water, particularly in advanced nutrient removal, asset management, desalination, industrial water and waste, water efficiency and collection, as well as conveyance and design of a broad range of treatment systems.

The merger follows a long and successful history of partnering together to service clients.

## **RobsonWoese**

New York based consulting engineering firm RobsonWoese Inc. has joined GHD with approximately 40 people integrating with our east coast team. They will support each of GHD's market sectors through the provision of electrical, mechanical, and fire protection engineering services.

RobsonWoese was founded in 1933 and in the past decade has expanded its offering to include mission-critical power systems, fire protection and code consulting, sustainable design, LEED® accreditation services, and energy modelling. With major offices in Buffalo and Syracuse, NY, the RobsonWoese team complements GHD's existing presence on the east coast.

## **Benefiting clients**

Commenting on the announcements, Richard Wankmuller, GHD's General Manager for the Americas said, "With these mergers, GHD strengthens its position as one of the leading engineering, architecture and environmental consulting companies in the USA and one of the top ten global engineering firms in sewerage and wastewater.

"Our clients now benefit from a team of more than 900 people in the Americas, providing services across each of our five market sectors."



## New Chairman for GHD



Russell Board was appointed GHD Chairman in November 2011.

He succeeds Des Whybird who has retired from GHD, following a 38 year career with the company.

Well known to many in the GHD network and across the industry, Russell has held various senior management roles in the Northern Territory, Queensland, New Zealand, South East Asia and South America. Most recently, he was General Manager for Australia and New Zealand.

Commenting on his appointment, Russell said, "I am excited by the opportunities which lie ahead for GHD.

"To have so many wonderful, talented people all working for our clients will position the company as a leader in each of our five global markets and guide us towards success."

## Breaking news

### MGF Consultants (NQ) join GHD

Another strategic merger has been completed with MGF Consultants (NQ), an organisation that provides mechanical, electrical, ESD and acoustic professional engineering services to the building and construction industry in north Queensland.

The organisation has a solid reputation and with the addition of 15 people across Cairns and Townsville, GHD has now become the largest provider of property and building engineering services in the region.

Rob Bufi, General Manager, MGF Consultants (NQ) said, "The merger is an exciting move that will broaden services and extend core capabilities. It gives our people a chance to work on a wider range of projects not just in north Queensland, but around the globe."

## (innovations)<sup>n</sup>

### Doing more with less

Rapid population growth, climate variability and limited resources are driving stronger demand for infrastructure to service the community. To keep pace, governments, infrastructure owners and operators are under pressure to deliver cost-effective solutions in a shorter timeframe and in a safer and more environmentally-friendly way.

At GHD, we believe that innovation provides one of the keys to unlocking this potential by providing the opportunity to do more with less\*. *Innovation in Infrastructure* is a GHD initiative to embed an innovation framework in the delivery of projects, with the aim of identifying more high value ideas, both for the project and broader industry.

Since inception, a number of high value ideas have come through the pipeline. For example, in response to the need to dispose excess build-up of contaminated rail ballast materials from track network retamping, Trevor O'Shannessy, GHD Senior Geotechnical Engineer, has devised a method to manage the rejected rail ballast through recycling on site. The ballast can be used as a sub-base material to improve the sub-grade strength and bearing capacity below new track formations. Key benefits include reduced environmental impacts through less transportation and landfill requirements as well as reduced maintenance and construction costs.

This idea is currently available for an infrastructure owner or operator and a research institution to develop further.

**If you are interested in exploring this idea or require further information on GHD's Innovation in Infrastructure initiative, contact Jeremy Stone on +61 3 8687 8341 or email [jeremy.stone@ghd.com](mailto:jeremy.stone@ghd.com)**

\*Source: 'Innovation in Infrastructure' paper by GHD Innovations  
Download a copy by visiting: [www.ghd.com/innovation](http://www.ghd.com/innovation)

# In the news

## 01 2011 Annual Review out now

Take a look at GHD's latest Annual Review, a publication that showcases our clients' successes, details the company's milestones and re-affirms our strategic direction for the coming year and beyond. 2011 was a year that presented many challenges to our clients, yet GHD entered a renewed period of growth.

You can view a copy by visiting:  
[www.ghd.com/PDF/2011AnnualReviewWEBAPP.pdf](http://www.ghd.com/PDF/2011AnnualReviewWEBAPP.pdf)



## 02 Creating future partnerships

GHD has been accepted as a Carbon Disclosure Project (CDP) Silver Consultancy Partner for Australia. The CDP is an independent not-for-profit organisation that has developed the largest database of corporate climate change information in the world. GHD is one of only five consultancy partners in Australia.

## 03 Peel Region appoints GHD

The Regional Municipality of Peel in Southern Ontario, Canada, has appointed GHD to complete a risk assessment of its water supply system. Our team will be tasked with analysing whether Peel has the necessary water infrastructure in place to maintain its level of service as the system continues to grow.



## 04 China trade mission

GHD recently participated in an Australian trade mission to China led by The Hon. Dr Craig Emerson, Australian Minister of Trade to promote professional services. During the mission, GHD signed a Memo of Understanding (MoU) with the Changsha Huashijie Science & Technology Development Co Ltd to collaborate on projects in the area of environmental services and land remediation.



## 05 Environmental recognition

GHD's assistance in transforming a highway maintenance facility into a public park in the Village of Fayetteville Onondaga County New York has earned the American Public Works Association's 2011 Environmental Project of the Year award. The project was in the making for over 30 years and is now in use by the community.

## 06 Queensland says thanks

Major General Mick Slater, Chair of the Queensland Reconstruction Authority has thanked GHD for its contribution to Queensland's recovery efforts following the 2011 floods. In a letter to our Chairman, General Slater said, "Your contribution has made a significant impact and helped strengthen Queenslanders' spirit and restore confidence that life will eventually return to normal."



## 07 Asset management for Washington

Our team in the USA, with the support of our UK based rail specialists, is undertaking an evaluation of work and asset management practice at Washington Metropolitan Area Transit Authority (WMATA), the provider of mass transit services (bus and rail) in and around Washington DC. The project is centered on a gap analysis of WMATA's work order management system and an assessment of current asset management practices.



## 08 Architectural win in China

Our Building Business Group in China has won another residential and commercial building project, known as Huayuan Jin Wai Tan Phase 2. The project is located in the centre of the Changsha business and commercial area. It forms part of the landmark Changsha Golden Beach Area, bordering Jiefang West Rd and Xiangjiang Avenue. Total floor area is 158,000m<sup>2</sup>.



## 09 Solar Power for Hidden Valley

The Hidden Valley Lake Community Services District in California has broken ground on a solar project that will provide one hundred percent of the energy for its water reclamation plant. As part of our merger with Winzler & Kelly, GHD developed the project which includes 1176 photovoltaic panels located on one acre at the water reclamation plant.



## 10 Coal mine expansion

Xstrata's open cut coal mine at Rolleston in Central Queensland is benefiting from GHD's mining capabilities. Our team was engaged to provide mine-site geotechnology services involving application of the principles of soil and rock mechanics and groundwater hydrology.

In the **news**

# 5 MINUTES

# WITH GHD'S TRANSPORTATION LEADERS



**Ian Dawson**  
Global Market  
Leader  
Transportation

Transport efficiency is critical for every community. Investment to address challenges such as traffic congestion and demand management has the potential to improve the liveability and sustainability of our communities and the productivity of our economies.

In the discussion that follows, our Transportation Business Leaders comment on the industry's challenges, solutions and opportunities.

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## Integrated Urban Transport



**Barbara van Heerden**  
Business Leader  
Integrated  
Urban Transport

Convenient access to all modes of transport is the vision for many communities around the globe. With the developed world's high reliance on private car travel, a shift in travel behaviour and a swing towards the wider use of public transport is required to achieve greater transport mobility.

Investment in iconic public transport projects in Australia is signalling the country's move towards an inclusive, integrated and convenient public transport system. This includes investigations into a High Speed Rail network, the Gold Coast light rail project, a metro style underground rail system for Melbourne and the Crossriver rail initiative in Brisbane.

## Transport Strategy & Economics



**Steve Kanowski**  
Business Leader  
Transport  
Strategy &  
Economics

The demand and supply of transport for passengers and freight, the level of service and infrastructure pricing, and the reasons why networks are both regulated and deregulated are among the concerns voiced by industry.

As a discipline, transport strategy and economics has a key role to play in allocating resources, facilitating investment, stimulating modal choice and shaping travel behaviours. It can assist with appraising infrastructure investment and determining net benefits to society.

For Australia's National Transport Commission, GHD has undertaken a range of economic analyses aiding the Council of Australian Governments' Road Reform Plan with respect to alternative models of heavy vehicle road pricing and funding. Our economists also work to assist other agencies with funding submissions and assess ways to improve the performance of toll road forecasting.

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## Roads & Highways



**Rob Gilmore**  
Business Leader  
Roads &  
Highways

In recent years, governments have recognised the vital role transport plays in productivity and competitiveness. Consequently, many green and brownfield road projects have been planned and delivered, yet a massive infrastructure gap still exists.

With limited investment in ageing road networks, safety is compromised, road repair costs increase, vehicle operating costs inflate, average journey times rise, the cost of goods grows and freight takes longer to reach its destination. What has not yet been accurately illustrated is the effect of road conditions on gross domestic product.

Maintenance and operational funding levels are top-of-mind for road authorities. We work closely with several road agency clients to quantify the effect that reducing maintenance and operation funding is having on our economies.

## Traffic & Transport Modelling



**Shaun Smedley**  
Business Leader  
Traffic & Transport Modelling

For many years, transport modelling has played a significant role in helping our clients better understand travel demand, assess modal options and assist with design refinements.

Focus is now shifting toward the interaction of pedestrians in public spaces, particularly at public transport interchanges and airports. With rapid developments in technology, modellers are able to test these scenarios with far more confidence than ever before.

For example, a significant number of rail station projects now require a detailed pedestrian simulation model at the early stages of planning to influence the design in terms of optimising layout, platform space, gate and barrier locations and impacts during the construction phase.

## Rail



**Martin Baggott**  
Business Leader  
Rail

Rail is receiving an unprecedented level of attention around the world as a mode of transportation that is effective in relieving road congestion and reducing emissions. As a result, there is a focus on light, metro and high-speed rail, particularly in Australia, Asia, the UK and the Middle East.

Our recent integration with Collinson Dutton in the UK is part of our push to obtain a greater depth of technical resource in the whole rail lifecycle - from policy through to transport economics, transport planning, concept development, approvals, design, delivery, operations and asset management.

We have also formed strategic partnerships with a number of technology leaders to ensure we can address our clients' challenges. These include SYSTRA, an organisation that has extensive capabilities in light rail, metro rail and high speed rail.



**Andy Collinson**  
Business Leader  
Rail - UK & Middle East

The challenging economic conditions in Europe are driving investors to opt for transport systems that are more reliable, and have lower whole-of-life maintenance costs.

We are seeing this shift in a range of projects. For example, in our role as the asset management advisor to Heathrow Express in the UK, we have brought insight to decision-making around the implications of maintenance costs for design and specification.

In addition, we have provided operations and performance advice to rail franchise bidders including Arriva plc and undertaken systems integration work for Manchester Metro Link and London Underground.

## Marine



**Michael Wright**  
Business Leader  
Marine

Global seaborne trade routes are undergoing a fundamental change, with Brazil, Russia, India and China driving a considerable part of the demand.

This is resulting in the development and expansion of ports around the globe, including container and bulk commodities terminals. What is needed is the creation of efficient infrastructure frameworks which minimise duplication, are funded appropriately, address environmental imperatives and have the capacity to adapt to potential impacts of climate variability which will deliver a long-term benefit to all stakeholders.

An example of this is the 'National ports strategy: Infrastructure for an economically, socially, and environmentally sustainable future' — a framework produced with GHD's help for Infrastructure Australia to plan and coordinate investment necessary to leverage export opportunities to the fullest.

## Aviation



**Rene Vandenbroucke**  
Acting Business Leader  
Aviation

Aligning an airport's brand with low emissions performance is increasingly sought by airport operators.

Efficiencies in aircraft movement and reductions in emissions can be established through good planning. In particular, the use of fast time simulation modelling to identify and remove bottlenecks and reduce taxi distances can optimise airport layouts and aircraft operations.

Improved energy efficiencies can also be achieved by reducing landside and airside vehicle fleet emissions and travel distances as well as reducing electricity use, adopting renewable energy alternatives and seeking partnerships with suppliers who share similar objectives.



# Opinion



AN INTERVIEW  
WITH **JOHN  
DUTTON**, ONE  
OF UK'S LEADING  
TRANSPORT  
PRACTITIONERS

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Economic growth, greater urbanisation and increased mobility are boosting demand for transport and straining the capacity of existing assets in many countries. In this article, John Dutton — the former CEO of CDL (a firm that merged with GHD in July 2011) — now GHD's Manager in Europe, discusses the imperative for asset management in transportation.

**Ageing infrastructure is a significant problem in the transportation sector. How can it be tackled?**

Countries, municipalities and cities around the world spend billions on infrastructure every year, yet it never seems to be enough. We have a situation where existing infrastructure is ageing while demand grows for better roads, improved rail networks, ports and airports. The solution is to change the way we plan, design and manage infrastructure. Put simply, it's about asset management, a holistic process of maintaining, upgrading, and operating transport assets cost-effectively, in the short, medium and long-term.

**How can asset management benefit transportation owners and operators?**

Reducing the cost of ownership is one of the key advantages of adopting a robust approach to asset management. Typically, we have seen savings in the order of 30 percent of operating costs in managing an asset portfolio.

For example, our work with a rail operator in the UK has resulted in annual savings of 20 percent of operating budget and an 84 percent improvement in performance measured by the Association of Train Operating Companies. Most importantly, the company substantially improved its position within the Network Rail Performance League.

GHD helped another European rail company identify AUD68 million (£52 m) in savings from performance improvements, operational expenditure reduction and risk allocation. We also assisted the Highways Agency identify AUD387 million (£282 m) in savings over the next ten years through the adoption of asset management practices.

**What is the connection between asset management and funding/expenditure?**

Asset management incorporates a fiscal component as it is a systematic process of operating, maintaining and upgrading assets so that the greatest service or return is achieved.

Managing a transport asset at an acceptable level of expenditure, performance and service is challenging, particularly with the Public Private Partnership model of funding that many governments favour. This can be overcome by adopting long-range planning which is critical to minimising whole-of-life costs for transport assets.



### How can we influence long-range planning?

Planning for major transport infrastructure is a difficult and complex area that is made all the more difficult when the duration to develop and obtain consent for projects transcends the length of time governments are in office. Major projects often need political champions as well as regional and local champions and other stakeholder groups to continue carrying the baton for projects whilst political parties change. These organisations are critical to ensuring the momentum is not lost during government transition, and to keep the project moving through its lifecycle. We therefore need to create links to these stakeholders through various channels.

### Urban congestion continues to bring cities around the world to a standstill. How can asset management help?

Apart from the obvious expansion of existing road or rail networks, the key to tackling urban congestion is to have a better understanding of existing and anticipated demands on travel.

This can be achieved by integrating travel demand measures with asset management skills and undertaking detailed analyses during the decision-making process.

For example, implementing a capacity improvement strategy to handle increased network utilisation requires careful consideration of network volumes, congestion and other travel demand related issues. It also requires a trade-off between existing capacity and the need for additional capacity. More importantly, this process requires a strategic framework that guides decision-making and incorporates performance measures, long-term planning and budgeting elements.

## CDL and GHD unite

Rail and infrastructure consultant, CollinsonDutton Ltd (CDL) merged with GHD in July 2011.

Formed in 2001, CDL has been working closely with GHD for several years in the UK.

The combination of skills is providing an enhanced offering to clients across the globe in transportation and association infrastructure.

Former CDL CEO, John Dutton, now GHD Manager Europe says, "This change offers us a heightened opportunity to grow the business, offering our employees the chance to work on larger projects worldwide."

The incorporation has resulted in the blending of teams in the Middle East, Europe and various offices across Australia.

Ian Dawson, GHD Global Market Leader - Transportation says, "This merger supports our strategy to develop a strong European transport business to serve local markets, and to develop our offering in the Middle East and around the world."

# On the road to success

Sound economic analysis of transport policy, planning and delivery is vital to getting the most out of your investment.



Transport plays a crucial role in facilitating economic growth and productivity. That's why transport systems need to move people, goods, and services quickly and efficiently. One of the greatest challenges governments now face is how to maximise speed, reliability and cost-effectiveness of transport systems in the face of increasing demand, ageing infrastructure and rising congestion.

"As with many other disciplines, transport strategy is largely driven by social, economic and environmental factors," says Steve Kanowski, GHD's Business Leader – Transport Strategy and Economics. "Having a good understanding of this mix is the key to helping policy makers develop transport strategies that deliver net benefits to society."

## Strategy and economics

Appraising infrastructure investment is a growing area of work for GHD. Steve says, "For example, in Australia, as in many other developed nations, our ports and surrounding infrastructure require attention. GHD has worked extensively with Infrastructure Australia and the National Transport Commission on the development of a national ports strategy that deals with accommodating growth, optimising supply chains and addressing community concerns.

"More recently we have produced a transport strategy for the Surat Basin region in south Queensland, the location of the burgeoning coal seam gas and thermal coal industries. It provides a 30 year plan detailing optimal investment levels in road networks, aviation and rail in order to capitalise on the economic benefits of these industries.

"GHD's point of difference is a supply chain logistics model, which we have developed for mine-to-port analysis (and even to port-of-discharge). It enables producers to get a true understanding of the various costs involved in taking bulk or non-bulk commodities from the mine or production site all the way to the port of discharge. This information is absolutely critical in making decisions that affect infrastructure spend, operational costs and, ultimately, profitability."

## Demand management

On the other side of the world, Paul Cooper, GHD's Rail Operations and Planning Manager in the UK is working with rail operators on demand management – that is, ensuring services meet the needs of users while at the same time maximising revenue for available resources.

Paul says, "Getting the balance right so rail operators have a robust strategy and policy aligned with what travellers are prepared to pay, and providing the right framework to deliver the service is what we try to achieve for our clients."

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## Sustainable transport

How can modern cities that rely heavily on cars get people walking, cycling and using public transport? A cultural shift is the answer.

Enrique Peñalosa, former Mayor of Bogotá, Columbia and influential thought-leader on urban challenges believes that cities need to focus on reducing car use, rather than facilitating it. He says, “The most successful cities in the world, such as London, Paris and Manhattan have taken this approach by finding ways to prioritise for people rather than cars.”

Enrique was in Australia recently to speak at the first of GHD’s Moving Melbourne seminars entitled ‘Time for change? Creating a sustainable transport city’.

In his time as mayor, Enrique created radical improvements to Bogotá, a city that is now home to one of the largest bike path networks in the world, as well as TransMilenio, a Bus Rapid Transit (BRT) system.

A culture shift like Bogotá’s is what GHD Behaviour Change team leader, Jonathan Daly, believes is needed to ensure cities embrace environmentally-sound modes of transport.

He says, “A physically and socially supportive environment that can foster a culture of walking and bicycling is the key to long-term success.

“To achieve this, we need to move away from rational approaches that attempt to coerce change and focus on using empathy, humour and fun. In doing so, we can captivate people’s attention and create positive word-of-mouth about change, spreading new

behaviours across social networks helping to reach the all-important tipping point where they become the norm. In this respect social influence is a powerful force of change, which we can harness to lift walking and bicycling out of the margins of society to become a normal activity for everyone to enjoy.”

GHD recently collaborated with the City of Sydney to develop a Cycling Behavioural Change Strategy to complement its investment in cycling infrastructure. The aim was to provide a platform for the creation of a cycling culture in Sydney that would result in increased cycling and better relationships between cyclists and other users of shared space (both on and off-road).

Another recent project is the review of the travel behaviour change impacts of car sharing in the City of Melbourne and City of Stonnington. There results indicate there is a significant positive impact, with almost eight private cars replaced by every car share vehicle. In addition, it was found that car share users walked, cycled and used public transport more. One of the very interesting findings of the study was that car share users also increase local shopping as a result of not having access to a private car.

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# South Road Superway



South Australia has embarked on an ambitious project to improve traffic efficiency and management.

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Located in Adelaide, the South Road Superway project will deliver a 4.8 km non-stop corridor, including a 2.8 km elevated roadway, from the Port River Expressway to Regency Road. Its objective is to connect the rapidly expanding industrial and residential growth areas in the north and the south of the city, and to provide new opportunities for economic development.

This is the biggest single investment in a South Australian road project, and the state's most complex engineering road construction project to date. The project is being managed by the South Australian Government's Department of Planning, Transport and Infrastructure (DPTI).

GHD has been engaged to provide the engineering design services for the contractor, Urban Superway Joint Venture, which comprises John Holland Pty Ltd, Macmahon Contractors Pty Ltd, and Leed Engineering and Construction Pty Ltd. SMEC Australia and International Bridge Technologies (San Diego) are supporting GHD as subconsultants.

"This is a significant project for GHD," says Mike Dean, Project Manager. "We have had more than 200 of GHD's people collaborating to deliver a range of services including roadworks, bridges, geotechnical, Intelligent Transport

Systems, pavements, environment, drainage, electrical, GIS and more.

"From a design perspective, the structure will be a match-cast cantilevered post-tensioned box section with typical spans of 65 metres. The existing section of South Road below the elevated road will become a service road for local traffic."

The elevated roadway design follows a series of engineering and environmental investigations with input from local business operators and landowners on their specific transport and business needs. It was selected in favour of other alternatives as it uses less land for construction, promotes traffic efficiency and delivers better environmental outcomes.

According to DPTI, road safety benefits will flow from the removal of an existing rail crossing on South Road and congestion at existing intersections, while improved east-west movement across South Road and better access to the commercial and industrial precincts will also be realised.

The project is scheduled for completion in December 2013.

# Addressing traffic congestion



Fixing a bottleneck in Central Auckland is delivering savings of NZD450,000 per day in travel time and congestion delays to motorists.

GHD was engaged to design a fourth south-bound lane in central Auckland to release the bottleneck between the Market Road off ramp and the Green Lane interchange, which was servicing nearly 100,000 vehicles per day.

Whilst the site length was only 1.7 km long, it was situated on the rear boundaries of 55 residential properties. This necessitated 500 m of urban designed retaining walls, 750 m of noise walls, in addition to the pavement and surfacing works.

“The success of the project was reliant upon cost-effective solutions that balanced site safety and traffic management requirements,” says Peter Hebden, GHD Project Manager. “Environmental management during the design and construction phases was a high priority as was the meticulous organisation of personnel, plant and materials due to site access limitations.”

Innovative solutions were applied to the project including the adoption of an advanced procurement model, which allowed tenderers to price a number of alternative design solutions that suited their plant and resources. This avoided time delays in contract award when assessing the merits of alternatives post tender closing.

The project took three years to complete and the NZTA is now realising savings in the order of NZD450,000 per day in travel time and congestion delays to Auckland road users. Safety was maintained during construction and the affected residents can now enjoy their backyards as noise levels have been reduced by up to 10 dBA.

“We are very pleased with GHD’s performance on this project.”  
- Ronnie Salunga, Senior Project Manager, Highways and Network Operations for the New Zealand Transport Authority

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# High **Speed 2** for the UK

One of the biggest public consultations ever undertaken in the UK is considering the case for second generation high speed rail services.



High Speed Two Limited (HS2 Ltd) was established by the UK Government to look at the feasibility of, and business case for, a new high speed rail line between London and the West Midlands; and to consider the case for high speed rail services linking London, northern England and Scotland.

In this context, HS2 would be a high capacity railway costing £17 billion in its first phase, designed to standard European high speed specifications, with potential for passenger trains to travel up to 400kph. High Speed 1 (HS1) is currently used in the cross-channel rail link from London to Paris.

According to HS2 Ltd, "The proposed HS2 network would cut 30 minutes off the journey between London and Birmingham and around an hour off journeys between London and Leeds, Manchester, Liverpool, Glasgow and Edinburgh."

GHD UK's Steven Hayter has been involved in the project in his capacity as Chair of the High Speed Rail 'Lifed Panel' for the Institution of Civil Engineers (ICE).

He says, "In principle, the ICE supports the HS2 proposal and routes, with some caveats. Essentially, we want to ensure the most innovative technologies and up-to-date methodologies are considered, and we would recommend some route optimisation to improve the business case.

"A project of this nature would accrue significant benefits for the UK, providing what is estimated to be more than £2 worth of benefit for every £1 invested. There would also be substantial capacity released on existing north-south main lines, allowing improvements on many local passenger and freight networks. Modal shift from road and air to rail would also deliver significant environmental benefits, as HS2 uses the electricity grid to power trains, providing a shift away from fossil fuels as the UK moves to more sustainable means of electricity generation."

The HS2 consultation is now complete and the government is analysing responses. If the green light is received, phase one construction would begin in 2018 and be completed in 2026.

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# Light rail gains momentum



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Investment in light rail is increasing as cities around the world realise its potential to rejuvenate urban environments and boost economic growth by providing a viable, cost-effective and sustainable addition to their urban transportation system.

In Melbourne, the largest tram network in the world (over 250 km), has recently been extended to the Docklands precinct, a new residential and commercial area close to the Central Business District (CBD). The network is also benefiting from an ongoing program to install accessible tram stops compliant with the Disability Discrimination Act. GHD's continuing involvement with these projects includes functional and detailed designs for tram track extensions and associated infrastructure including overhead wiring, accessible tram stops, termini and stabling facilities. Integration with the urban environment is a key feature of the design.

In Queensland, the Gold Coast's plan to install more than 30 km of light rail track connecting Coolangatta to Helensvale is being realised, with the first stage from Broadbeach to Griffith University now underway. Having won the right to host the 2018 Commonwealth Games, the Gold Coast is keen to advance construction of the remaining three stages. GHD and technology partner SYSTRA were engaged to undertake the initial feasibility, planning and concept designs.

For the Inner West of Sydney, GHD has been involved in examining ways to extend the existing light rail service from Lilyfield to Dulwich Hill by capitalising on a disused rail corridor. Construction on the 5.6 km extension has begun with nine accessible stops planned.

In Adelaide, GHD worked with DTEI to prepare the first extension of the Glenelg tramway to North Terrace via Victoria Square. The network has recently been further extended to the Entertainment Centre precinct and additional expansion plans are now being examined.

Across the Tasman, several New Zealand cities are examining options to introduce light rail systems. For the City of Napier, GHD prepared a feasibility study for route selection connecting the CBD and the Esplanade with Ahuriri, a rapidly developing and thriving docklands community hosting a variety of restaurants, apartments, commerce, and recreational facilities.

"These recent projects demonstrate the imperative for world class public transport and sustainable development," says Sebastian Smyth, GHD's Principal Transport Planner in NSW. "Extending or reintroducing light rail systems will better connect people with retailers, businesses and services, thereby strengthening economies."



## Realising new trade opportunities

The increasing demand for Australia's resources has increased pressure on export facilities for bulk commodities.

GHD was appointed by North Queensland Bulk Ports (NQB) to progress its vision of a multi-commodities facility within the Port of Abbot Point. It is envisaged that a range of commodities can be imported and exported from the facility in addition to the export of downstream products from established industries located in the vicinity.

The Port of Abbot Point is Australia's most northerly coal port, and the development of a Multi Cargo Facility (MCF) will provide 12 shipping berths, a tug harbour and a dredged access channel, swing basin and berth pockets.

Peter Searle, Project Director said, "GHD developed a viable and practical concept considering the commercial, engineering and environmental opportunities and constraints associated with the development of the MCF."

In parallel to this project, GHD has undertaken an Environmental Impact Assessment (EIA).

Peter adds, "Information derived from the EIA has been invaluable in developing better outcomes for the project and identifying appropriate environmental management strategies. The Port limits border the Great Barrier Reef Marine Park heightening the importance of robust environmental outcomes.

"Outcomes from the work to date have produced a robust concept for the MCF with strong environmental credentials to underpin the ongoing expansion of Australia's resources sector."

After consideration of the various options, NQB adopted GHD's recommendation to run an 'Early Contractor Involvement' procurement process, which is currently underway.

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## Improving port efficiency

GHD creates a blueprint for the expansion of Latin America's eighth biggest port.

Located on the shores of central Chile, San Antonio Port is the country's largest freight hub. It is also the busiest and closest port to the country's capital, Santiago. Constant increases in the port's containerised cargo and bulk cargo traffic, fuelled by the global resources boom, meant that expansion was needed.

The San Antonio Port Company - Empresa Portuaria San Antonio (EPSA) - engaged GHD to undertake engineering studies for the expansion of the facility.

Fernando Gajardo, Development Manager of EPSA commented, "GHD's global experience in ports infrastructure meant that the company's team of professionals found effective solutions for our integrated requirements in preparation for the port's future development, saving us both time and money."

Service studies for drinking water, sewerage and power supply were also undertaken as part of the brief.

Divided into two phases, the project will improve roads to and from the port and facilitate access to San Antonio city. It will also generate definitive construction infrastructure within the port including a temporary buffer area for parking and for the control of trucks entering the facility. The development of both phases will involve coastline and river protection works ensuring the preservation of the natural environment, while providing public access to the coast and beach near the port.

GHD Project Manager, Claudio Hernandez said, "The completed project will improve efficiency of container movement in and out of the port."

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# Kirkwood Road benefits community

Work on a strategic road in the north Queensland town of Gladstone is set to enhance access to major industrial areas and improve safety.



**From left to right:**

Cameron Howard, Project Manager Goldings Contractors, Matt Burnett, Deputy Mayor, Manager Infrastructure Gladstone Regional Council, Hon. Simon Crean MP, Minister for Regional Australia, Regional Development and Local Government, Cr Gail Sellers, Mayor Gladstone Regional Council, and Paul Martin, Project Manager, GHD

Kirkwood Road is a two lane arterial roadway designed to provide alternate access across Gladstone, a growing city that features a busy multi-commodity port and is home to two of the world's largest alumina refineries.

Linking the southern and western sides of the city, Kirkwood Road aims to satisfy the rising demand in transport infrastructure due to the region's economic and population growth - a result of growth and development in industries including Liquefied Natural Gas (LNG) and Coal Seam Gas (CSG).

Following the successful completion of stages 1 and 2, Gladstone City Council commissioned GHD to provide the detailed design and documentation for Stage 3 of the project.

Gladstone Regional Council's brief encompassed the provision of detailed design, documentation, contractor procurement and project management of 9.8 km of roadway in line with the Kirkwood Road Structure Plan blueprint. The last Stage 3 includes two major signalised intersections and two major service relocations.

Paul Martin, GHD Project Manager said, "A close working relationship has been formed between GHD, the Gladstone Regional Council and Golding Contractors. This team has collaborated closely and found solutions to the many challenges faced during the project's implementation. One of the milestones has been seeing the road formed through the largest cutting section, where over 150,000m<sup>3</sup> of hard blue rock was blasted and excavated from the hillside."

The new routes created with Kirkwood Road will relieve major pressure that has built up recently on the surrounding roads and will lead to the opening of a major residential corridor in the south west of the city.

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# East points to a better west

Dubbed as the nation's fastest growing region, the time to enhance Melbourne's west is now, according to leading KPMG demographer Bernard Salt.

Speaking recently at GHD's Executive Forum 'How the west was won', Bernard believes that as the city's growth re-orientates from east to west, it is time to start thinking about the challenges facing Melbourne's west.

"What we deliver in the west in the next 10 to 15 years needs to be better than what we delivered last century in the east," says Bernard. "The growth the west is experiencing is no flash in the pan — development in the last 10 years has gone from strength to strength, propelling it from the shadows of the east."

So why has Melbourne's focus shifted from the east to west? "The west delivers lifestyle and affordability on a grand scale," adds Bernard. "Wyndham Vale, the furthest western suburb is only 30 km from the city... the west can deliver suburbia at its best in Melbourne.

"The challenge now is to build environmentally-conscious and resilient communities that are socially cohesive,

so residents can work, play and live there. A solid investment in infrastructure and service-based professionals is the key to future success."

With more than 300 people attending the landmark event, Bernard was joined by ABC personality Virginia Trioli and a panel of industry leaders including Department of Transport, Ray Kinnear and Committee for Geelong Executive Director, Peter Dorling.

Concerning the role that social infrastructure will play in creating a better west, the panellists explored the challenges associated with designing communities that avoid being characterised by fast food, gambling and alcohol consumption.

The discussions revealed that it is time for government and industries to align themselves with local communities to address the challenges facing the nation's most burgeoning region, ensuring it delivers a better suburbia.



# Water reuse in Coal Seam Gas

The rise in Coal Seam Gas (CSG) developments and associated infrastructure in Australia is presenting opportunities for the water industry.

With reserves of CSG in Australia estimated to be in excess of 16,000 Petra Joules (PJ), producers are looking to innovation to address water management challenges.

“As part of the CSG extraction process, large volumes of water are generated known as Associated Water (AW) or as Produced Formation Water (PFW),” says GHD Principal Process Engineer Kostas Athanasiadis. “Salinity of the AW needs to be addressed before re-use can be considered.”

GHD is currently working closely with all four major CSG proponents to design the required infrastructure and facilities for treatment of the annual estimated 100 GL of CSG AW in Australia. Integrated solutions include current and emerging desalination technologies, blending and amendment systems to maximise reuse and reduce desalinating costs, and evaporation/crystallisation technologies to achieve zero liquid discharge, thus reducing the relevant environmental impact.

Kostas explains, “Some CSG producers are looking to use this excess water for their own irrigation schemes or for use in servicing mine requirements (after purification). However, the quantities of water are quite large, which means there are additional opportunities for distribution and reuse.

“We are currently modelling scenarios for aquifer recharge, where we are looking either at sending purified water directly to surrounding farms for irrigation, thereby indirectly replenishing stocks of groundwater by reducing farm use or by pumping treated water directly into the groundwater table.”

Application in aquaculture and fisheries has also emerged as an area of interest for CSG water, providing an additional boost to local economies in regional areas.

“We are examining all available options,” adds Kostas. “For example, our people are involved in research and development projects to assess the feasibility of producing commercially viable salt products such as soda ash and cooking salt from the CSG brine. Additionally, we are also involved with engineering design of regulated waste collection facilities for the management of non-commercial mixture of salts produced during the crystallisation of brine.”

Downstream, GHD is also providing the relevant civil infrastructure — roads, tunnels, water supply, accommodation and mine design — to CSG producers. We are delivering Environmental Impact Assessments integrated with pipeline design, treatment plant development and combined feasibility, planning and design of pilot facilities (both on-shore and off-shore).

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# Enhancing public health

Manila - view over Quiapo

Manila, one of the most densely populated and built-up cities in the world, is improving the quality of life of more than four million residents.

With growing concern for public health risks and the degradation of bodies of water within the greater metropolitan Manila area, the two water concessionaires, Manila Water and Maynilad Water, have been focused on implementing sewerage and sanitation infrastructure across the city.

Currently, less than 10 percent of Manila is covered by sewerage facilities. This has resulted in untreated sewage being discharged into creeks and other water bodies such as Laguna de Bay.

GHD, in partnership with both concessionaires, has conducted a number of feasibility studies including preliminary and detailed designs of more than ten new sewerage treatment facilities with a combined capacity of more than 550 MLD. In total, GHD has assessed more than 60,000 hectares of land area, which is approximately 50 percent of the greater metropolitan Manila area.

“With Manila having a population in excess of 12 million people, the benefits to public health and the environment will impact more than four million people living in the areas being sewered,” explains Paul Hansford, GHD’s Business Group Manager for Water and Civil Infrastructure in the Philippines.

“The challenges to plan, design and implement completely new sewerage systems in Manila are enormous. The unavailability of land, high volumes of traffic and widespread presence of informal settlements throughout the city are some of the issues faced. Our international team of water professionals is working hard to ensure our solutions provide value where it is needed.”

Antonio Garcia, Sanitation Manager for Maynilad Water said, “GHD’s innovative approach to this project has resulted in the design of combined sanitary interceptor systems. This proposed solution is cost-effective and takes into consideration the difficulties of implementing infrastructure in our developing environment.”

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# Powering the Northern Territory



GHD is mid-way through a three-year contract for the provision of engineering services to the Generation Business Unit of Power and Water Corporation (PWC).

As the owner's engineer for PWC, GHD is providing a full range of services for all electrical power generation stations in the Northern Territory. This includes power generation, electrical transmission, natural gas pipeline and facilities, instrumentation and control, project management, structures and environment.

We have also delivered services in the renewable energy field advising PWC with respect to Expressions of Interest for the installation of a 30 MW solar power station to meet the organisation's 20 percent renewable energy target.

Commenting on the project, Greg Rice, GHD's Business Leader – Power said, "PWC has a robust program of expansion and refurbishment of their power generation system to service residents and businesses in the Northern Territory. This involves significant work in every PWC power plant, all of which have different types of generating units."

So far, GHD has completed:

- Project management of the installation of two 50 MW Rolls Royce gas turbine generators at Channel Island Power Station (Darwin)
- Project management, specification and tender assessment for the supply and installation of a third GE LM6000 43MW gas turbine

unit at Weddell Power Station (Darwin) including specification and installation of a third water bath heater

- Associated engineering reviews and advice for the supply and installation of 3 MAN dual fuel 11 MW reciprocating engine power generating units at the new Owen Springs Power Station in Alice Springs
- Engineering support (Earthing, cabling, SCADA and gas supply) for the relocation of a Solar gas turbine generators Katherine Power Station
- Commissioning of two new 1.5 MW Cummins diesel fuelled reciprocating generators at Tennant Creek Power Station
- Feasibility studies for future development of the power system, including refurbishment of Berrimah (Darwin), Yulara and Tennant Creek Power Stations

These projects demonstrate the true value of GHD's collaborative network, and client-centred approach," explains Greg. "To assist PWC, we assembled a team of professionals from a broad range of GHD offices including the Northern Territory, Victoria, Western Australia, Queensland, Canberra, the UK and China."

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# Hydropower for Chile

An Environmental Impact Assessment is helping shape the potential for new energy sources.

Due to increasing demand for energy in Chile, HidroAysen is developing five hydroelectrical power stations. Two of these will be located on the Baker river, while the other three will be situated on the Pascua river.

HidroAysen plans to design an energy complex with an installed capacity of 2750 MW and an average annual energy capacity of 18,430 GW. This energy will be injected into Chile's Central Interconnected System which supplies more than 93 percent of the country's population.

GHD was engaged to prepare an Environmental Impact Assessment of the power transmission line spanning 67 municipalities along its 1912 km length.

Our people are working closely with the HidroAysen team to examine ecological and social impacts of the project, which also includes 160 km of submarine line, the construction and operation of converter sub-stations, grounding sub-stations and complementary works including roads, site facilities, heliports and more.

"This is an important project for Chile's future economic growth," says Pablo Boteselle, HidroAysen's Technical Leader - Power Transmission Line. "It will provide energy security for the country, while tapping into our abundant, natural, clean and renewable water resources.

"The GHD team has been working hard to provide the necessary services required by HidroAysen. The experience and capabilities of everyone involved has been fundamental to the development of one of the largest Environmental Impact Assessments ever undertaken in Chile."

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# Model behaviour

A city in Arizona is benefiting from modelling its projected wastewater flows to optimise operations.

A premiere destination for tourism and leisure, Scottsdale is a vibrant city in the USA, bordered to the west by Phoenix and to the east by the Salt River Pima-Maricopa Indian Community.

As part of the city's broader water optimisation program, Scottsdale turned to GHD to update its wastewater model. The objective? To reflect recent billing data and flow metering results as well as updated development plans and capital improvement projects.

GHD has a long history with the city, having designed more than 50 water projects within the region.

"The wastewater model utilises dry and wet weather steady-state and extended period scenarios to identify current and future capacity challenges within the system," explains Peter Chan, GHD Project Director.

"Our hydraulic analysis is focused on the city's wastewater collection system, consisting of 550 km (342 miles) of sewer lines that span an area of 477 m<sup>2</sup> (184 miles<sup>2</sup>). The model consists of future flow projections and sewer infrastructure improvements for a 'built-out' Scottsdale in 2035.

"We have expanded the model to reflect system improvements that have been constructed since it was last updated and performed quality control reviews and updates throughout its databases.

"The benefit of this particular model is its accuracy. We are using an extended-period model (48 hours), rather than capturing snapshots of wastewater flows. We are leveraging actual GIS-based customer meter data and capturing information from 35 temporary meters within the city to validate the model. And, we are accounting for rain-derived infiltration and inflow, which is unusual in a desert climate."

Scottsdale's Project Manager, Scott Anderson said, "The wastewater modelling performed by GHD is invaluable. It gives us a vision into the future so we can plan for adequate capacity and avoid potential spills. Overall, it contributes to our broader optimisation program, which will deliver savings to the city's budget and resources."

Following the successful completion of this project, GHD held a modelling roundtable in Phoenix and presented at the Annual Arizona Water Conference to showcase the benefits of this approach to surrounding municipalities.

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## Healing spaces

GHD has played a key role in brightening the lives of seriously ill children, teenagers and their families.

GHD's Interior Design and Building Services teams, in collaboration with the Starlight Children's Foundation have designed a number of Starlight Express Rooms around Australia. This includes rooms at the Adelaide Women's and Children's Hospital and the Royal Melbourne Children's Hospital.

With the design focused on escapism, GHD created an opportunity for patients and their visitors to enjoy an environment away from the rigours of hospital life.

"We wanted to create a hub of fun and distraction," says GHD Interior Designer Mary Harben. "The Starlight Express Room is based on the idea of an internal garden that aims to bring the outdoor environment indoors. The intent was to add warmth, texture and comfort to the spaces.

"The success of the Adelaide room can be measured through the smiles of the children and the number who visit the room daily. The room has also been embraced by the hospital and health care professionals, particularly physical therapists who see it as an informal, relaxing, and enjoyable place to assist in the rehabilitation of their patients."

The space is zoned into five key components including an entry, garden path, media/broadcast centre, art room and backyard.

Mary adds, "The space is linked by the garden path. All zones are visible from this meandering promenade, as children and their families wander and get a glimpse into other worlds. Patients have the choice of raucous play using the latest technology in the gaming room, or the quiet reflection and relaxation of the art room. Organised activities for young children and teenagers respectively, occur in the flexible and easily changeable spaces."

GHD has a history of supporting the Starlight Children's Foundation. Tony Norrish, GHD's Operating Centre Manager for South Australia says, "We began working together a few years ago, when Starlight was chosen by our Young Professionals network as our charity of choice. In the past, we have held functions for children and families of Starlight, including a painting day. Beautiful artwork completed by the children is on display in our Adelaide office. This is our first project for the charity and we are extremely proud of the team's contribution."

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# GHD helps to rebuild Christchurch

GHD's global network is proving to be the key to helping Christchurch get back on its feet following recent earthquakes.

Many of our people from various offices around the world have been working hard to restore Christchurch City Council's public infrastructure including roads, sewerage systems, water supply, pump stations, reservoirs, levee banks, pipelines, buildings and more.

"One of the remarkable stories to come out of the rebuilding experience so far is how we were able to leverage our global network to mobilise and resource teams to quickly provide services," explains Steve Carne, GHD's New Zealand Business Leader for Water.

GHD's Christchurch Water Service Group Manager Colin Forsyth concurs, "Today, we have a multi-cultural team that is working seamlessly to provide the services we need. We have professionals from New Zealand, Australia, Canada, the USA, Middle East and the Philippines both on the ground in Christchurch and available remotely to get the job done."

GHD is a member of the Stronger Christchurch Infrastructure Rebuild Team (SCIRT) Alliance, which will be rebuilding the city's public infrastructure over the next five years.



Members of the Sydney BUG group

## Sydney catches the BUG

In our bid to find ways to limit our carbon emissions, GHD has recently adopted a Green Travel Plan to change workplace travel behaviour. Following the lead of our Brisbane office, our Sydney office has created a Bicycle User Group (BUG) to help promote more environmentally-friendly travel to and from the workplace.

A BUG is a group of GHD people with shared interests in cycling who provide a useful resource for those who already ride and those who want to start riding to and from work.

The group is rapidly growing with more than 30 current members and extends over several different offices including participation from our Sydney, Artarmon, Parramatta and Wollongong offices.

# AWARDS

JULY - DECEMBER 2011

## AUSTRALIA

### AUSTRALIAN BUSINESS AWARDS

2011 Award for Enterprise

### AUSTRALIAN INSTITUTE OF PROJECT MANAGEMENT

2011 Project Management Achievement Award (VIC) Regional Development Category - Department of Education and Early Childhood Development, Bushfire Attack Level (BAL) assessments on Victorian Schools

### AUSTRALIAN MASTER BUILDERS - 2011 BRISBANE HOUSING & CONSTRUCTION AWARDS

- Innovation and Environment Management Award - Horizon Alliance Richlands Station
- Sporting and Community Services Facility Award - Horizon Alliance Richlands Station

### ALLIANCING ASSOCIATION OF AUSTRALASIA EXCELLENCE AWARDS

- 2011 Team of Excellence Award - Horizon Alliance
- 2011 Team of Excellence in a Long-Term Alliance Award - Melbourne Water Pipelines Alliance

## BENTLEY

2011 Be Inspired Special Recognition Award Sustaining The Professions - GHD Business School

### CIVIL CONTRACTORS FEDERATION

2011 Earth Awards (VIC) - Sandgate Avenue Drainage Stage 1 Project, Pipelines Alliance

### CONCRETE INSTITUTE OF AUSTRALIA

2011 Design Award (SA) - 10 metre dive tower for the SA Aquatic & Leisure Centre

[CONSULT AUSTRALIA](#)

2011 Future Leader's Award - Bryce Taplin

[COUNCIL FOR EDUCATION FACILITIES PLANNERS INTERNATIONAL \(VICTORIAN CHAPTER\)](#)

2011 Education Facilities Award: Commendation in the New Construction/New Individual Facility Category - Exeter Primary School Music & Performing Arts Centre

[ENGINEERS AUSTRALIA](#)

- 2011 Excellence Award (QLD) High Commendation Industrial Development and Manufacturing category - Volvo Testing Facility
- 2011 Excellence Awards (SA) High Commendation – SA Aquatic & Leisure Centre
- 2011 Excellence Award (SA) – Lake Condah Restoration Project
- 2011 Excellence Award (VIC) Infrastructure projects over 20 million category - Sandgate Avenue Drain Flood Mitigation Project – Stage 1
- 2011 Excellence Award (VIC) Infrastructure projects over 75 million category - Tarago Water Treatment Plant
- 2011 Excellence Award (VIC) Infrastructure projects up to 20 million category - Werribee River Sewer Aqueduct
- 2011 Excellence Award (VIC) Environment category - Meredith Water Supply Improvements
- 2011 Excellence Award (WA) overall winner - Southern Seawater Desalination Integration
- 2011 Excellence Award (WA) Infrastructure and Building category - Southern Seawater Desalination Integration
- 2011 Excellence Award (WA) Management of Engineering category - Southern Seawater Desalination Integration
- 2011 Young Engineer of the Year (ACT) - Christina West
- 2011 Professional Engineer of the Year (NSW) - Andrew Leventhal
- 2011 Young Professional of the Year (Townsville) - Clint Spencer
- 2011 Young Professional Engineer of the Year (VIC) - Gavin Chater

[GEOMECHANICS SOCIETY](#)

2011 Geotechnical Practitioner of the Year: Andrew Leventhal

[HUMAN SYNERGISTICS INTERNATIONAL](#)

2011 Culture Transformation Achievement Award - Melbourne Water Pipelines Alliance

[NSW LOCAL GOVERNMENT AND SHIRES ASSOCIATION](#)

2011 Excellence in Communication Award - 'Future of Waste' campaign Lake Macquarie City Council

[TRANSPORT CONSTRUCTION AUTHORITY \(NSW\)](#)

2011 Design Steering Group Safety in Design Award - Glenfield to Leppington Rail Line (GLRL) Project

[VICROADS](#)

2011 Prize in Transport Engineering Monash University - Daniel Veryard

**MIDDLE EAST**[2011 CONSTRUCTION WEEK QATAR AWARDS](#)

Tower Project of the Year - Al Bidda Tower

[2011 CITYSCAPE AWARDS](#)

High Commendation - Al Bidda Tower

**NEW ZEALAND**[INSTITUTE OF PROFESSIONAL ENGINEERS NEW ZEALAND \(IPENZ\)](#)

2011 Arthur Mead Award for Environment and Sustainability - Auckland Transport (Tetra-Trap™)

[ROADING NEW ZEALAND](#)

2011 Excellence Award Medium Road Project category - East Coast Road Widening Project

**USA**[NORTH BAY BUSINESS JOURNAL – 2011 TOP PROJECT AWARDS](#)

- Historic Restoration Award – De Turk Round Barn, Santa Rosa
- Green Award – Santa Rosa Utilities Field Office, Santa Rosa

[AMERICAN PUBLIC WORKS ASSOCIATION](#)

2011 Environmental Project of the Year Award - Canal Landing Park, Village of Fayetteville Onondaga County New York

# our people our community



## 01 IWA representation

**Nicholas Apostolidis**, our Global Development Leader, has been elected to the Strategic Council of the International Water Association (IWA). The Council provides guidance to the IWA Board of Directors and the Governing Assembly in the strategic direction of the Association.



## 02 Sponsoring future engineers

Our Cazenovia office has sponsored students from Cazenovia High School to participate in the annual New York State Electrathon competition. Electrathon vehicles are single-person, lightweight, aerodynamic, high-efficiency, electric vehicles powered by gel-cell battery packs weighing under 67 pounds.



## 03 Electrical drafter recognised

**Rebecca Warnest**, a member of the Newcastle Operating Centre's Property and Buildings Business Group, has won the Hunter TAFE 2011 Metals and Manufacturing Award. Rebecca is currently studying at Hunter TAFE and is an apprentice electrical drafter with GHD.



## 04 Support for Abundant Water

GHD in the Community is providing support to Abundant Water, a not-for-profit humanitarian development organisation that shares the innovation of clay-pot water filters with indigenous potters in Laos. GHD's assistance will help Abundant Water train a potter from one of the eight pilot villages in Laos.



## 05 Shaving for a good cause

**Philip Pigram**, Property & Buildings Business Group Manager for our Newcastle operations, and **Mark Lewis**, Senior Architectural Technical Officer led by example recently when they represented GHD for the World's Greatest Shave event in support of the Leukaemia Foundation.

## 06 Young Volunteer of the Year

**Sarena Hyland**, a member of our Architecture group in Western Australia has won the 2011 St John Ambulance (WA) Walter Winterton Award for Young Volunteer of the Year. Sarena has been a member of St John Ambulance for more than thirteen years, attending numerous events each year and providing first aid service.



## 07 Will is streets ahead!

Senior Light Rail Engineer, **Will Street**, has received the Railway Technical Society of Australia's Young Engineer Award for 2011. Will was endorsed by our client, Yarra Trams, for his innovation, attention to detail, follow up at construction and superior energy applied to the recent upgrade program.



## 08 Civil Engineer of the Year

**Andrew Leventhal**, one of GHD's senior geotechnical engineers, is the winner of the Engineers Australia 2011 Sir John Holland Award for Civil Engineer of the Year. Andrew was also named NSW Professional Engineer of the Year by Engineers Australia (Sydney Division) and Geotechnical Practitioner of the Year by the Australian Geomechanics Society.



## 09 Mentoring women

GHD is participating in two programs to mentor a future generation of female engineers — the Sydney Women in Engineering and Information Technology (SWIEIT) Speakers Program and the Lucy Mentoring Program — both initiatives of the University of Technology Sydney (UTS). GHD's **Lee-Anne Sylva**, **Anna Montgomery**, **Fiona Quigley** and **Sarah Wheeler** were selected as Lucy Mentors to support female undergraduate students seeking a career in the engineering and IT fields.

## 10 Sydney Rides Challenge

GHD recently won the 'Sydney Rides Challenge' for encouraging 44.4 percent of its employees to cycle to work or for leisure. An initiative of the City of Sydney, the Sydney Rides Challenge is the product of a behaviour change strategy that GHD prepared on behalf of the Council in 2010 to complement its infrastructure investment with programs to boost cycling participation for inner Sydney residents and visitors.

## our people our community

- 01 Nicholas Apostolidis
- 02 New York State Electrathon competition
- 03 Rebecca Warnest
- 04 Laos community
- 05 Philip Pigram and Mark Lewis
- 06 Sarena Hyland
- 07 Will Street
- 08 Andrew Leventhal
- 09 Lucy Mentors program
- 10 Mia Barnard in Sydney Rides challenge



[www.ghd.com](http://www.ghd.com)



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Certified by the Carbon Reduction Institute