The high-profile Manukau Harbour Crossing project is the latest in the Pathfinder Programme series and shows how creating the right environment can unite a team and deliver outstanding results.

By Peter Cunningham, Chief Executive, Construction Clients’ Group

The Manukau Harbour Crossing (MHX) project is a key part of the Western Ring Route linking the cities of Manukau, Auckland, Waitakere and North Shore via State Highways 20, 16 and 18 and will provide an alternative route to State Highway 1. It is also an important part of the infrastructure planning for next year’s Rugby World Cup. For the client, the New Zealand Transport Agency (NZTA), it was their first project procured via a competitive alliance.

Covering the stretch of State Highway 20 between the Mt Roskill extension in Hillsborough and Walmsley Road in Mangere, the project will be delivered within budget and 7 months early. As a result, commuting times to and from the Auckland CBD and access to the airport will improve, thus creating significant economic benefits for the region.

Ownership, responsibility, identity

Key to successful bidding and as an incentive towards innovation in the design phase, the NZTA indicated that principles of the alliance would be formed before the project was awarded. To make this work, project partners participated in a series of workshops to create the right environment to enable success.

One workshop outcome after the tender was awarded was the Manukau Harbour Crossing Alliance Charter. All Alliance partners had contributed to its development, so they took ownership and responsibility for its delivery.

Beca Infrastructure, Fletcher Construction and Higgins won the tender based on their combination of a strong team (with previous experience of working on Grafton Gully) and a competitive price. The NZTA procured the project on a Dual Target-Outturn-Cost (TOC) basis. That the Alliance team could demonstrate value through all phases of the Grafton Gully project was a major plus in their favour.

Also key to the start-up was giving the project its own identity. It was important that Alliance participants felt like part of a larger team rather than sticking to their company’s individual roles. Naming the project the Manukau Harbour Crossing Alliance helped develop the shared sense of ownership, responsibility and belonging.

Creating a ‘single team’ environment

A crucial step in creating the right environment of shared commitment was the co-location of all key staff to the Manukau Harbour Crossing site office.

Throughout the project, the team proactively measured performance against the benchmarked project programme. Milestones were re-evaluated and targets reset to continuously encourage improvement and innovation, and to drive ‘project breakthroughs’.

One of the key experiences from this project was how the team proactively planned for project breakthroughs and delivery. This approach enabled them to open the third lane of the northbound section of the bridge, delivering 60% of the project benefit 11 months ahead of schedule. This reduced peak-hour travel from the airport to the city by 20 minutes. Andrew Rose, Alliance project manager, said that the ‘single team’ concept was crucial to this result.

Getting the culture right

Key to getting the culture right was leadership that encouraged and rewarded innovation and mitigated risk, while maintaining accountability. The Alliance Café concept encouraged small group discussions to enable individual engagement and to embed team culture.

As the project progressed, trust, communication and team dynamics improved as the team built upon their experiences. ‘Pride’ and ‘Excellence’ awards were developed to recognise success, provide feedback and positively reinforce behaviour.
Other initiatives were introduced, from frequently held toolbox talks at the purpose-built dome to the ‘Respect’ and ‘Pride in Workmanship’ campaigns. These initiatives have been a significant factor in the project’s success. Messages and targets incorporated in the MHXcellence programme enabled the team to focus on delivering the key objective of ‘breakthrough handover’. This included the components of right first time and zero defects at practical completion.

Measurement is crucial

The concept of the high-performing team was crucial to Manukau Harbour Crossing’s success. It took 2 months to develop and agree the key result areas before the project started. The measures were split into lag and lead indicators and became integral to driving performance. The six key result areas at Manukau Harbour Crossing are time, stakeholder engagement, environment, traffic management, quality and safety.

Having the relevant measures and reporting them on a monthly basis enabled the team to empower individuals to meet shared Alliance goals. Ongoing benchmarking enabled stiff targets to be set, and the clock was reset when these targets were reached. Ultimately, this approach drove behaviours and was a significant factor in enabling the project to be delivered 7 months early.

Planning and keys to success

From the start, this project was designed to create succession opportunities for individuals to develop and upskill. It was widely acknowledged that different skills are required at different times throughout the project. John Burden, an early Alliance project manager, was engaged in the start-up phase and identified that succession planning is a key factor in the success of this and future generations of alliances. He commented that the project was ultimately bigger than the people that worked on it and that this approach was pivotal in creating the right environment.

Innovations key to the project’s success were:

- creating better working areas, which enhanced productivity and reduced risk across the project
- an on-site precast assembly facility resulting in significant cost/time savings
- cultural aspects, such as co-location in the same office, reward programmes and community involvement brought the team together
- using the experience and expertise from a previous alliance enabled them to hit the ground running.

Evaluation of this success brings knowledge that can be transferred to future projects. For example:

- the client must be fully involved and integrated from day one
- competitive alliances can work if team values are aligned, norms are challenged and individuals are empowered for the greater good of the team
- culture and trust improves from generation to generation, creating opportunities for further innovation and knowledge transfer
- getting to peak performance quicker requires coherence at the start of the project and in its first 100 days and rigour in team selection.

Collective gain beats individuality

At times the environment was intense, but this ultimately drove team alignment and innovation, generated friendships and delivered the project 7 months early. Marcus Lin, client representative, says ‘It shows what can happen when a team is prepared to work together and sacrifice individuality for the collective gain’.

The Manukau Harbour Crossing project has been a huge success to date, and some team members have now taken their experience onward into a third generation alliance at the Victoria Park Tunnel.

A detailed report is available at www.constructing.co.nz.

### Project

<table>
<thead>
<tr>
<th>Project</th>
<th>Manukau Harbour Crossing Alliance</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Client</strong></td>
<td>New Zealand Transport Agency (Tommy Parker)</td>
</tr>
<tr>
<td><strong>Alliance client representative</strong></td>
<td>New Zealand Transport Agency (Marcus Lin)</td>
</tr>
<tr>
<td><strong>Consultant</strong></td>
<td>Beca Infrastructure (Matt Sturge and Stuart Tucker)</td>
</tr>
<tr>
<td><strong>Contractor</strong></td>
<td>Fletcher Construction (Andrew Rose and John Burden), Higgins (Grant Higgins)</td>
</tr>
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<td><strong>Region</strong></td>
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<tr>
<td><strong>Sector</strong></td>
<td>Infrastructure</td>
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</tr>
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<td>Competitive Alliance (Dual Target-Outturn-Cost)</td>
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<td><strong>Contractor selected</strong></td>
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<tr>
<td><strong>Construction timescale</strong></td>
<td>March 2008–March 2011 (now August 2010)</td>
</tr>
<tr>
<td><strong>Form of contract</strong></td>
<td>Project Alliance Agreement</td>
</tr>
</tbody>
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