

New Zealand Transport Agency Gets Moving with PMI

Together with engineering consultancy BECA, PMI helps NZTA improve travel speed and throughput by up to 15%

As the keeper of New Zealand's transportation infrastructure, the New Zealand Transport Agency's (NZTA) mission is two-fold: to help New Zealanders travel reliably and safely and to grow the country's economy by investing in moving people and freight. To accomplish these goals, the agency plans and delivers national transport networks; supports local networks; works to make public transport and freight networks more effective; and initiates and invests in projects that improve road safety.

Prior to 2009, the NZTA faced a specific challenge: reducing the traffic congestion that was causing high numbers of rear-end crashes and morning/evening crashes on Auckland's motorways. Having exhausted all feasible physical solutions, the agency turned instead towards risk mitigation through traffic management. The NCTA initiated the project with the objectives of improving traffic flow and safety on the motorways; enabling more consistent speeds for merging; and providing more predictable travel times. In addition, because the project had to be implemented across a large number of sites on Auckland's motorways, elements of the project had to be incorporated into other NZTA capital projects. This meant the project team had to factor in a number of changes to the scope of work – a daunting task for large infrastructure projects involving specialised disciplines of construction and engineering.



Full Speed Ahead: Teaming with PMI and BECA for Project Management Excellence

Cognizant of the challenges involved with a project of this magnitude and determined to ensure the best possible outcomes for its initiative, the NZTA brought in the experts: The Project Management Institute (PMI) for its expertise, standards, and globally renowned project framework, and BECA, a multi-disciplinary consulting practice that provides complete engineering design and project management services. The NZTA selected BECA in large part due to its synergies and association with PMI.

Project management is a critical part of BECA's offering. The company provides engineering, architecture and cost related services to a diverse

range of infrastructure projects – project management is therefore critical to BECA's business and customer satisfaction. The company puts its project managers through PMI training and certification to ensure they are operating within a framework of most common practices.

"We have 140 specialist project managers working in New Zealand, Australia and Asia on projects that



range from buildings, bridges and breweries to specialised systems for traffic management and crowd modeling," said David Bentham, a Project Manager for BECA and a PMI Project Management Professional (PMP)[®]. "Project management directly affects how we work and underpins our professional reputation. The way that PMI encourages project managers to frame issues and present solutions to their clients is a valuable approach to problem solving."

Safe Travels from Project Approval through Completion

Both organizations were actively engaged with the NCTA from the early phases of the project's design and implementation, including the task of securing support and buy-in.

"One of the biggest challenges we faced was the number of approvals needed from a wide variety of stakeholders," says David Bentham, a Project Manager for BECA and a PMI Project Management Professional (PMP)[®]. "For example, we had to get local council approval before construction started and we had to have the designs reviewed by independent experts employed by the NZTA."

According to Leon Wee, Senior Project Manager, Intelligent Transport Systems, NZTA, the main element of the project was implementing traffic signals on the ramps feeding into the motorways which manage the rate at which vehicles enter the main motorway. These signals operate only when they are needed – during shoulder peak times (just before and after the rush hours) – and can be switched off at all other times.



Destination: Success

BECA provided NZTA with a PMI certified project manager who looked after all aspects of the project, which was successfully completed on time and on budget. Using the latest PMI standards for project management from *A Guide to the Project Management Body of Knowledge (PMBOK[®] Guide) – Fourth Edition*, the NZTA and BECA jointly completed this project in 2009, with the following results:

Features

- 2,000 traffic detectors embedded into the road surface to monitor traffic volume
- 600 electronic signs
- 100 CCTVs to monitor the ramp signals
- Priority lanes for trucks, buses and car pools on 14 on-ramps
- Upgraded ramps

Benefits

- More consistent and predictable travel time
- Safer merging
- Fewer crashes
- Better throughput of vehicles on the motorway
- More consistent speeds for motorists

Outcomes

- 15 per cent improvement in travel speed
- Five to 15 per cent increase in vehicles using the motorway

"The PMI standards helped us organise all the information so we could communicate what had to be done, and where our priorities lay," said Wee. "By following the standards, we could carefully manage the ad-hoc matters that arose within the project and kept our main focus on executing the project on time and within budget. PMI's standards, combined with BECA's expertise, were absolutely critical to this project's success."