

Sydney Metro - Transforming the way Sydneyiders travel with new rail infrastructure

Sydney Metro is Australia's biggest public transport infrastructure project. Stage 2 extends metro rail from Sydney's booming north west region, under Sydney Harbour, through new CBD stations and beyond to Bankstown.

Arcadis, in joint venture with Mott MacDonald, were engaged by Transport for NSW (TfNSW) as the joint lead service provider for the METRON consortium. Principle sub-consultants comprised Robert Bird Group, Foster + Partners, Architectus, WT Partnership and McKenzie Group.

The scope of service included the preliminary design for five new underground metro rail stations at Crows Nest, Victoria Cross, Barangaroo, Pitt Street and Waterloo. Four of these new stations are fully integrated with Over Station Developments (OSDs). Preliminary designs were also developed for several service and stabling facilities.

“Customers are at the centre of everything we do” is the central theme for Sydney Metro.

Consequently, Customer Centric Design (CCD) was embedded into the design principles. A team of experts was established to assess the station experience and guide the development of the design.

The CCD team engaged with the public by means of virtual reality tools, combined with face-to-face interviews, to influence design decisions. The associated feedback was used to refine layouts to optimise the customer experience. TfNSW identified this level of customer feedback at preliminary design phase as unprecedented.

In addition to utilising the virtual reality for public user testing, it was used to ‘walk’ client and stakeholder representatives through the designs to give them reassurance that the design was being developed in line with expectations. With BIM being integral to the design process, the digital team applied continuous innovation, such as use of clash detection scripts and coordination with live architectural, structural civil and cost models.

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The design team, which included experienced sustainability practitioners, worked closely with TfNSW to identify world best practice and innovative design solutions and improve the overall sustainability legacy of the project.

Once the project is completed, the Sydney Metro will revolutionise Sydney's rail transport system by delivering a new generation of world-class trains that are fast, reliable and safe and support the city's growing urban environment and meet the demand for transit oriented development.