

Sydney Metro – City & Southwest Project
Transport for NSW
PO Box K659
Haymarket NSW 1240

17 July 2015

RE: The Warren Centre's Submission – Sydney Metro Project

The Warren Centre for Advanced Engineering is an independent organisation founded at the University of Sydney in 1983 to commemorate 100 years of engineering in Australia. The Warren Centre (TWC) fosters excellence and innovation in advanced engineering throughout Australia, helping to create wealth and high quality of life in the nation by facilitating relationships among industry, government and academia. We provide independent comment and advice to government and industry on technology and innovation. We have a long record of providing strategic advice and designing and implementing transformative projects on topics such as Urban Reform; Underground Space; Low Energy High Rises; the "Professional Performance, Innovation and Risk" Protocol (PPIR); and Infrastructure Productivity (IP30).

We welcome the opportunity from Sydney Metro to provide this submission.

Philosophy and processes of engineering excellence

The Warren Centre is pleased to see Transport for NSW (TfNSW) adopting best engineering practices and efficiencies such as the Accredited Engineering Organisation (AEO) program through the Asset Standards Authority. The Warren Centre has undertaken long term engagement with TfNSW developing and implementing the Professional Performance, Innovation and Risk (PPIR) protocol. Through the PPIR philosophy, the Warren Centre actively advocates for professional excellence in infrastructure delivery, and we are pleased to see so many aspects of excellence reflected in this project.

Engineering innovation

The Warren Centre advocates for innovation to improve efficiency and to build a high quality of life. TWC is pleased to see a number of examples of engineering innovation in the project and a strong focus on delivering superior service outcomes. Underground systems, driverless trains, automated service, increased passenger accessibility and greater passenger carrying capacity are excellent project features.



Efficiency

Several studies such as the recent Productivity Commission report have identified ~\$30Bn per annum of “waste” in infrastructure delivery due to poor value, inappropriate standards, inappropriate contracting and poor project management.

The Warren Centre has embarked on a project (“IP30” – Infrastructure Productivity \$30Bn) to engage owners, designers, suppliers and constructors to drive savings so that public funds are invested most effectively. We endeavour remove systemic barriers and to catalyse improved infrastructure project outcomes. Performance inefficiencies arise from four key areas: governance, technology, culture and processes. Domestic and international analysts claim project savings of 25% are feasible. Even recovery of a small portion would be worth billions or hundreds of millions of dollars at a time when government budgets are stretched.

We stand ready to support Sydney Metro and TfNSW and to engage with your management team through the IP30 effort. We seek case studies to benchmark the adoption of innovation, best practice procurement, risk allocation, financing and project management under the four key areas identified above. It may be particularly beneficial to examine the efficiency of the northwest stage and whether the project approach could be improved as it moves from greenfield to developed locations.

Influence on planning and development

A number of key planning decisions for the City & Southwest stage of the project will fundamentally change the way our urban landscape develops. The current underservicing of Crows Nest, the possibility to incorporate the Artarmon Industrial area and the selection of the University of Sydney or Waterloo as the preferred route have consequences beyond the immediate transport needs. We have studied major infrastructure project planning and community engagement in TWC’s Urban Reform Project. We could provide useful insights as the more challenging part of the project commences in the built up areas of the southern stages.

Connectivity enhances development of the Sydney Knowledge Economy

Increasing the connectivity and convenience of exchange from the University of Sydney to the CBD and to the northern and southern endpoints of the proposed line will enhance collaboration, innovation, and commercialisation of technology developed in the USyd R&D precinct. Improving connectivity among Macquarie University, ACU and USyd enhances the capability of Sydney in the global Knowledge Economy.

Yours sincerely,

Ashley Brinson
Executive Director
The Warren Centre for Advanced Engineering