

BUILDING PROJECT CONFIDENCE THROUGH INFORMATION VISIBILITY

WestConnex is Australia's largest road infrastructure project and is a critical part of a broader plan to get Sydney, and Australia, moving again. Along with the New South Wales (NSW) Government's record of investment in public transport infrastructure, WestConnex is easing congestion, creating tens of thousands of jobs, and connecting communities.

Commencing in 2015, the AUD \$16.8 Billion WestConnex project aims to provide 33 kilometers (20.5 miles) of motorway to link western and southwestern Sydney with the rest of the city. Nineteen kilometers (11.8 miles) of the motorway is dedicated to below-ground tunnels which will drastically reduce urban congestion, providing greater accessibility to residents by returning local streets to their communities. Executed in three core stages, the WestConnex project consists of multiple project teams and will likely create more than 31,000 jobs throughout construction. Going beyond simply contributing to Sydney's workforce, the WestConnex project will leave a legacy by providing valuable skills for local workers to carry out future infrastructure projects throughout the city.

Megaprojects such as WestConnex have a unique set of considerations and challenges that must be accounted for when delivering a project of this scale. Given the sheer number of stakeholders involved in the project from design to construction, and

through delivery, every entity involved in the project requires transparency and accountability from all parties in order to achieve a common goal. Transurban, an industry leader in designing and building new roads, will deliver and maintain the WestConnex project in partnership with the NSW Government. Transurban, along with its project teams, looked to InEight technology to increase collaboration, enable greater accountability and build project confidence for WestConnex.

RECOGNIZING THE NEED FOR A SINGLE SOURCE OF TRUTH

The concept of a single source of truth, by definition, refers to a central location that provides real-time, trusted information for everyone. For capital projects, such a repository takes the form of a project management system providing teams with access to current drawings, documents, correspondence, etc., ideally on a secure, cloud-based platform, where team members can connect with each other, as well. These systems significantly reduce project risk with document tracking, making it easy to share the most current information between teams, including a complete history of who has downloaded, viewed or revised project files and any related communications for that specific item. Perhaps most important, with a single source of truth in place, all project stakeholders are working off the most current project information.

The need for a central solution becomes especially imperative when designing, executing and operating megaprojects such as WestConnex. Joseph Lopez is Manager of Information and Records for Transurban. “We needed to ensure that our project stakeholders had a single source of truth for all project engineering documents and data. They needed to have the latest information at the right time and for the right purpose,” says Lopez. “If we were to deliver such a project without any form of accountability, it would exponentially increase our costs. We could not afford to have anything less than immediate access to data with full transparency and accountability.”



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Transurban already had experience managing documents and correspondence through its corporate records management system. However, like many capital project owners have encountered, these organizational systems are not built to manage the complex processes of building and managing a construction asset.

Jenny Jong, a senior document controller responsible for the M4-M5 Link stage of WestConnex, described some of the challenges she faced when relying on the previous information management system. “It was very difficult to find general correspondence, notices and documentation on previous systems,” Jong recalls. “It wasn’t very accessible for all stakeholders and was quite limiting. Project teams were relying on document controllers like myself to download documents and send attachments via email to each individual, which inherently increased our exposure to risk.”

Jong also referenced the communication silos that exist without a single source of truth. “Before InEight Document, every contractual notice or general correspondence between the owner and contractor would have to pass through project administrators, and it was extremely time consuming and inefficient to pass communications back and forth,” says Jong. “With such a large amount of correspondence being generated daily, it would be very difficult to manage other responsibilities without InEight Document. We would need roughly ten document controllers, as opposed to two currently, just to manage project correspondence items.”

By implementing InEight Document as that single source of truth, not only is Transurban able to eliminate communication silos, it is also able to mitigate project risk with a complete, searchable view of everything that’s ever happened on the WestConnex project. All project stakeholders, with proper permissions, can immediately access project information and records they need to complete work. With InEight Document in place, document revisions are current, inter-team communication is captured and reports and dashboards are leveraged to keep track of project issues and present progress updates to stakeholders.



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ADVANCING MOTORWAYS THROUGH **PROVEN TECHNOLOGY**

Australia has often embraced the use of technology to make advancements in infrastructure and everyday life; the WestConnex project is no exception. As an industry leader in technology for Smart Motorways, Transurban quickly implemented the InEight solution for construction document management on the WestConnex project.

When asked to reflect on system implementation following a swift project initiation and configuration, Jong describes, “We were immediately able to provide access to all stakeholders with their own accounts; the system was intuitive for new users to start working right away. We had training as well to enable team members to become as proficient as possible. Additionally, there wasn’t any delay in responding to notices or correspondence which speaks loudly to the user experience.”

As a senior document controller and superuser of the system, Jong was asked what she liked best about InEight Document compared to other systems. “It’s just easier to navigate the system and find what you want. All of your documents are organized in one section. You just click on a button and go to your documents, transmittals, mail, RFIs and so forth,” says Jong. “For more detailed inquiries, the system provides comprehensive document search and filter tools that help me instantly locate the items I need.”

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Although it may seem like ease of navigation and file searching should be considered table stakes for a document management system, industry data suggests that many organizations are not currently taking advantage of available technology. One recent study indicates the average construction professional spends 5 1/2 hours a week just searching for documents.¹ By conservatively cutting that time in half, and multiplying it across eight years for a project such as WestConnex, Jong and her team are realizing massive efficiency gains just by accessing information more quickly.

In addition to the ability to onboard project team members and get them up to speed quickly, a top priority for Transurban was system security. Not only does a cloud-based document repository provide confidence in Transurban's ability to securely manage confidential project items, but the use of security groups helps project stakeholders rest easy knowing teams are only allowed access to certain items with proper permissions.



When asked what makes document security so important for a project like WestConnex Jong responds, "I remember before InEight Document I was shocked at the openness of other systems. Certain systems would allow any project team member to just go in and change a document or delete a document; this shouldn't be possible. We needed a system that promoted consistency and accountability across the project and the InEight Document audit log helps us do that."

The need for accountability Jong references is especially paramount when thinking about the large number of contributors involved in major infrastructure projects that have access to project systems. Systems that utilize a full audit log for all users can preserve information integrity and track issues that may arise when dealing with multi-year projects and resource turnover. As employees come and go, or reach periods of unavailability, the data in the system needs to be able to tell the full story of a project item without relying on the knowledge of a certain individual.

DELIVERING EXCELLENCE THROUGH STREAMLINED PROJECT TURNOVER

Due to the wide scope of the WestConnex project, project teams on many of the project stages were operating somewhat independently. Even though the nature of the project required that each stage maintain a separate environment for records management, the technology had to accommodate integration between instances for various project stages. The consistency that InEight Document provided not only allowed information to flow more seamlessly from project stage to project stage, it also allowed for full transparency post-completion and moving to operations and maintenance.

¹ FMI Corporation, Construction Disconnected - Rethinking the management of project data and mobile collaboration to reduce costs and improve schedules, 2018.

Another component of the InEight Document system that is valuable to Transurban is the project archive. This feature provides the ability to deliver turnover packages to various stakeholders. These are stand-alone, searchable packages of project documents and as-built information. Once the project enters the defects or turnover phase, InEight Document administrators can provide multiple stakeholders with their own living archive containing only the documents that group is entitled to. Not only is this functionality useful for mitigating project risk and disputes, but the transparency of information strengthens working relationships between contractors, owners and operators.

Lopez mentions the value it has brought to Transurban. “What governs the life of the system is the defects period of the project. So even though a project reaches practical completion, we still have a period that’s post-completion, that we must keep the system available. Primarily the drawings and everything else that might be needed by all stakeholders and contractors,” says Lopez. “For them to have the ability to locate drawings, documents and correspondence during the defects period, which can last anywhere between one and three years, is a tremendous advantage.”



HEADING TOWARD PROJECT SUCCESS

Today, Sydney's WestConnex project is set for completion in 2023 and as the final stages of the project draw to a close, Transurban reflects on successes achieved with InEight technology. When evaluating the most significant business benefits Transurban has received while using InEight Document, Lopez says, "For me, it's the cradle-to-grave lifespan of the project system — from the inception of the project and the life of the project system throughout the delivery phase and the closure. Without even reaching completion, we've been able to manage over 350,000 documents that will live in the system and remain available for all stakeholders at the end of the project to continue for operations of the asset. That alone is a massive accomplishment that will continue to prove valuable for Sydney and the WestConnex project."



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