

3 Efficient Megaprojects

*and What You Can
Learn from Them*

Bentley[®]
Advancing Infrastructure

With rising performance expectations and a shrinking margin for error, it can be challenging to deliver your best work and stay competitive.

We believe that there's a more efficient way to successfully deliver design projects.

It can seem impossible to avoid delays and risks caused by friction in design delivery, unforeseen project changes, or lost or erroneous information. You can still deliver results by working through hurdles that arise – but it often results in painful headaches as you work harder to achieve your best work in an increasingly competitive environment.

Legacy work processes are a thing of the past, and although it can seem daunting to change the way that you work, sticking to the status quo only makes your job harder. It is especially true as tighter schedules and heightened expectations in today's engineering landscape make the margin for error lower than ever.

Fortunately, new and readily available solutions have ushered in an unprecedented era of connectivity. It's become easier than ever to deliver needed results by accelerating collaboration and design workflows and improving information management throughout the project lifecycle.

Your end goals are the same that they've always been—achieving them has just been streamlined.



Streamlining Design Delivery

In the era of digital project delivery, technology advancements have reshaped how projects are managed, providing new platforms and applications to seamlessly connect teams, information, and workflows throughout the design project lifecycle. Design project leaders at top firms have taken notice, successfully leveraging these new solutions on their projects to accelerate collaboration, streamline processes, and drive better project outcomes.

Here are just some of the challenges that these design project leaders overcame:

CHALLENGE

- Barriers inhibiting efficient collaboration
- Lack of access to up-to-date information
- Increased risk due to inability to spot trends in data

SOLUTION

- Accelerate project collaboration
- Better coordinate project information and workflows among stakeholders
- Make informed, data-driven decisions

In this e-book, learn how 3 megaprojects leveraged new solutions to deliver successful design projects on time, in budget, and within specifications.





THE LOS ANGELES
COMMUNITY COLLEGE
DISTRICT ADVANCES
PROJECT INFORMATION
MANAGEMENT



The Los Angeles Community College District Advances Project Information Management

CHALLENGE

The largest community college district in the United States, with nine colleges spanning 882 square miles, Los Angeles Community College District (LACCD) received funding to launch its BuildLACCD project. The project involved expanding the school's capacity and efficiency and was required to use BIM processes and target zero-energy usage. With over 500 project participants covering nearly 1,000 different trades, conforming to different standards, and generating an exorbitant amount of project data, LACCD recognized that it needed a standardized digital design process.

SOLUTION

To succeed, LACCD needed to ensure that the hundreds of project participants could easily access over 3 million files and 390,000 data folders, totaling five terabytes of data. The organization evaluated solutions and found the best one that met the complex requirements for an information management solution with an environment purpose-built for engineering workflows.

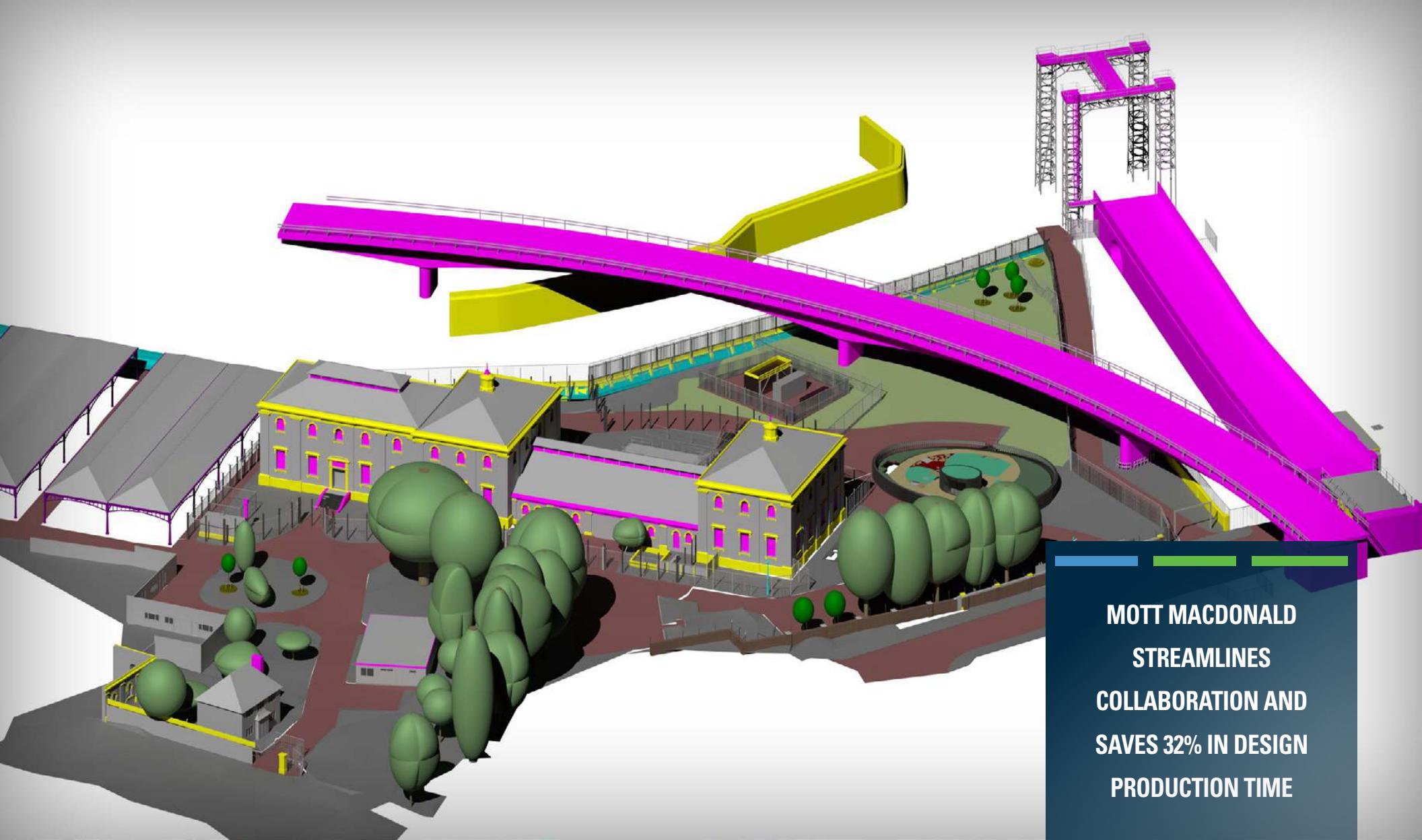
LACCD achieved this solution by creating a connected data environment based on ProjectWise, allowing for the hundreds of stakeholders and project firms to efficiently coordinate. The team now had on-demand access to project information in controlled environment. All the data from the nine college campus facilities was easily shared among the team.

OUTCOMES

By developing a single source of truth for all project information, LACCD provided access to intelligent project data for use in operations, maintenance, and future planning. The team's efficient collaboration streamlined the design of LEED-certified buildings that achieve net zero-energy usage.

With this improved project collaboration, LACCD also achieved the following results:

- Saving USD 12 million in labor costs due to streamlined data exchange and management
- Providing a 3D connected system that improved information sharing and document version control
- Reducing rework and costs by 12%



MOTT MACDONALD
STREAMLINES
COLLABORATION AND
SAVES 32% IN DESIGN
PRODUCTION TIME



Mott MacDonald Streamlines Collaboration and Saves 32% in Design Production Time

CHALLENGE

Mott MacDonald was the lead designer on the Thames Tideway East Project, which aimed to upgrade the aged and hazardous London sewerage system. In addition to managing the highly complex GBP 4 billion project, Mott MacDonald was challenged to deliver it two years ahead of schedule. If the organization could not enable seamless collaboration across its extended project team, however, it risked falling behind schedule and failing to deliver on critical milestones.

SOLUTION

To succeed, Mott MacDonald had to ensure that its entire project team – which included members across a wide variety of organizations, design disciplines, and geographic locations – could readily access and exchange up-to-date information in a managed environment.

Mott MacDonald achieved this solution by bringing together its team members and design content in a connected data environment using Bentley's ProjectWise. By centralizing design files in a project hub that could be securely accessed from any location or application, Mott MacDonald removed friction and accelerated project collaboration. Team members across the 12 design disciplines could now create, modify, and store thousands of deliverables in one location, readily accessible by participating organizations across Europe, including clients for reviews and approvals.

OUTCOMES

By streamlining project collaboration, Mott MacDonald delivered a better-quality product to the client ahead of schedule, exceeding their objectives and creating a model that they were able to emulate on other major projects to attain similar benefits.

Mott MacDonald's project team delivered a better-quality to the client ahead of schedule and realized the following results:

- **32% savings in design production time**
- **80% faster access to trusted documents by all project participants**
- **76% first-time client package approval**



**DRAGADOS AND LONDON
UNDERGROUND DIGITIZE
DESIGN DELIVERY ON
COMPLEX STATION UPGRADE**



Dragados and London Underground Digitize Design Delivery on Complex Station Upgrade

CHALLENGE

Dragados SA and London Underground Limited were tasked with overseeing a GBP 6.07 billion upgrade project for the Bank-Monument Station, one of the most complex subterranean railway systems in the UK. They needed to seamlessly work together and with partnering firms to deliver on critical project milestones; otherwise, they risked falling behind schedule and short of expectations due to poor collaboration, bottlenecks, and rework.

SOLUTION

To succeed, Dragados and London Underground needed to manage an expansive network of project partners – including 425 individual users from 30 different firms – to ensure thousands of design deliverables were efficiently created, reviewed, and approved without incident.

Dragados and London Underground overcame this challenge by establishing a centralized platform for information management and collaboration using Bentley's ProjectWise. Users could not only readily access and exchange information, but they could automate the assembly, review, and approval of design packages. By seamlessly connecting the project partners and information across the project, the project team minimized the time spent working on designs and getting them approved, allowing project participants to focus on delivering top-quality results.

OUTCOMES

By automating and streamlining their design delivery processes, Dragados and London Underground ensured that all project participants had access to up-to-date project data while creating a streamlined, traceable approval process for design deliverables.

Through this practice, Dragados and London Underground achieved the following results:

- **Seamless exchange of thousands of files across 30 different companies**
- **95% first-time package approval by the client**
- **Consumed five times less staff resources to manage the same amount of information**



Adapt Today with ProjectWise®!

Efficiently deliver quality design projects

ProjectWise – our collaboration and information management solution, developed for the specific needs of infrastructure projects – enables design project leaders to consistently deliver projects on schedule, within budget, and according to specifications by seamlessly connecting teams, information, and workflows throughout the design project lifecycle.

With ProjectWise, you can:

Increase the Speed and Quality of Collaboration

- Keep your entire team on schedule through a common set of standards and workflows

Streamline Access to Project Information

- Coordinate design work among stakeholders with instant access to up-to-date information

Drive Better Project Outcomes

- Make timely data-driven decisions based on on-demand project insights

[Learn more about ProjectWise today.](#)