PROJECT 7
EVOLVE TO SURVIVE

# Production Planning

- 10% improvement on post works asset related delays
- Continuous Improvement identified $2.5M in opportunities for cost saving, for initial 12 months
- Overall cost reduction equating to 6:1 Return on Investment

## The background

Sydney Trains is the suburban passenger rail network for the city of Sydney, New South Wales [NSW]. In its capacity as operator and maintainer, under the Rail Services Contract with Transport for NSW [TfNSW], the railway covers over 815km of track, and 178 stations over 7 lines. In 2016-17, 324.7million passenger journeys were made on the network.

The Sydney Trains Major Work's division, part of the Maintenance Directorate, were undertaking a transformational reform project, working towards a target Operating Model to introduce new business units and facilities to their teams. The objective of reform was to create the catalyst required for a cultural and behavioural shift in mindset, to become a more commercially focused organisation, with an improved understanding of operational delivery and performance.

Project7 were engaged to assist the Major Works, Project Operations team to develop a Production Planning Process and coach the leaders to support the effective and efficient delivery of their annual works programme, across business units, through a defined standard that was transparent and would enable reporting of project planning status through Visual Performance Management.

*"After a previously successful project with Project7, deploying Visual Performance Management within my organisation, I decided to take it to the next level by implementing a Production Planning Process for my construction resource teams. Again, I was struck by how much value Project7 added in equipping my front line supervisors' ability - running a transformational sleek, focussed session.*

*It's fair to say that we have revolutionised our project readiness through the Production Planning Process into one which is far more transparent and focussed on success. It's also fair to say that we have transformed the viewpoints of supervisors, from staff who doubted the process and were difficult to engage with, into staff who would not be without the new Production Planning Process."*

***Nigel Howlett - Deputy Executive Director, Major Works - Sydney Trains***

# Challenges

Major Works division were impacting the operational performance of Sydney Trains significantly, through delays to the rail service caused by works delivery possession over-runs, which were predominantly due to poor planning.

Operating methods had evolved in line with growing demands on the rail network, and the business units had formed a silo working mentality. The impact of this, evidenced in planned works delivery, caused individual disciplines to have a distinct lack of coordination across teams. Project Operations, construction site management and engineering teams suffered programme and project losses, resulting in delays handing the track back to rail operations.

With the ongoing increase in service requirements on the rail network, the Project Operations team needed improvements across Safety, Quality, Delivery, Cost and People metric performance, in order to optimise delivery within shorter time windows, reducing possessions and their impact. In order to do this, a clear vision was needed, as well as a case for change, to ensure all employees were aligned to the business objectives, and fully engaged with and committed to delivering Continuous Improvement in their daily Production Planning process and job execution.

**Key issues for Project Operations included:**

- Increased cost due to repeat site work not being fully completed in the time available, missing materials and rework through poor quality workmanship
- Limited visibility of the work demand forecast from the annual works programme, leaving insufficient time to plan effectively
- Increase in Total Recordable Injury Frequency Rate [TFIFR] due to a lack of consistency across pre-work site inspection meetings and start of shift safety briefings
- An inconsistent and unstructured approach to planning, leading to under utilisation of resources
- Capability level of managers to produce the plan was not at the required level
- Communication within teams, across work groups and functions, was not at the required level
- No structured pre and post possession performance review process in place to understand actual versus the plan for possession work

# Solutions

From the diagnostic phase of delivery, Project7 developed a solution informed by understanding Project Operations 'Current State' processes and associated pain points. A 'Future State' mapping exercise was completed with delivery teams to identify the framework for the 'Production Planning Process' and meeting governance required.

Through Policy Deployment the Production Planning process became the criteria for determining how Project Operations translates and cascades corporate goals into actions, to where the work is performed. This ensures the operating strategy is consistently translated into more specific and actionable targets for staff at all levels. The Production Planning framework includes a set of process tools, documents, meetings, and associated behaviours; used to manage both people and process, in order to achieve results and drive continued improvement and learning. The system was built using the Plan, Do, Check, and Action improvement cycle as its backbone, gaining control and steadily raising the performance of the Project Operations team.

The approach allows set targets, goals, and objectives to be measured, across all elements of Safety, Quality, Delivery, Cost and People performance metrics. As an output of the process credible data can then be utilised within the Visual Performance Management cells at all levels within Project Operations.

The foundation of the Production Planning Process is based on standardised Visual Management planning boards across Track, Signals and Electrical disciplines of Project Operations, and is underpinned by weekly structured performance reviews led by asset discipline Team Managers. Team Leaders from each area are now responsible for providing and communicating a weekly status update on each of the projects they manage creating ownership and accountability for the process.

Project7's coaches engaged with and helped guide Team Leaders in recognising clear actions against critical risks, across each of the defined 'Gateways' within the Production Planning Process.  In turn, enabling Leadership to support and focus on key priorities.

Within Project Operations the Visual Performance Management cells were aligned with the Production Planning Process; outlining a series of lead and lag KPIs to monitor effectiveness and efficiency of the planned works delivery. On site, pre-works meetings and start of shift safety briefs were re-introduced. Field reports were also formed through a Short Interval Control system, capturing plan versus actual, against the key task for each of the construction projects.

# Impact on Performance

## As a result of the Production Planning Process implementation by Project7, Project Operations achieved:

- Reduced customer impact from asset-related delays to the rail service
- Improved track possession planning and decision-making, to minimising the impact of major periodic maintenance plans on customers
- Improved reliability and availability of assets
- On target and under budget delivery of the annual works programme across their asset base
- Reduction of maintenance costs

**The 2016/17 Major Works Balance Scorecard results further demonstrate the impact of the Production Planning Process output, in support of the goals and objectives of Project Operations:**

### Safety

Increase in on site safety briefings resulted in a **40% reduction** in TFIFRs.

### Delivery

**1%** increase in delivery of the Annual Works Programme.

### Quality

Reduced customer impact, with **10% improvement** on post works asset related delays >5mins.

### Cost

Reduction in maintenance costs – net operating cost budget variance **$13M** under target for the year.

- Continuous Improvement initiatives identified **$2.5M** in opportunities for cost saving for the initial 12 months.
- The overall cost reduction equates to a **6:1 Return on Investment**.