

Expecting the unexpected

Improving rail decision making comes down to the ability to communicate. Trapeze knows the value of having data on hand for workforce management.

Kirstyn Glass, a rail operations consultant for Trapeze, knows rail. Fifteen years ago, Glass began her rail career working on ticket sales at the Ekka (Royal Queensland Show) and at Beenleigh Station, south of Brisbane.

“That was my introduction to rail. I quickly understood the rail industry working in station operations, directly with the people using the stations, and alongside my colleagues. Being exposed to the issues that

happen in the industry such as disruptions, late trains, weather events and more, I began to understand the puzzle that is the railway and all the connections it needed.”

After rotating through various stations around South East Queensland, Glass then became a train operator, driving freight trains from the Port of Brisbane to Toowoomba - one of the first women to do so. In this role, Glass saw a different view

of the rail industry, one that came directly through the windscreen of the driver's cabin. With these experiences under her belt, Glass then moved into the planning space.

“I went into possession and service planning. In that area, we performed everything from small closures to major possessions, running track machines, as well as special events which covered live sport, concerts, the Ekka, festivals, charters and



Having a comprehensive workforce management system in place will enable rail operators to respond to planned and unplanned events.

trade shows – from small to large, you name it. Anything to do with a timetable alteration would come through the office. Tasks would involve arranging protection on the track, dealing with work groups and overhead teams, organising train replacements where required, and so on.”

This role introduced Glass to an array of planning, scheduling and operations tools that were used to alter rosters and schedules to account for planned and unplanned events.

“I was using a number of different software programs to change trains, possessions or closures and these had an impact on job cards for crew workings. This would inform a train notice that impacted

various departments within operations, especially when we planned for large events like the Brisbane Exhibition, for example.”

At the time, a major challenge across the rail industry was not having a platform to manage these changes in one central location - which meant connectivity was an issue. Decision making was sometimes lengthy and input from other departments could mean further changes to a plan.

“We had to open four or five different software programs to have a good overview of the network, or of an event and see the implications of change. A good example is a footy game where the ticket sales increase sharply in the days leading up to the event. A month out, we might be planning for a crowd size of 20,000, but that might eventually end up at 50,000. To be able to rapidly respond, make changes to the trains, edit job cards, notify train control, and notify any workgroups that may be impacted, required coordination across different departments. There were also approvals required for putting on extra services as well as ensuring contractual obligations were met.”

As the different platforms did not interface with each other, communication across departments fell back on common stumbling blocks. There were times where the right people with the right skills were not in the right place at the right time.

“Of course, when you wanted some information from someone else sitting at another computer, in another building, or in another suburb and they didn’t answer their phone. It creates challenges for yourself and the staff that you work with.”

Glass experienced these challenges of workforce management not only in her role as a train planner, but also when she was a staff member who had to use the different systems.

“As a train driver, when I wanted to find out my shift times, I would have to ring a phone number and an automated voice system would tell me when I was working. It would be three or four minutes on the phone, listening to that shift be read out by a machine, line by line and then moving on to the next day’s shift.”

Glass is now enabling rail operators to overcome these challenges with the Trapeze operations and workforce management solutions. However, it is her experience of being a user of legacy systems that Glass reflects on, when delivering the latest integrated planning solutions.

“When you’re working a 24/7 roster, being

engaged with your depot and accessing your workings is really important for your lifestyle. We would only receive 48 hours’ notice of our shifts, so I couldn’t organise dinner on Sunday until the previous Friday night. One of the things that I am passionate about, is giving people the ability to manage their life, in conjunction with making operator processes cost effective and efficient. It means that you’ll have a happier workforce, both from the workforce managers position, and the field staff by empowering them to manage themselves as much as possible.”

Today, Glass provides subject matter expertise on rail operations and works closely with Trapeze clients, to understand their processes and provide business analysis of their requirements and objectives. Glass also focuses on delivering the benefits of the Trapeze Rail Planning & Scheduling and Workforce Management tools, supported by their local and global software teams to deliver the software, as well as aligning the Trapeze rail solutions to ensure client needs are met.

AUTOMATION TAILORED TO THE NEEDS OF THE RAIL WORKFORCE

The workforce management solution that Glass is now working with is a system designed specifically for the transportation industry, with functionality developed for rail. Trapeze brings together the master timetable, with rostering and staff allocation data and implements this on the day of operations. These days, the complex manual tasks that Glass used to come up against can be automated. Trapeze’s general manager rail for Australia and New Zealand, Ben Dvoracek, notes that within this system, workers can view shifts, set up swaps, and communicate with workforce managers.

“Workforce management isn’t about controlling staff or changing their lifestyle as much as it is about increasing their ability to communicate with the operation through digital channels and through self-service roster management. This essentially allows staff the flexibility to deal with events in daily life that require flexibility to view and change their roster with ease.”

Designed with the rail worker in mind, the employee self-service function, accessed through a mobile app or web kiosk, aims to streamline communications between operations and front-line staff.

The app ensures the right people are in the right place at the right time.

“One of the things that I absolutely love



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is the ability for people to set preferences," said Glass. "Unexpected things do happen all the time, and a worker can set a preference that you might only want to work after a certain time of the day. Then, the dispatcher can efficiently look for the right person to do the shift, because they know that the shift adheres to their preferences, before selecting the employee for the shift."

Having communication through a personalised digital portal removes the need for paper leave requests or overtime forms that require manual data entry and increase the risk for human error.

"It's so important for crew, but also onboard staff, transit officers and other rail employees to see benefits of the systems in place. It means they can do their life administration without having to be on the phone to the dispatcher or the workforce planner. The workforce planner can look at things at a more strategic level and go back to what their job role is intended for, rather than taking these administrative calls."

The system is also designed for the daily operations that are the bread and butter of any rail network. Glass recalls unplanned incidents such as a possum causing a transformer to malfunction, leading to changed running on the network while the critical infrastructure was fixed. With functionality built to respond to the endless array of unexpected incidents that have an impact on employee rosters, while complying with strict rules around fatigue management, Trapeze can enable schedulers to make informed decisions.

"Our system has a leading and well-known fatigue assessment tool integrated into the software, so when a dispatcher or workforce manager is making those changes on the day of operations, they can see the impact on the shifts coming up, and that enables a better plan," said Glass.

In the configuration process, Trapeze can also be set up to comply with Enterprise Bargaining Agreements (EBAs), limiting the potential for non-compliance.

"There are certain conditions that have to be adhered to, like how many hours people are working, shift length, penalties, whether they receive make-up time, and aggregate pay - so we look at those rules and configure requirements from the EBA into the system. This ensures timetable and payroll management is accurate and compliance requirements are met. When a shift change is made or extended and affects a hard limit, like for example working 11 shifts in a row, operators must have a day off so



Kirstyn Glass brings first-hand experience in the rail industry to her role at Trapeze.

Ben Dvoracek highlights that workforce management isn't about controlling staff, but allowing them to get on with their lives.



the system can take that into account by applying blocks or warnings, which supports the workforce planner issuing the change" said Glass.

"While deciding if that person is going to be used, the system automates processes such as qualifications and knowledge to do a task, reaching out to multiple departments to check if people are available or the duties are adhering to the labour relations conditions - this reduces touch points and decisions are quick, safe and accurate."

ENABLING STRATEGIC PLANNING

In aligning the master timetable with the day of operations, workforce management tools enable long-term strategic planning. As 2020 has shown, being able to flexibly respond to unforeseen and unexpected events is essential for a resilient rail network. Having these experiences realised in the day of operations can allow planners to review and evaluate processes and procedures, explains Dvoracek.

"Rail schedulers and workforce planners are constantly managing issues that are happening dynamically within the rail system, rescheduling people, and adapting to changes to the network. All the data that's produced during that Day of Operations can be utilised back in the planning and scheduling process, to identify whether the schedules that are in place are realistic. For example, at what points are the schedules not being met? Are they not being met during certain times of day or during certain times of the year? You can use that to modify the schedule on the backend to then make your system operate more efficiently, while informing strategy."

With workforce management tools now able to talk to enterprise asset management software as well as planning and scheduling platforms, collecting this data in a useable fashion can be the way to manage variations in patronage and demand on assets.

"With networks changing so rapidly to accommodate for increased passenger demands, assets have such a high rate of utilisation that maintenance activities on these assets can only be performed during select periods of the day. This integration automates the transfer of data between operations and maintenance and makes these decisions more transparent across departments," said Dvoracek.

With operators experiencing rapid timetable and staffing level changes during COVID-19, using the information from how this has played out will enable responsive planning for the recovery of patronage on the network.

"Having integrated systems in place enables changes to be implemented quickly and allows rail operators and authorities to start planning for what might happen at the end of this pandemic. Planning for the unknown can lead to so many scenarios and possibilities. By using parameters and algorithms, you can have a view on the possible outcomes of various scenarios so the organisation can understand what's the safest, most cost effective, and best method for you and your staff to deliver the service to your customers," said Dvoracek.

"Software systems allow you to do more with less and gain valuable insight from your data, enabling you to make better and more informed decisions quickly, ultimately enhancing the experience for your staff and rail customers." 