

TPAC Disruption Management





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TPAC[™] Disruption Management is part of the TPAC[™] suite of planning tools. It is used to manage disruptions that occur on the day of operations. The objective of the TPAC[™] Disruption Management Optimiser is to assist operations control staff in the discovery of and recovery from modifications to the published schedule on the day of operations. This minimises disruptions as they occur.

How is TPAC Disruption Management Optimiser used?

The **TPAC[™] Disruption Management Optimiser** has been designed to handle all disruption management requirements for a transport enterprise, including:

- Passenger impact
- Crew impact
- Maintenance impact
- Airport movement slots, gates, and terminal space impacts
- Aircraft costs impact
- Configurable costs including "what if" analysis
- Detailed graphical analyses of solutions

If a resource becomes unserviceable the **TPAC™ Disruption Management Optimiser** works out several different solutions for this problem and presents them to the user. Each solution is ranked according to its weighted costs. The user can graphically visualize the changes to the schedule on a Gantt chart for each solution, and also view a detailed breakdown of ots changes and costs

Advantages of TPAC Disruption Management Optimiser

The **TPAC™ Disruption Management Optimiser** has the following advantages:

- Manual solutions usually do not consider cost well, since rules of thumb tend to gravitate toward solutions that work in a broad range of situations; these can stray far from solutions that are optimal for a particular disruption.
- It is not easy to find good solutions to large disruptions such as port closures or extended resource unavailability. Furthermore, missed opportunities for faster recovery may occur as it is difficult to manually consider complex problems.

Solutions to disruptions are obtained in seconds for simple problems and minutes for complex problems, allowing the user to make decisions regarding possible changes to the schedule in real time.



Fig.1 Cost breakdown of various generated solutions.



Fig.2 Real time problem updating from tracking system.