Appendix five – Sydney Trains delay management

As noted in section 4.2 above, Sydney Trains classifies trains as either healthy or unhealthy. Healthy trains are those that operate on schedule without issue. The criteria for managing healthy trains during in a delay are shown in Exhibit 21.

Exhibit 21: Management of healthy trains in a delay

Rule	Criteria
1	A healthy train should be managed such that it will exit on-time.
	If a healthy train is running late, it should be given equal preference to other healthy trains and advanced wherever possible to regain lost time. Any delay to other healthy trains as a result of such advancement must be kept to a minimum as defined in Rule 2.
2	The following delay limits apply to the full journey of a healthy train being held back:
	• The delay to the individual rail passenger service held back does not exceed three minutes
	• There is a plan in place to recover lost time so that the downstream effect on the service held back and on individual subsequent passenger services also does not exceed three minutes
	• The delay to a freight service held back does not exceed five minutes
	• There is a plan in place to recover lost time so that the downstream effect on the healthy freight service held back and on individual subsequent healthy freight services also does not exceed five minutes.
3	Give preference to train where train performance indicates it will lose least or no more time and even make up time and hold the gain; and consider downstream effect to minimise overall delay
4	Give preference to the on-time train. A late train may be given preference subject to the delay to the late train being kept to a minimum as defined in Rule 2.
5	High priority train has preference, subject to Rule 3.
	If in an off-peak period where a passenger and freight service are running late, the faster running service will take priority
6	A healthy train should be given preference over an unhealthy train. An unhealthy train may be given preference over a healthy train provided the delay to that train is kept to a minimum as defined in Rule 2.

Source: TfNSW Operations Protocol - May 2021.

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Here we present four examples of Sydney Trains managing an incident with differing levels of complexity and attribution.

Example 1: A minor incident that does not impact any other services

A freight train enters the Sydney Train network on time and has no reported issues with the locomotive or any of the wagons. The Sydney Trains' Train Running Information Management System (TRIMS) automatically classifies this train as a healthy train.

A short while later the train's internal systems detect an issue with its brakes and the train slows down to a safer speed. The train will not be able to maintain its schedule and TRIMS now classifies it as late.

The Train Service Duty Manager (TSDM) for freight on duty notices that the train is running behind schedule and decides that this an issue worth reporting to the Network Incident Manager (NIM), who classifies this situation as a Routine (Level 1) incident as it is taking place during an off-peak period, and will delay the train by 20 – 30 minutes. The NIM creates a rail operation incident record in the Sydney Trains rail emergency management (REM) system.

The NIM gives a Train Control Notice to the operator requiring them to take a new path so that it does not impact on the running of other trains on the network. The operator complies and alters the path.

The train reaches its final destination 25 minutes late but does not impact any other train on the network.

Example 2: A freight train breakdown causing additional impacts to the network

A freight train is heading south on the Sydney Trains Illawarra line when the locomotive starts to have issues and slows down.

The train operator calls the train control staff at Sydney Trains and informs them of the issue. The train controller then directs the train to come to an immediate halt.

The train controller at Sydney Trains informs the NIM who decides that this is a Critical (Level 2) incident due to the impact it will have on both customers and the network. The NIM escalates this incident to Duty Control Manager and informs them that there may be a flow on impact to other trains on the network.

After further investigations, both passenger and freight trains are cancelled by the NIM around the Illawarra line.

The train operator informs the NIM that there is a problem with one of the locomotive's engines. The train crew assess the situation and determine that the train cannot continue, and so it is deemed a failure.

The NIM diverts a nearby freight train to assist, and the train is moved to a nearby siding. Passenger trains are restarted and prioritised in line with the Operations Protocol Priority Matrix. The NIM creates a rail operation incident record in the REM system.

The Performance Investigation team investigates and assigns all impacted timetabled passenger trains to this REM incident record in the Train Location System - On Time Running application (TLS-OTR). This includes the:

• incident cause (attribution)
• delay minutes
• number of other trains that were delayed
• incident and service management responses required to resolve the incident (if recorded).

The delays experienced by the passenger trains will be attributed to the breakdown of the freight train. After the incident is resolved, there is a hot debrief to review the management of the incident.

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Example 3: An interstate freight train presenting late at the network border

A train leaves Perth heading to Port Botany. As the trains crosses the country, it will pass through the following rail networks:

- Arc Infrastructure (from Perth to Kalgoorlie)
- ARTC (from Kalgoorlie to Crystal Brook to Parkes)
- Country Rail Network (from Parkes to Lithgow)
- Sydney Trains (from Lithgow to Lidcombe)
- ARTC from (Lidcombe to Port Botany).

This Australian rail network is shown in Exhibit 22 below.

Exhibit 22: Australian rail networks by infrastructure owner
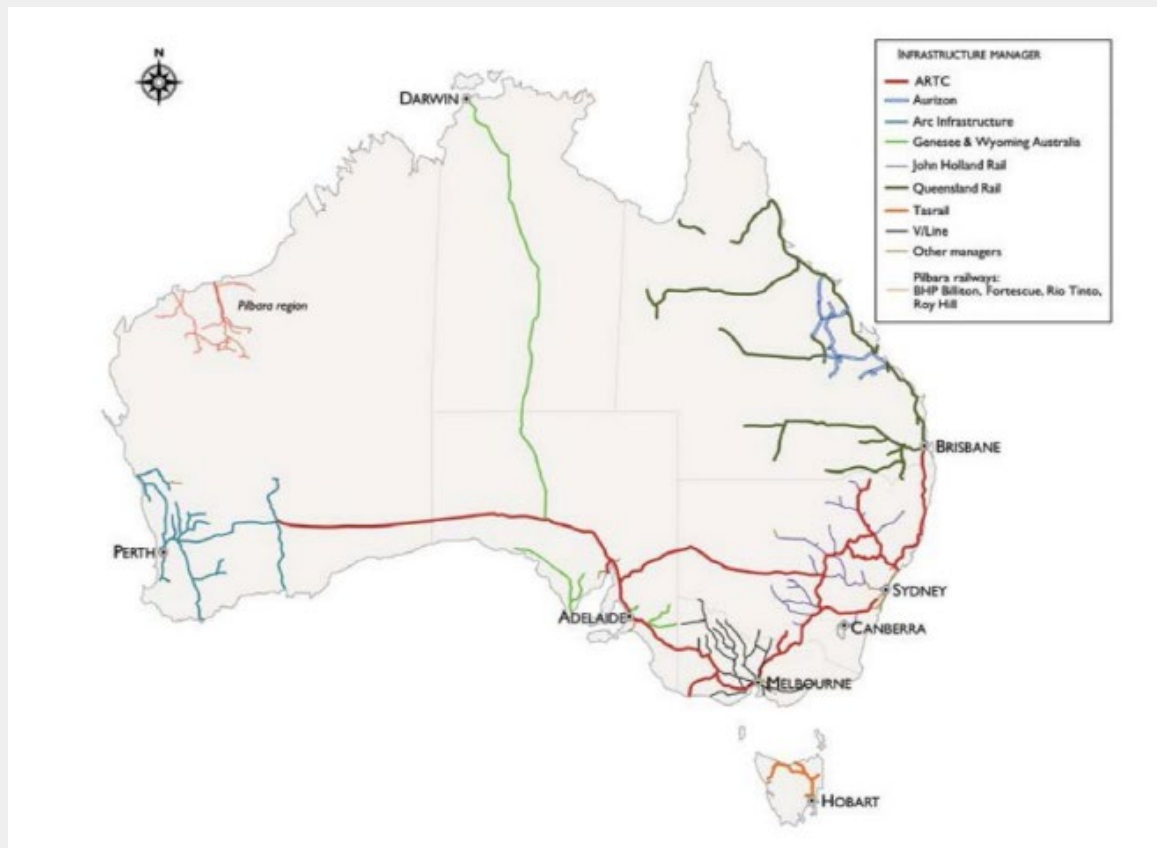
Source: Transport and Infrastructure Council - National freight and supply chain strategy - Supporting paper No 3 - 2018

Every time the train changes networks it must adhere to a pre-determined border entry time. When entering the Sydney Trains network, a train is automatically considered unhealthy if it does not present on time.

The interstate train presents at the border to the Sydney Trains network two hours behind schedule and cannot continue on its timetabled path. Sydney Trains cannot allow the train to continue as originally timetabled as it would negatively impact other services on the network. Instead, it will be managed as best as possible through the network according to the Train Pathing Priorities (see Appendix 4).

The train's original path would have been before peak time but now it is too late for it to pass through the Sydney Trains network without impeding passenger trains travelling during the peak. Sydney Trains instructs the freight train to wait at Lithgow until the peak period has passed. Once the peak is over, the TSDM for freight, in consultation with the freight operator's crew and the ROC's live run team, plot out a new path and issue a new Train Control Direction to the rail operator. The operator complies and the train follows its the new path to its destination.

The NIM creates a rail operation incident record in the REM system.

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The Performance Investigation team investigates and assigns all impacted timetabled passenger trains to this REM incident record in the TLS-OTR. This includes the:

- incident cause (attribution)
- delay minutes
- number of other trains that were delayed
- incident and service management responses required to resolve the incident (if recorded).

Operational managers from Sydney Trains and Transport for NSW meet every day at 8:00am for a Customer Performance Review meeting to discuss the previous day's incidents. The Performance Team create a Post Peak and Daily Performance report for these meetings including the most important incidents from the previous day. This incident is included in the report for the next day's meeting where it is discussed, reviewed and it is determined that no further investigation is required.

Example 4: A freight train is impacted by another incident on the network

A train is carrying goods from Port Botany and is heading to far western New South Wales via the Sydney Trains network.

As the freight train travels through the Sydney Trains network, there is a fatality involving a passenger train at a nearby station. A fatality is classified as a Critical (Level 2) incident.

In response to this incident all nearby services, including the freight train, are shut down.

One hour later, the lines are reopened and the freight train operator is told to proceed through to its final destination. Due to the delay and the time required to restart the freight train, it is more than two hours late leaving the Sydney Trains network. Passenger trains behind the freight train will also be delayed by both the original incident and the extra time required to restart the freight train and get it up to speed again.

The NIM creates a rail operation incident record in the REM system.

The Performance Investigation team investigates and assigns all impacted timetabled passenger trains to this REM incident record in the TLS-OTR. This includes the:

- incident cause (attribution)
- delay minutes
- number of other trains that were delayed
- incident and service management responses required to resolve the incident (if recorded).

The delays experienced by the passenger trains could be attributed to the original incident, the time taken restart the freight train or both depending on how the information is entered into the REM system and how the delay is described.

In this case, as the incident is critical, there would be a hot debrief and it also would be discussed at the Customer Performance Review meeting the following morning. A decision would then be made about whether a cold debrief would be needed as well.