

STANDING COMMITTEE ON ECONOMY AND INFRASTRUCTURE

Jeroen Weimar, Acting CEO, Public Transport Victoria

Andrew Lezala, CEO, Metro Trains Melbourne

Paul O'Halloran, Director of Engineering, Metro Trains Melbourne

Gary Liddle, Interim CEO, V/Line

RAIL NETWORK OVERVIEW

**Opening statement by
Jeroen Weimar
Acting CEO, Public Transport Victoria**

Overview

Statement 1

Jeroen Weimar

Acting Chief Executive Officer
Public Transport Victoria

Overview

Statement 2

Andrew Lezala

Chief Executive Officer
Metro Trains Melbourne

MTM Role

Statement 3

Paul O'Halloran

Director of Engineering
Metro Trains Melbourne

Train Detection

Statement 4

Gary Liddle

Interim Chief Executive Officer
V/Line

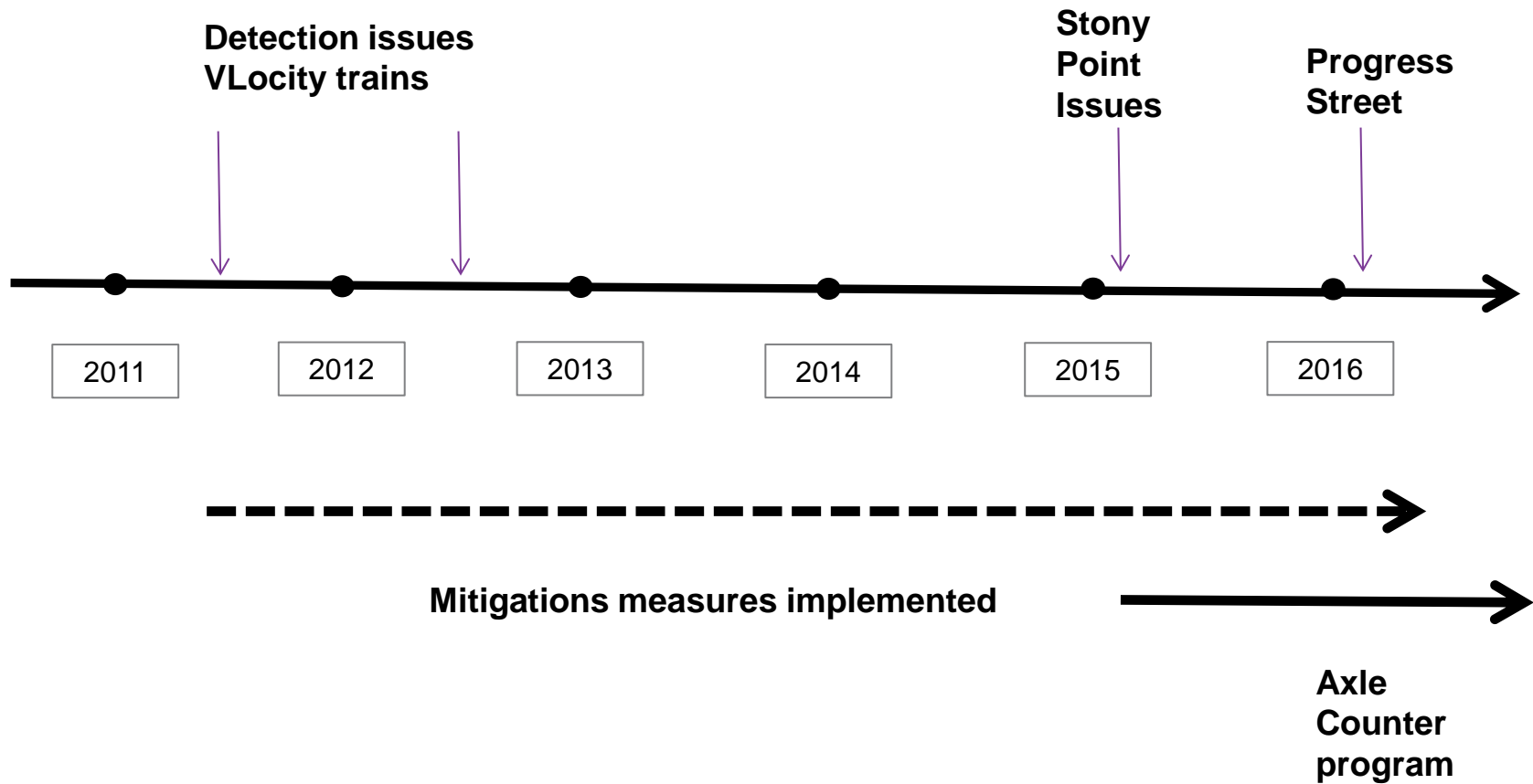
Wheel Wear

Victoria's Public Transport Network



- MTM is an Accredited Rail Transport Operator for metropolitan train network
- V/Line is an Accredited Rail Transport Operator for the regional train network, including freight
- MTM has an access agreement with V/Line to enable the V/Line fleet to operate in the metropolitan network
- ONRSR accredits the operator's safety management systems to manage operational risks
- PTV oversees network management, with oversight of MTM operations through a franchise agreement and oversight of V/Line operations through a service agreement
- PTV has duties under both the OH&S and Rail Safety National Law and is developing a safety management system to meet those obligations.
- PTV funds network infrastructure improvements, with V/Line and MTM accountable for maintaining the existing infrastructure.

Train detection timeline



OVERVIEW

**Opening statement by
Andrew Lezala, CEO, Metro Trains
Melbourne**

Role of Metro Trains Melbourne



- MTM is the Accredited Rail Transport Operator
- Network Custodian – Franchisee, Operator, Asset Manager and Safety Accountability holder for the Metro network
- Metro’s network:
 - All infrastructure “under the wire”
 - Electric trains
- Paul O’Halloran is Metro’s Director of Engineering and is responsible for providing safe and reliable assets to deliver the service

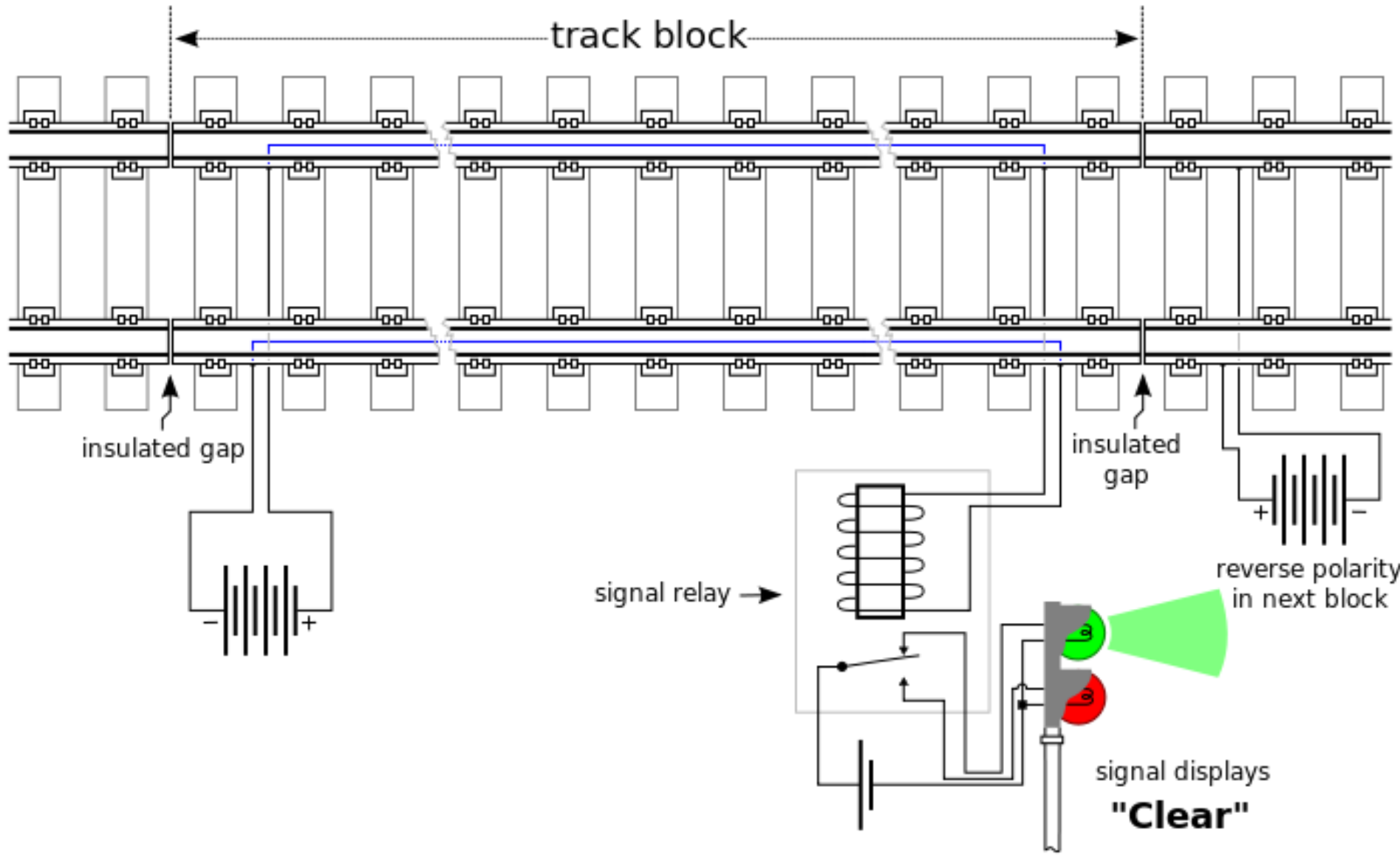
TRAIN DETECTION OVERVIEW

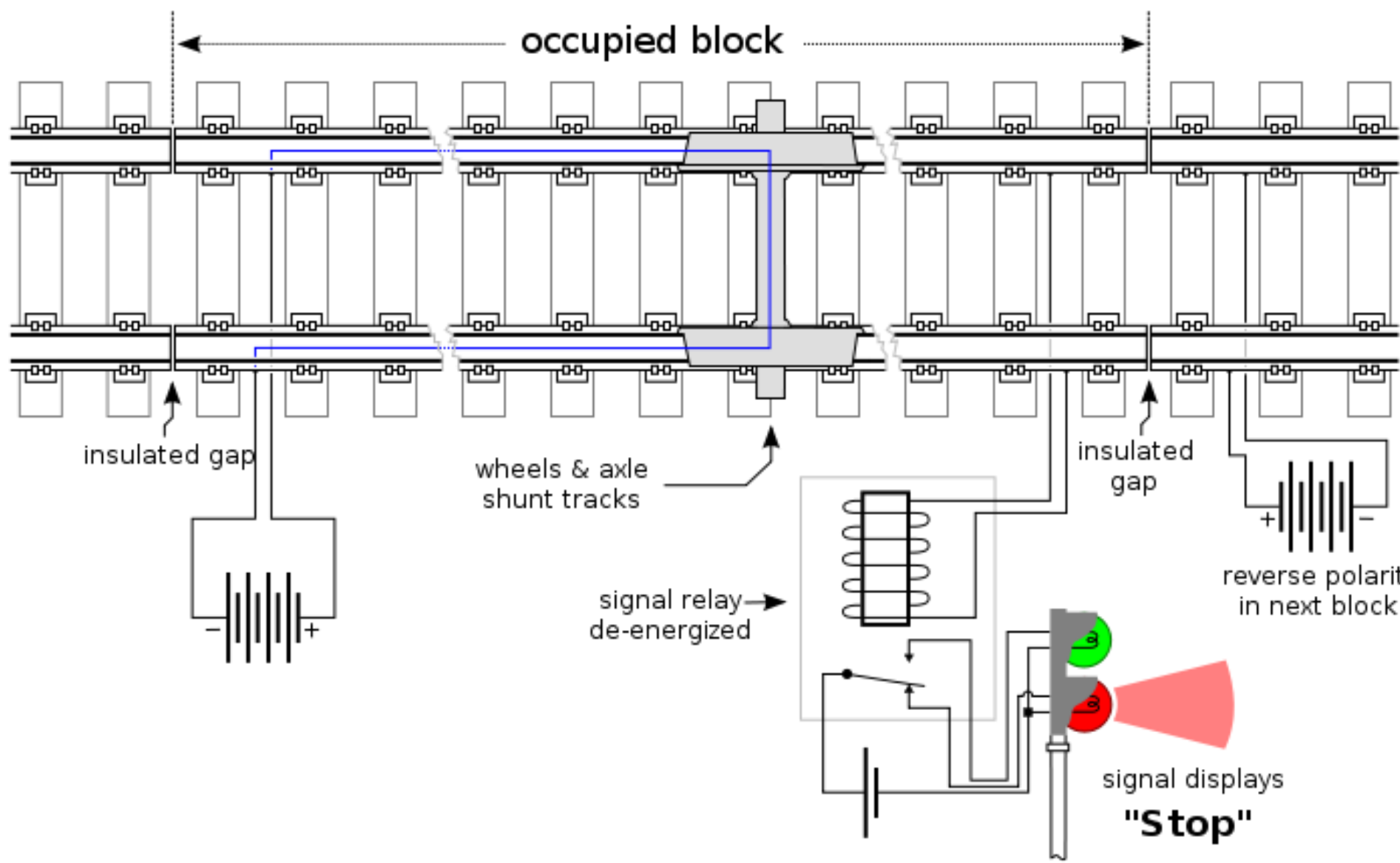
**Opening statement by
Paul O'Halloran, Director of Engineering,
Metro Trains Melbourne**

What lies behind the V/Line Level Crossing incidents on the Metropolitan network



- Issue with train detection of VLine DMU train types at certain types of signalling equipment used on some Metro level crossings
- Several cases of booms lifting prematurely at certain crossing types
- No single factor is to blame however it is understood to be a combination of the following causal factors:
 - Wheel / rail interface
 - DMU fleet types
 - Level crossing train detection equipment





Mitigations put in place by Metro



- New VLocity testing procedure developed specifying acceptance criteria
- Investigation and testing – Golden Track, yaw damper trial etc
- Rail head profiling of all LX approaches
- Rail head scrubbing – completed on a monthly basis
- Track shunt monitors – remote monitoring kit on each regional corridor
- Incident unit management on Metro's network
- Elimination of wheel / rail interface dependence – install axle counters
 - Stony Point line complete June 2015
 - Electrified network in design and procurement
- Mitigation updates to ONRSR

Decision to suspend VLocity services post 14 Jan and service restoration



- The 14th of January incident at Progress St challenged Metro's confidence in the effectiveness of these mitigations
- Rail Safety law assigns personal and corporate accountability for managing safety So Far As Is Reasonably Practicable – there was no defensible option other than to suspend VLocity operations on the Metro network
- This same accountability underpinned the decision to suspend Sprinter services on the Stony Point corridor in early 2015
- Restoration of VLocity services has to be through a safety assurance case to ONRSR

How does a trap track circuit work?



- It is a circuit modification that changes the operation of a level crossing
- Booms are held down until a sequence of track circuits are occupied and then vacated
- Not a sustainable or efficient solution
- Timeline to install – 6 weeks mostly on the Pakenham corridor

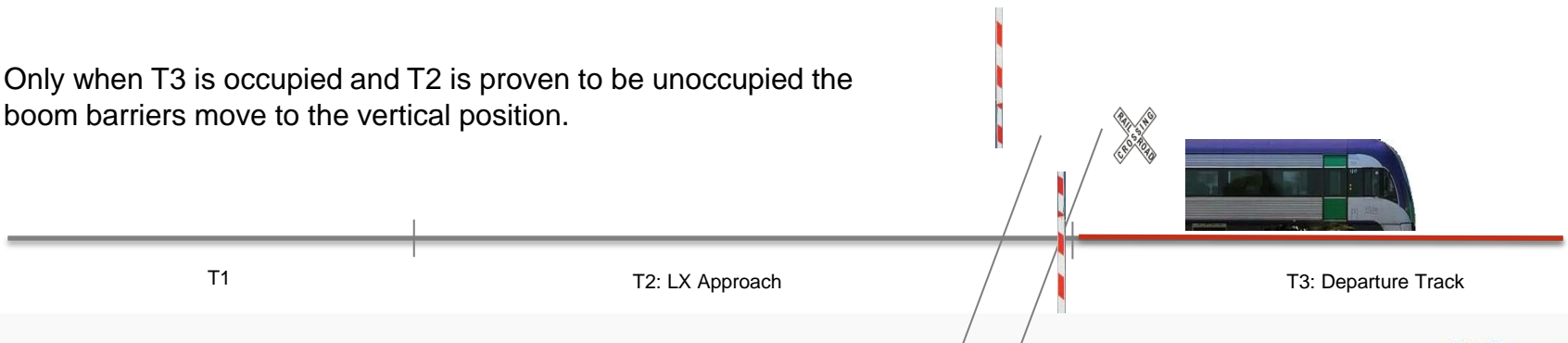
Trap track circuits explained



Upon occupation of T2 the booms operate and remain horizontal regardless of state of T2, effectively 'trapping' the relay.



Only when T3 is occupied and T2 is proven to be unoccupied the boom barriers move to the vertical position.

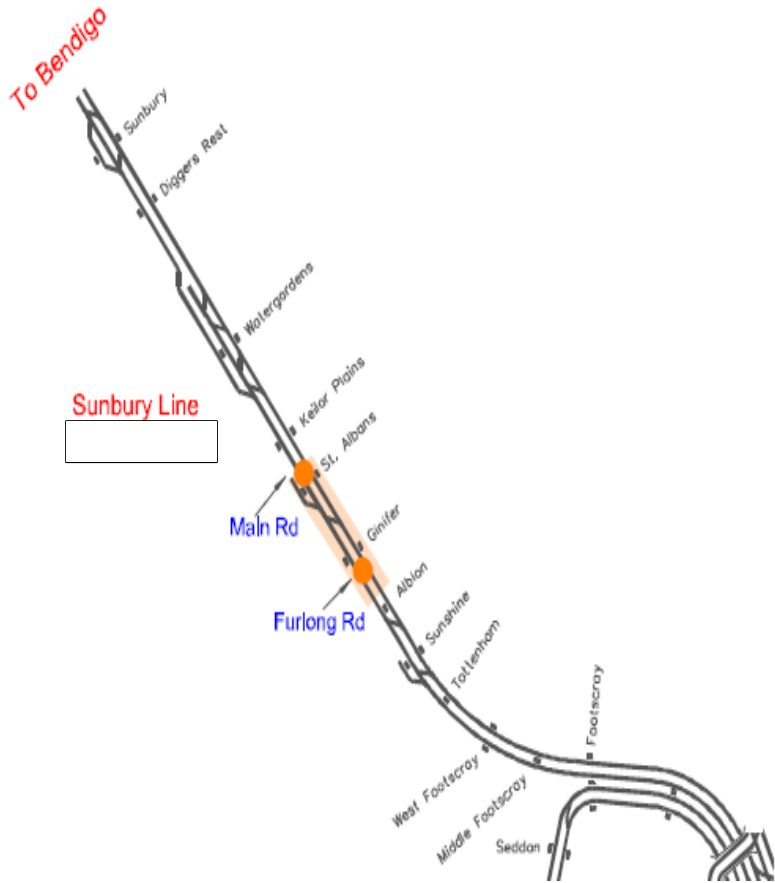


How does an axle counter work?



- An AXC head reads the magnetic field fluctuations of a passing wheel
- Each wheel of a train is “counted in” then “counted out” of the track section
- Does not rely on the wheel / rail interface so eliminates the risk
- Very reliable compared to existing technology and widely used internationally
- Is the permanent solution
- Timeline to install – 6 months on a prioritised line by line basis

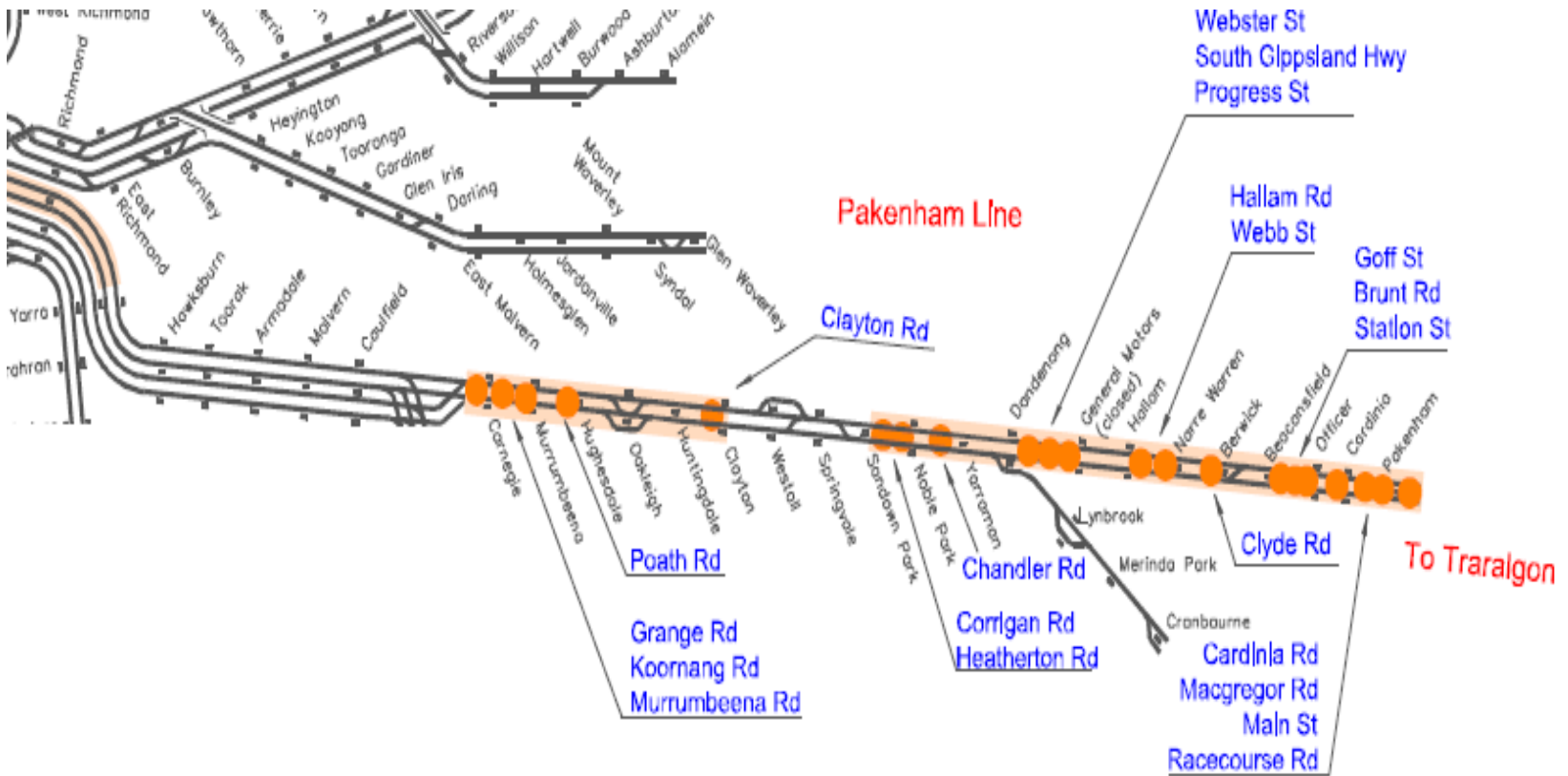
Trap Track and Axle Counter roll out



Trap Track and Axle Counter roll out



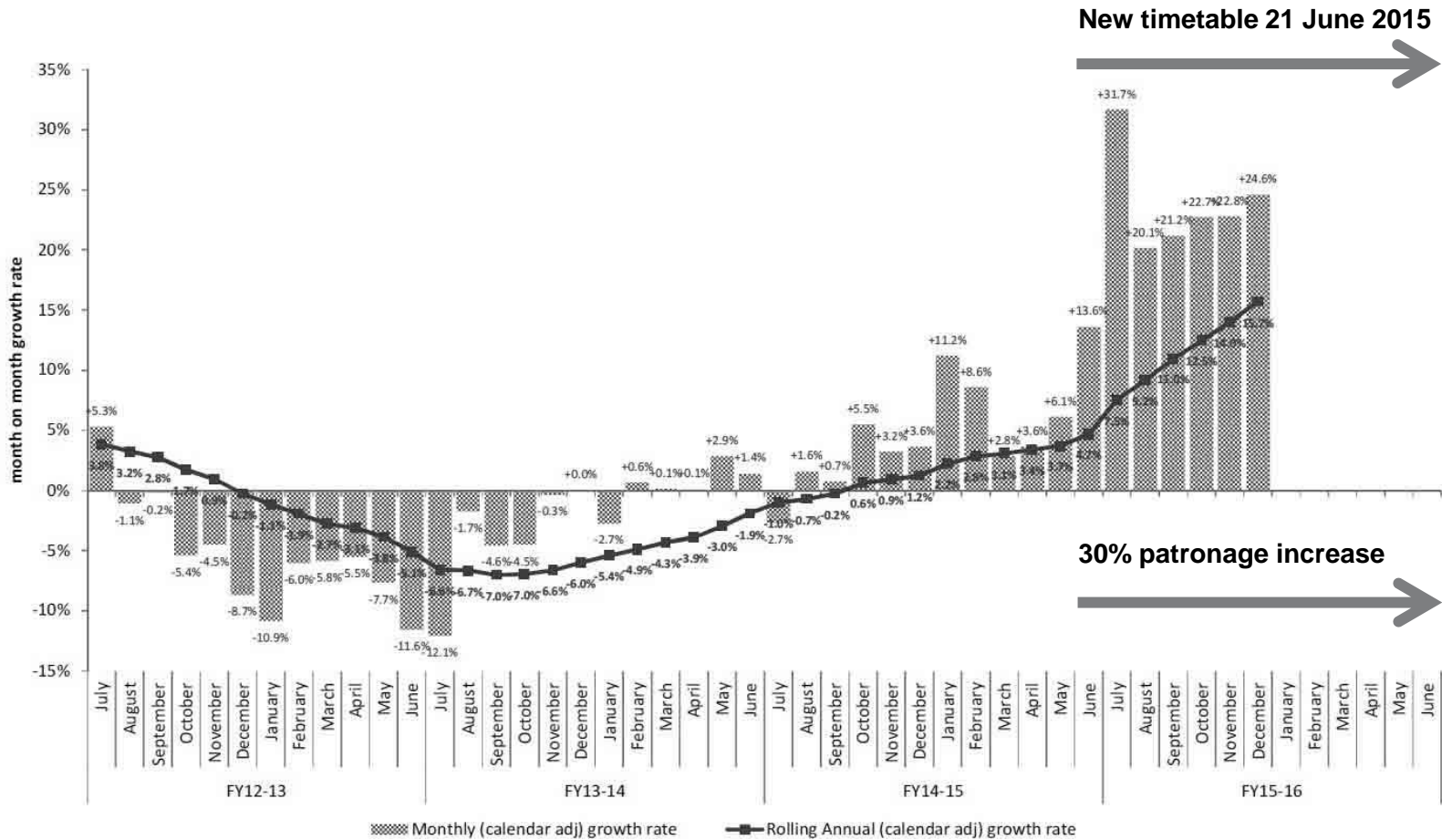
Trap Track and Axle Counter roll out



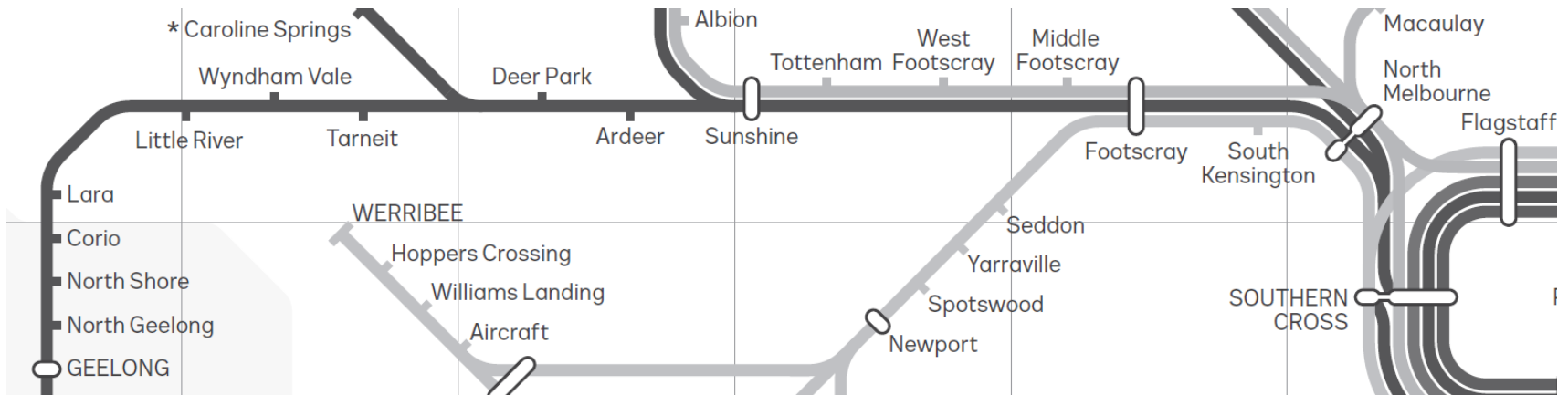
V/LINE REGIONAL PASSENGER SERVICE PROVIDER

Gary Liddle, Interim CEO V/Line

Victoria's public transport network – Regional Train patronage growth



New Network

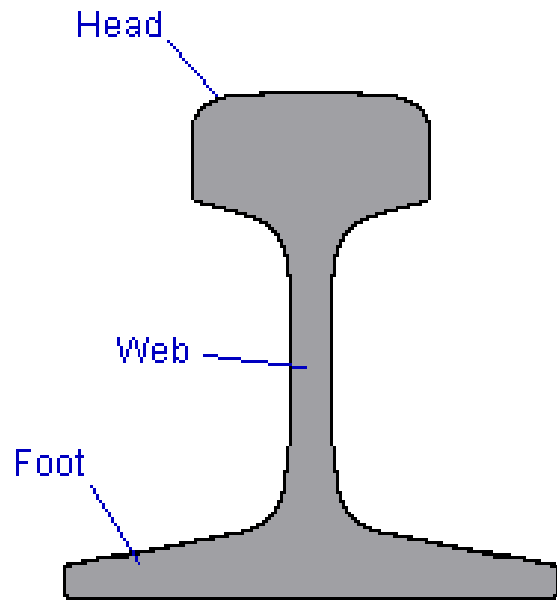


- V/Line now operates on a fundamentally different network with new stations in growth areas (Tarneit and Wyndham Vale)
- The removing of bottlenecks between Metro and Regional services enabled a 30% increase of services

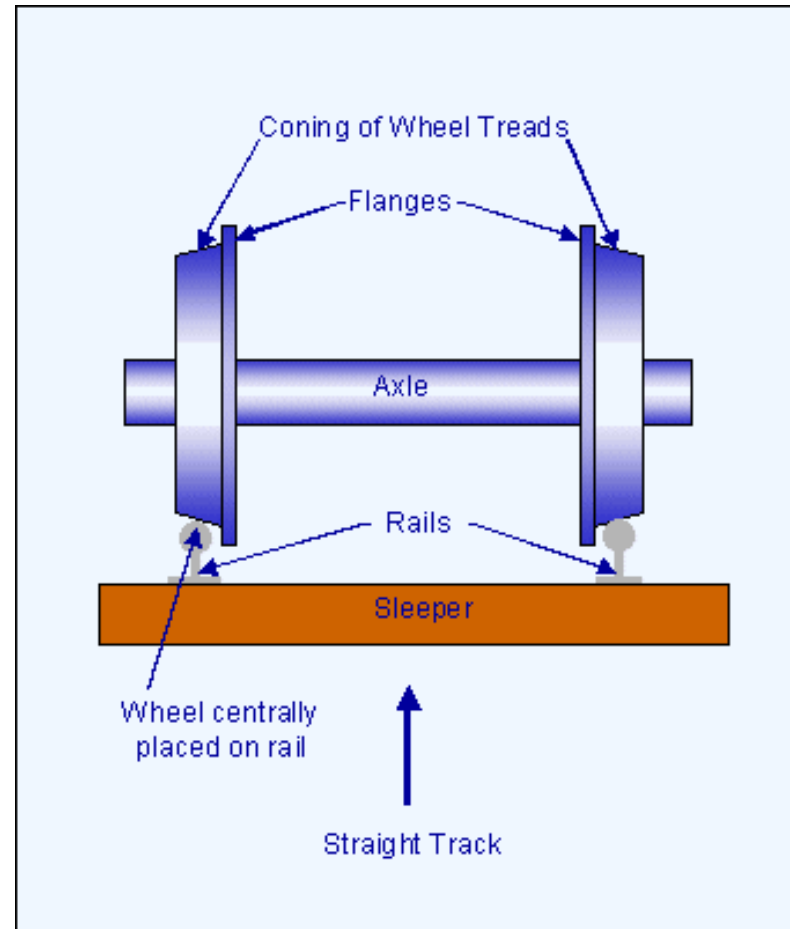
Wheel Wear - Background

- V/Line V/Locity trains have experienced a wheel wear rate higher than forecast.
- Wheel wear is a normal occurrence of rail operations and is caused by the metal surfaces of the rail head and the flange of the wheel rubbing against each other.
- The wheel wear rate of V/Locity trains has increased more rapidly than forecast, according to the results received in January 2016.
- According to V/Line's safety-first approach, wheels are replaced or re-profiled once the flange reaches 19mm thickness. This requires the train to be taken out of service and the wheels replaced.
- Testing results received by V/Line in January showed more trains were approaching or at this limit than forecast.

Wheel Wear – Wheel-Rail Interface



Rail Head



Wheel – Rail Interface

Wheel wear – Rectification Program

- Wheel inspections have increased to ensure that all services continue to operate safely.
- A number of measures to reduce the rate of wheel wear have been implemented including:
 - More frequent greasing (lubrication) of the tracks at key locations to reduce friction and slow down the wear rate
 - Replacement of some sections of track
 - Temporary speed restrictions on some line sections.
- Initial indications are that the rate of wheel wear has reduced as a result.
- V/Line is working with its maintenance provider Bombardier to accelerate the wheel replacement program as follows -
 - Additional shifts at Bombardier and other suppliers
 - Access to additional wheel lathes across Melbourne has been negotiated
 - Increased supply of both wheels and bogies with the first early supply of 60 wheels arriving last weekend.

Wheel wear – Institute of Railway Technology Investigation

- V/Line has commissioned the Institute of Railway Technology at Monash University to review the root cause of the wheel wear. The Institute is the premier track and vehicle railway research centre in Australia.
- The scope of works includes the inspection, measurement and assessment of current conditions, with the aim to develop the most likely cause (or causes) of the current wear issue and provide recommendations regarding rectification and mitigation.
- The Institute's report is due in March.

Wheel Wear timeframes

January: Negotiations have been completed including early supply of additional wheels and bogies, access to additional wheel lathes as well as additional shifts at Bombardier

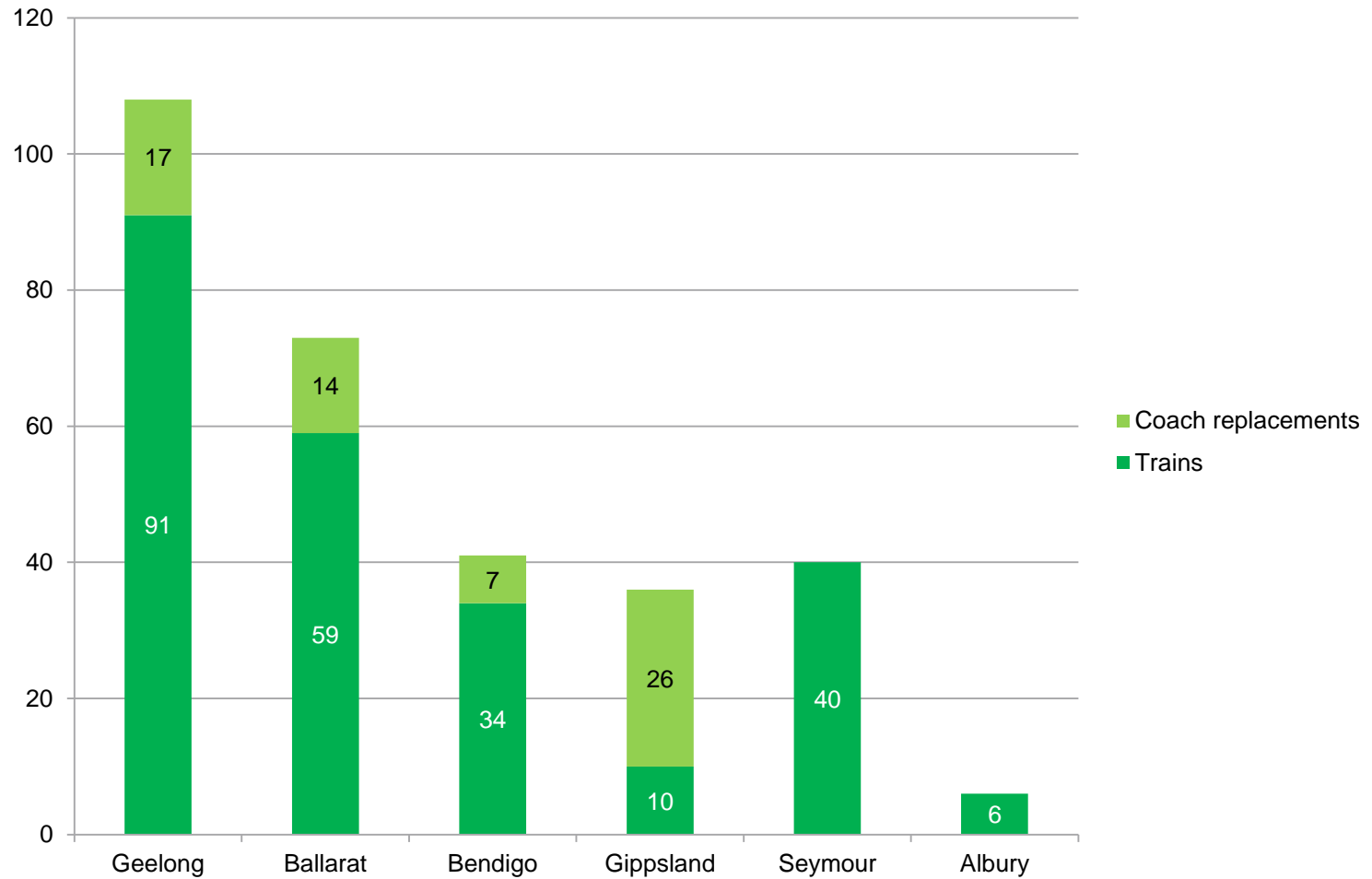
February: Orders have been accelerated for replacement wheels with the first 'brought forward' order received this weekend

March: Institute of Rail Technology report to be provided to V/Line

April: V/Line expects coach replacement services to decrease from this point

Mid-year: V/Line expects full restoration of services

V/Line interim timetable



STANDING COMMITTEE ON ECONOMY AND INFRASTRUCTURE

Jeroen Weimar, Acting CEO, Public Transport Victoria

Andrew Lezala, CEO, Metro Trains Melbourne

Paul O'Halloran, Director of Engineering, Metro Trains Melbourne

Gary Liddle, Interim CEO, V/Line