

# Establishing Risk Frameworks – Case Study:

## New Intercity Fleet

*Reviewed 30 Nov 2018*

(Ref: <https://www.transport.nsw.gov.au/projects/current-projects/new-intercity-fleet>)

### Project overview

A new fleet of intercity trains will come into service from late 2019, carrying customers from Sydney to the Central Coast, Newcastle, the Blue Mountains and the South Coast.

### Key benefits

Improved accessibility, enhanced safety, improved comfort and modern features including:

- Wider, more spacious two by two seating for extra room and comfort with arm rests, tray tables, and high seat backs
- Charging ports for mobile devices, and dedicated spaces for luggage, prams and bicycles
- Improved accessibility including wheelchair access and accessible toilets
- Improved customer information through digital information screens and announcements, CCTV and help points, and modern heating, ventilation and air conditioning.

A new fleet of trains for long distance, intercity services from Sydney to the Central Coast, Newcastle, the Blue Mountains and the South Coast is on the way.

Safety, comfort and accessibility are the fleet's priority. The first trains will begin passenger service late next year on the Central Coast and Newcastle Line and the rest of the fleet will progressively follow.

### Project status

The first trains in the New Intercity Fleet will begin testing and commissioning in early 2019. Customers will be able to catch the brand new trains on the Central Coast and Newcastle Line in late 2019, the Blue Mountains Line in mid-2020 and the South Coast in 2021.

### Customer engagement and train design

The process for designing the interior of the New Intercity Fleet has included a range of engagement activities with customers. A number of customer groups have been asked for feedback on the proposed designs, including vision, mobility, hearing and cognitive impaired groups, aged customers and those travelling with children, luggage and bicycles.

In 2018 a life-size model of the new train, built to replicate the train during the detailed design phase, has allowed staff and customers to gain a first-hand experience of the new train. The model has been used to conduct end-user stakeholder engagement to inform and refine the design of the new train. For more information view the [customer engagement and train design \(PDF, 980.35 KB\)](#) document at <https://www.transport.nsw.gov.au/system/files/media/documents/2018/Customer-engagement-and-train-design.pdf>.

Manufacturing of the new trains is now under way, and detailed design of the interior features of the train is nearing completion.

## Case Study: New Intercity Fleet Part 2

### Locals lose out as \$2.3b NSW intercity train fleet to be built in South Korea

By Matt O'Sullivan, 18 August 2016

(Ref: <https://www.smh.com.au/national/nsw/contract-for-new-trains-for-nsw-intercity-fleet-to-be-built-in-south-korea-20160818-gqv9rj.html>)

Hundreds of new train carriages for NSW's intercity fleet will be built in South Korea after the Baird government awarded a \$2.3 billion contract to a UGL-led consortium, dashing hopes that they would be assembled in Wollongong.

The first of the 512 double-deck train carriages to be rolled off the assembly line in South Korea will begin services to Newcastle, the Central Coast, Illawarra and the Blue Mountains in 2019.



In June 2015, the NSW Treasurer announced the biggest ever investment in the state's transport networks. The deal is the biggest train contract since the state government awarded the troubled Waratah project to a Downer EDI-led consortium almost a decade ago to build carriages in China.

Downer is one of three bidding consortiums to have lost out to UGL Rail, an Australian engineering firm which will have a 15-year contract to maintain the new carriages at Kangy Angy on the central coast.



THE INTERCITY TRAINS WILL HAVE TWO-BY-TWO SEATING ON THEIR UPPER AND LOWER DECKS.

The new trains to be delivered over three years will feature two-by-two seating on upper and lower decks, cup holders and tray tables and charging stations for mobile phones. They will also include toilets accessible for the disabled, and dedicated storage space. Defending the decision for the carriages to be built in South Korea, Transport Minister Andrew Constance said more than 200 jobs would be created to maintain the trains.

"This is the best outcome for taxpayers," he said. "Very pleasingly there is an Australian partner delivering Australian jobs as part of this consortium.

"In this case the procurement stacks up – it's a 25 per cent saving by going with this consortium. I will hold them to account as they work through the procurement."

As part of its unsuccessful bid, Swiss train builder Stadler had proposed to build a plant at Wollongong to assemble and maintain the carriages and create 600 jobs. NSW Labor Luke Foley said the decision was a "crushing blow to local manufacturing and local jobs" in places such as Wollongong where youth unemployment stood at almost 17 per cent.



THE FIRST OF THE NEW TRAINS IS DUE TO BEGIN OPERATING IN NSW IN 2019.

"We could have had 600 people working here [in Wollongong] assembling new train carriages, maintaining them," he said. The \$2.3 billion contract to build and maintain the trains is less than the government's original estimate of \$2.8 billion for the off-the-shelf carriages. Commissioning will be done here in Australia. We won't be allowing the train onto the system until it is safe and reliable. However, it does not include the cost of building the maintenance plant at Kangy Angy.

Last year, the NSW auditor-general warned that the total cost of the project, including the new maintenance facility, would [rise to as much as \\$3.9 billion](#).

"We will come well within the \$3.9 billion," Mr Constance said on Thursday. UGL's consortium partners, South Korea's Hyundai Rotem will design, manufacture, test and commission the carriages. Transport authorities in the US state of Pennsylvania were recently forced to temporarily remove from service a third of 360 carriages Hyundai Rotem was responsible for designing and building. However, NSW TrainLink chief executive Rob Mason said he was "very confident" Hyundai and the other consortium member, Mitsubishi Electric, "will deliver us a very, very safe, reliable and comfortable train".

"Commissioning will be done here in Australia," he said. "We won't be allowing the train onto the system until it is safe and reliable." He also emphasised the consortium had successfully delivered more than 4000 train carriages to New York railway operators. Mr Mason said the trains would have automatic door settings to ensure people could not exit the carriages when they were not beside a station platform. The awarding of the contract for the intercity fleet comes several months after the government earmarked [more than \\$1 billion for new suburban trains](#) for Sydney's overstretched rail network over the next four years.

## Case Study: New Intercity Fleet Part 3:

# Safety standards to be relaxed for trains that are too wide for tunnels

By Matt O'Sullivan, 6 March 2018

(Ref: <https://www.smh.com.au/national/nsw/safety-standards-to-be-relaxed-for-trains-that-are-too-wide-for-tunnels-20180228-p4z23h.html>)

Transport officials want to relax standards for the minimum distance allowed between trains and rail tunnel walls so that the new intercity fleet the NSW government is buying for \$2.3 billion can travel all the way on the Blue Mountains Line to Lithgow. The intercity trains being built in South Korea will be about 3.1 metres across, which will be too wide<sup>1</sup> for them to travel beyond Springwood to Katoomba and Lithgow without an upgrade of the rail line.



The first of the new intercity trains will arrive in NSW next year.

While planning is under way to alter stations and shift slightly or replace sections of rail track, eight of the 10 tunnels built early last century between Newnes Junction and Zig Zag station in the Blue Mountains need to be upgraded so that the new trains can pass through them side by side.

Transport for NSW's preferred option is to scrape away at the tunnel walls to widen them and alter the minimum clearance standard to allow the new intercity trains to run on both lines and pass each other through the tunnels. Under the current standards, the minimum distance allowed between the outline of a train in motion – known as the kinematic envelope – and tunnel walls is 200 millimetres. Asked what the minimum distance would now be, Transport for NSW said in a statement that the “new draft standard to ensure the safe operation of trains is being finalised and reviewed by the train designer and the Assets Standard Authority”.

At present, the state's clearance standards mean V-Set trains dating to the 1970s and narrow diesel-powered locomotives such as the XPTs are the only types in the government-owned fleet that can pass through the “Ten Tunnels Deviation” in the Blue Mountains.

Labor leader Luke Foley said people had a right to be suspicious that the safety standard was to be changed to fix the government's “bungle” of buying trains that did not fit through the tunnels.

“[Transport Minister] Andrew Constance should tell us what it is going to cost to widen the tunnels and complete the track modifications from Springwood to Lithgow,” he said.

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<sup>1</sup> <https://www.smh.com.au/national/nsw/new-intercity-trains-too-wide-for-rail-line-to-stations-in-blue-mountains-20161005-grvmns.html>

“He also needs to detail what special operational restrictions will be imposed including speed limits and how these will be enforced.”, but Mr Constance said Labor had spent 16 years in government without bothering to undertake a long overdue upgrade of the Blue Mountains Line.

“I can’t understand why Luke Foley and the Labor Party don’t want a modern track and train upgrade for the people of the Blue Mountains,” he said. “Parts of the network are over 150 years old and they need to be upgraded – it just makes sense.”

Transport for NSW always knew that the upgrade to the tunnels would be necessary to deliver new trains for intercity passengers on “physically constrained parts of the rail network”, he said.

A report on the tunnel upgrade said transport officials did consider shifting the track and cutting further away at the tunnel walls so that the new trains could travel on both lines and pass each other. However, this option was “discounted due to the high cost” and the need to close tunnels for several months, which would cause significant disruption to services on the rail line.



ONE OF THE TUNNELS ON THE BLUE MOUNTAINS LINE THAT WILL BE UPGRADED TO MAKE IT SUITABLE FOR THE NEW INTERCITY TRAINS.

The government has not revealed what the upgrade to the Blue Mountains Line will cost, arguing it is still subject to a tender process and needs to remain commercial in confidence. The \$2.3 billion contract to build the 512 double-deck train carriages and locomotives does not include the upgrade to the Blue Mountains Line or a new maintenance facility at Kangy Angy on the Central Coast.

The [NSW Auditor-General](#) warned several years ago that the total cost of the project would rise to as much as \$3.9 billion. Most of the work on the tunnels in the Blue Mountains will occur during scheduled track possession periods over two years. However, some of it will require extended shutdowns of up to 15 days at a time, during which trains will not run and replacement buses will be put on to ferry passengers.

Subject to approval, construction is expected to begin late this year and take about two years. The first of the new trains will begin services late next year to the Central Coast and Newcastle. The

government expects the new trains to begin running on the Blue Mountains Line to Mount Victoria in mid-2020, followed by Lithgow about four months later. After that, the trains will start carrying passengers on the South Coast Line.