Human-centred design produces Victoria's most accessible train.

The High Capacity Metro Trains are the first all-new train design in Victoria for nearly 20 years.

Aligning Melbourne with international capability, the trains offer passengers better comfort, reliability, safety and accessibility, made possible through innovative human-centred design.

Seventy High Capacity Metro Trains (HCMTs) are being delivered by the Victorian Government and Evolution Rail Consortium, made up of Downer, CRRC Changchun and Plenary.

The HCMTs provide 20 per cent more capacity than the existing fleets, 28 allocated spaces for wheelchairs and other mobility devices in each seven-car train, improved real-time information through passenger information displays, and an easy-to-use passenger intercom system.

Downer
Relationships creating success

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To achieve Melbourne's most accessible train, the Department of Transport and Evolution Rail Consortium conducted a 12-month engagement process involving 32 groups, including 17 passenger and accessibility groups, and technical and transport experts.

The 12-month process of consultation was the most significant engagement to date to support the introduction of a new train in Victoria, and was awarded Finalist for the IAP2 awards.

Some of the specific ways in which feedback was incorporated include:

- The HCMT seats are now 45cm tall, allowing for guide dogs to be seated under the chairs and have additional head room
- The HCMTs are the only trains with an automatic ramp for passenger accessibility, which improves not only the passenger experience, but drivers aren't required to lift and place ramps
- Gangway barriers which help those who are vision impaired
- CCTV to help the drivers see station platforms and passengers more clearly.

Case study:

The gangway barriers highlight the importance of human-centred design.

During the comprehensive stakeholder engagement, feedback was provided from a man who had been previously injured due to falling through the gangway (i.e. the outside gap between carriages).

The team wanted to ensure this would not happen on a HCMT and this feedback was factored into the train design.

> It only takes one person to share their story to change the entire design of a train to ensure it incorporates contemporary health and safety principles.

While designing the guides to be fit for purpose for those with accessibility considerations, it was evident that having the barrier allowed for train surfing. This added a new risk and detracted from overall adherence to safety and security principles pertaining to a different group of people (those who climbed trains to surf them).

The HCMTs needed to address the safety risk originally identified, so not adding a barrier was not an option. The team tested multiple responses to ensure the trains were safe for everyone. Ultimately, the barrier solution does not facilitate train surfing while ensuring the safety of vision impaired passengers.

> "All of you that have been involved with this project deserve to be applauded, congratulated and very highly regarded as people who listened, but more importantly, who acted upon what you hear," said Martin Stewart, Disability Advocacy Resource Unit.

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