

SAFE SYSTEM END STATE

EXAMPLE: URBAN ACTIVITY STREET

CASE STUDY: GRATTAN ST, MELBOURNE, VIC



Eliminating
serious road trauma
by 2050

CASE STUDY SUMMARY

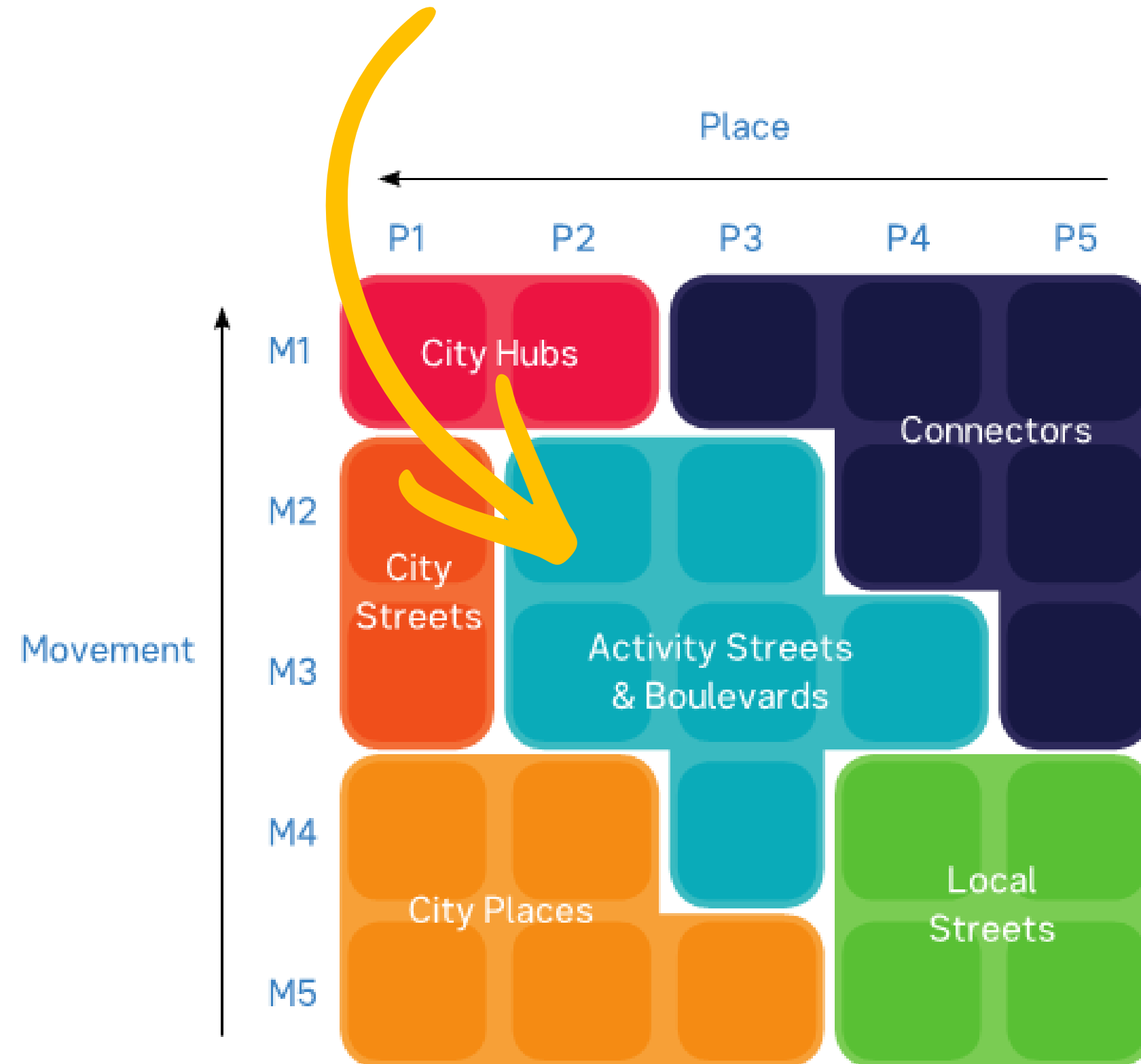


This case study illustrates how an **urban street/corridor** can be transformed to better align with a Safe System End State for an Activity Street. Using Grattan Street in Melbourne's Parkville precinct as an example, it demonstrates how Safe System principles can be applied in practice to create safer, more attractive and more liveable urban streets while continuing to support efficient movement of people and goods.

The Grattan Street transformation was undertaken as part of the **Metro Tunnel Project** and the development of Parkville Station. The project reallocated road space from general traffic to wider footpaths, separated cycling facilities, public transport integration, landscaping and improved pedestrian crossing opportunities. The corridor was also redesigned to better reflect its role as a destination and civic place rather than solely a vehicle movement corridor. The posted speed limit is 40 km/h.

The resulting street environment closely reflects the **Safe System End State for a multi-modal Activity Street** described in Austroads' Charting a Path to Zero Framework (PfZF). Lower operating speeds, reduced traffic dominance, improved facilities for vulnerable road users and infrastructure that moderates vehicle speeds at conflict points help ensure that road-user interactions (especially those between motorised vehicles, and pedestrians and cyclists) occur within human injury tolerance limits.

URBAN ACTIVITY STREET



SAFE SYSTEM END STATE: URBAN ACTIVITY STREET

Under Victoria's Movement and Place Framework, [Activity Streets](#) perform both an important movement and place function. They provide access to shops, services, public transport, employment, community facilities and other destinations while also accommodating significant movement of people and goods. The key challenge is balancing these movement and place functions within the available road space.

Consistent with Austroads' Charting a Path to Zero framework, the [Safe System End State for Activity Streets](#) seeks to support access and movement while ensuring that interactions between vehicles and vulnerable road users occur within human injury tolerance limits. Lower vehicle speeds also support the place function by creating a safer, more attractive and more liveable public realm.

The specific end-state requirements vary according to [modal priority](#). On Activity Streets where [active transport is prioritised](#), operating speeds are limited to 30 km/h or lower. Wide, separated pedestrian paths are provided and traffic-calming infrastructure is used at intersections and mid-block crossings to reduce vehicle speeds to 20 km/h or lower wherever pedestrians and cyclists interact with traffic.

On Activity Streets that [support active transport, public transport and broader multimodal movement](#), operating speeds may be up to 40 km/h. Separated pedestrian facilities, protected crossing points and traffic-calming treatments are provided wherever vulnerable road users interact with buses, trams, light rail or general traffic.

URBAN ACTIVITY STREET: 2050 SAFE SYSTEM END STATE

Urban Activity Street	Vehicle Requirements	Infrastructure Requirements	Maximum Travel Speed Requirements
<p>Either vehicle-free zones, or vehicles are allowed (but no motorcycles)</p>	<ul style="list-style-type: none">• Autonomous Emergency Braking (AEB) for Pedestrian, Cyclist, and Micromobility Users• Intelligent Speed Assistance (ISA) – Speed Limiting Function or geofencing for speed control• Heavy Vehicle Front, Side and Rear Underrun Protection Systems	<p>Refer to the previous page for infrastructure requirements for:</p> <ul style="list-style-type: none">• an Activity Street where active transport is prioritised• an Active Street that is multi-modal.	<ul style="list-style-type: none">• 30 km/h or lower• 40km/h or lower <p>NB: See the previous page for more info.</p>

TRUONG, J.; STRANDROTH, J.; LOGAN, D.B.; JOB, R.F.S.; NEWSTEAD, S. UTILISING HUMAN CRASH TOLERANCE TO DESIGN AN INTERIM AND ULTIMATE SAFE SYSTEM FOR ROAD SAFETY. SUSTAINABILITY 2022, 14, 3491.

URBAN ACTIVITY STREET: 2050 SAFE SYSTEM END STATE



Image Source: The image is produced using generative AI for demonstration purposes only.

INTRODUCING THE CASE STUDY



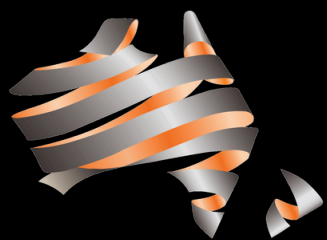
GRATTAN STREET

Image Source: Victoria's Big Build

INTRODUCING THE CASE STUDY...



GRATTAN STREET



Austroads

GRATTAN STREET



Grattan Street fits the definition of an Activity Street because it serves both as a major movement corridor and as an important destination in its own right. It sits at the heart of Parkville's health and education precinct, directly serving a dense concentration of hospitals, university buildings, research institutions and public transport connections. The street accommodates very high pedestrian activity alongside buses, trams, cycling and general traffic, and it functions as a place where large numbers of people arrive, cross, wait, transfer and spend time.

Image Source: Victoria's Big Build and LinkedIn images by project team members



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CONTEXT: GRATTAN STREET UPGRADE

The Grattan Street upgrade was driven by construction of the new Parkville Station directly beneath the street, which will give train access for the first time to Melbourne's major health, education and research precinct.

The broader project intent was not only to fit the station into the corridor, but to transform Grattan Street into a "Grand Promenade" and new civic spine that better serves the intense pedestrian activity around hospitals, the University of Melbourne and Royal Parade.

Before the upgrade, Grattan Street functioned as a four-lane road (plus two lane of on-street car parks) and bus route that constrained north-south pedestrian movement.

The upgraded corridor was planned as an integrated multi-modal environment, with four station entrances, a pedestrian underpass under Royal Parade, links to tram and bus services, wider footpaths, dedicated cycle facilities and improved public transport interchange.



Image Source: Victoria's Big Build



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PARKVILLE STATION & GRATTAN ST

Grattan St Upgrade

Image Source: Victoria's Big Build



GRATTAN STREET

WHAT WAS THERE BEFORE

Grattan Street was a local road with a regional distribution function. There was parking on both sides of the road, making the roadway the equivalent of 6 lanes wide.

The street, while witnessing significant walking and cycling demand, was mainly designed for the movement of motorised vehicles.

Street amenities and facilities for active travel and users staying in the place were quite limited even though Grattan Street cut through the University of Melbourne's zone of influence.

WHAT IS THERE NOW

By the time Grattan Street fully reopened in June 2024, the works had also delivered separated bike lanes, widened footpaths, bike parking (~250), utilities upgrades, more than 100 trees and almost 3,000 m² of planting.

The transformation of a six lane road with over 20,000 vehicles a day was achieved by setting the maximum number of traffic lanes to three.

People movement across the street gets priority with a lower 40 km/h speed limit and three signalised crossings, two of which are raised.

WHAT WAS THERE BEFORE



WHAT IS THERE NOW

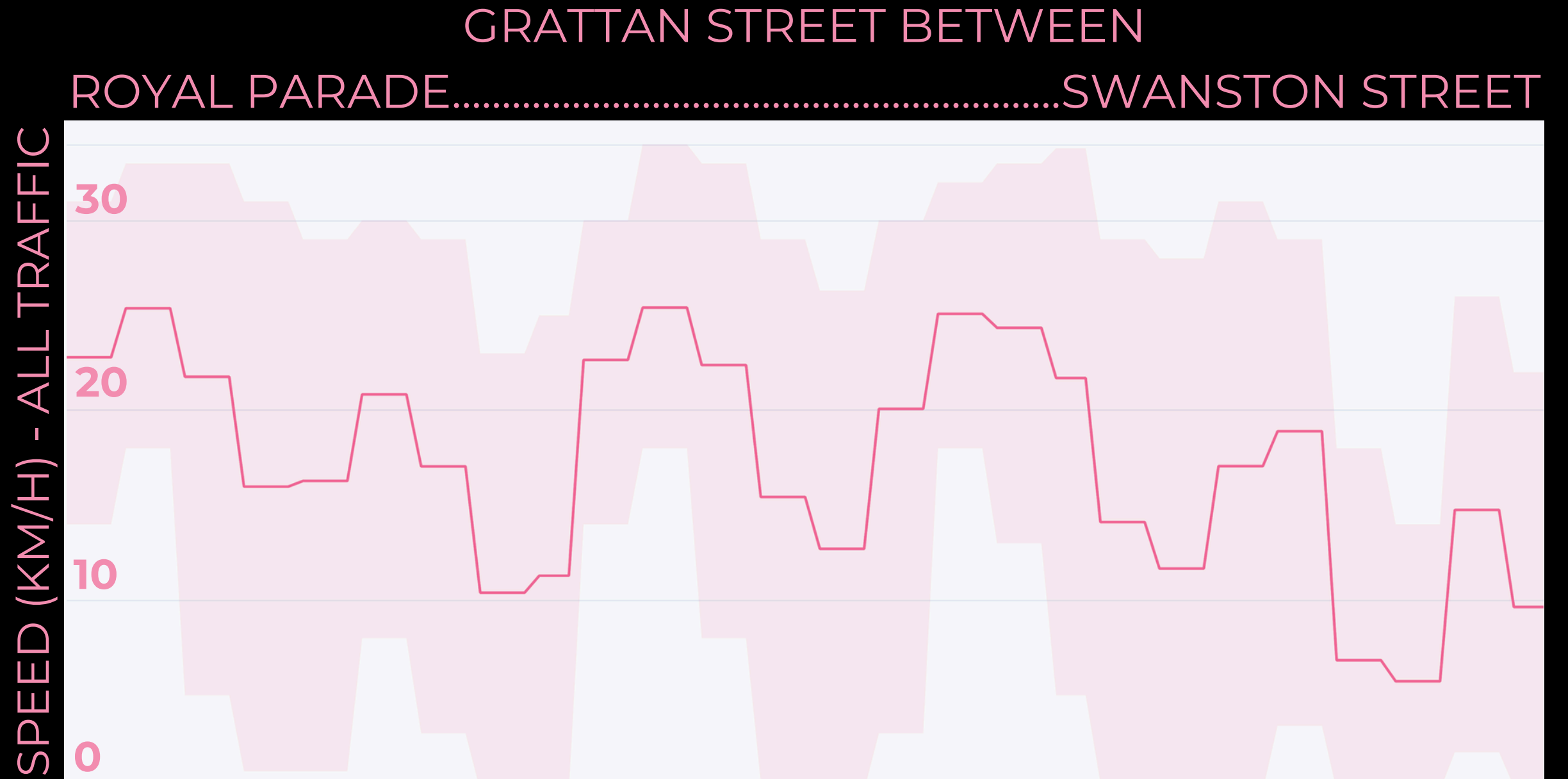


Image Source: Victoria's Big Build and LinkedIn images by project team members

NOW, OPERATING SPEEDS REFLECT THE STREET FUNCTION

Recorded speed profiles for cars travelling west-east from Royal Parade to Swanston Street show that operating speeds are moderated along the corridor, with pronounced speed reductions at side roads, raised platforms and pedestrian crossing locations.

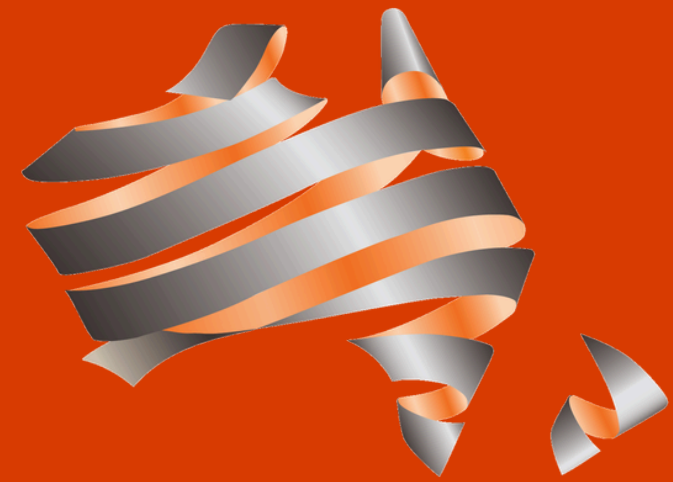
Reference: CompassIoT data



GRATTAN STREET



Image Source: Victoria Walks



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