



This report identified key issues in Bendigo's CBD:

- significant through traffic
- street space allocation that prioritised motor vehicles
- formalised street and pedestrian crossing designs
- traffic speeds too high
- negative impacts of drive-through shopping
- cluttered streetscape design.

Walk Bendigo, a CBD wide program of works was conceived to respond to and address these issues.

The Walk Bendigo design used shared space principles to slow vehicles to allow safe interaction between pedestrians, cyclists and motor vehicles. It was planned to create a connected pedestrian network linking access points to key city destinations. The social and community function of the CBD was to be enhanced by allocating space for alfresco dining and street events (see image 5).

This case study focuses on Walk Bendigo's 'Hargreaves Street project', located between Mundy and Williams Streets and the Hargreaves and Bull Streets intersection.

Bendigo Town Centre

Creating shared space to improve pedestrian safety

Prioritising walking in Bendigo's town centre was central to its redevelopment as a destination. The Walk Bendigo program created a vibrant, connected and safe environment for visitors. The City of Greater Bendigo established a steering committee that oversaw the development and championed the project. The committee had members from the health, physical activity and transport sectors which ensured the program was about more than just transport engineering.

Background

The City of Greater Bendigo's population was about 96,000 in 2006. The city is a major business, retail and service centre in north central Victoria. Development and growth of Bendigo's Central Business District (CBD) has increased demand and pressure on urban space. The existing street design reflected historical road traffic engineering practices, focussing on maximising traffic flow, speed and parking. This approach was not providing a safe or user-friendly environment and was unable to meet changing needs of the growing city.

In 2007 the city published a report into 'Shared Space in Bendigo CBD – Principles, Best Practice and Proposals'.

Project delivery and stakeholder engagement

The diverse Steering Committee was set up for the Walk Bendigo program. It met quarterly with the council project team throughout 2007 and 2008. The steering committee was essential in the early stages of setting up and overseeing the project. The council project team drew on areas of council to plan, design and deliver the changes to the streetscape. Using council staff ensured the skills and knowledge were retained within council as well as the Department of Planning and Community Development, the Department of Transport and VicRoads.

The Walk Bendigo works on Hargreaves and Bull Streets were delivered in two stages.

Stage 1 works:

- pavement treatments to the entry of Hargreaves Street from Mundy Street
- introducing 90-degree parking
- constructing a mid-block crossing point
- installing street furniture.

Stage 2 works:

- creating the shared-space intersection at the corner of Hargreaves and Bull streets
- removing kerbs, a traffic island and car parking
- installing a level paved area, narrow entry plinths with tactile surfaces (see image 5), water fountains (see image 3) and street furniture.

Regular meetings were held with landowners and businesses impacted by the works on Hargreaves and Bull Streets. This created understanding and acceptance of disruptions during the construction period.

A proposed third stage of works on Williamson Street between Pall Mall and Myers Street was suspended. This was the result of a significant number of infrastructure projects in the CBD over a short period of time which lead to negative community perceptions and changes in council contributed led to a reduction in the project scope.

The clear vision for the project, its benefits and value was laid out in the Walk Bendigo philosophy and principles. This clarity allowed communication to be consistent with positive messages. Only when this communication was not effective did the project experience negative perceptions.

Navigation and information

Walk Bendigo's shared-space design minimises traditional traffic controls and signage. Instead design features such as reduced road widths, surface treatments, street furniture and parking angle slow traffic in the area.

Signage is minimised to quality wayfinding and essential directional information ensuring those in the area can navigate to their destination. A map and directional finger board sign system is used to orientate and provide reassurance for users on the way to their destination (see image 6).



Integrated transport and precincts

The intersection of Hargreaves and Bull Streets is central to shopping, dining and civic facilities. Walk Bendigo created a street space that can be entered and crossed from any point in any direction. Pedestrians and cyclists are supported to follow direct travel lines because of slowed vehicle movements that allow safe crossings to be negotiated with the driver.

Creating a street space that links all of the access points and destinations by providing multiple crossing opportunities is not possible with formal crossings.

Improving safety

The Walk Bendigo shared-space philosophy and principles apply an approach to safety that has been emerging in locations throughout the world. However, it has seldom been applied in Australia.

The primary safety principle of the Walk Bendigo shared-space philosophy is slowing vehicle speeds by removing traffic controls and creating an environment that prioritises pedestrians (see image 4). The shared-space design uses 90-degree parking to slow speeds and reduced road widths and bluestone rumble pavement to mark entry to the shared area and the intersection. A clear, visible space is provided within the intersection allowing users time to identify and respond to each other. At slower speeds where an incident does occur it is less likely to cause serious injury.

A reduction in speed in the area was achieved; however the target speed of less than 20km/h has not been met (see table 1).

Table 1: Average vehicle speed (85% percentile) reductions achieved in Walk Bendigo shared space.

		2007	2009
Hargreaves Street	Williamson to Bull Street	38km/h	26km/h
	Mundy to Bull Street	43km/h	29km/h
Bull Street	Northbound	N/A	28km/h
	Southbound	N/A	27km/h
Average		40.5km/h	27.5km/h

Source: City of Bendigo.

Images

- 1) Before:** looking north to Hargreaves St and Bull St intersection. Source: City of Greater Bendigo
- 2) Before:** looking west down Bull Street. Source: City of Greater Bendigo
- 3) After:** Bull Street fountains. Source: Department of Transport.
- 4) After:** Looking towards Bendigo town hall from Hargreaves Street and Bull Street intersection with wayfinding signage. Source: Department of Transport.
- 5) After:** Looking south to intersection of Hargreaves Street and Bull Street. Source: Department of Transport.
- 6) After:** Looking north towards Hargreaves Street and Bull Street intersection with wayfinding signage. Source: Department of Transport.



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Access for all people

Walk Bendigo removed as much traffic control as possible creating an intentionally ambiguous environment which resulted in slower vehicle speeds. The shared-space philosophy and slow speed environment provides a better experience for all users, including pedestrians and cyclists.

Removing the kerbs gave access at all points for people in mobility aids. However, the lack of kerbs and formal crossings is a challenge for visually-impaired pedestrians who rely on these navigational guides. This issue was identified in the design phase and will be monitored and assessed to ensure a safe environment is provided for the visually-impaired.

Local identity and amenities

The Walk Bendigo designs use high-quality features and street furniture that contribute to traffic management. These designs include:

- plinths with images showing Bendigo's heritage to narrow the street and designate shared area entrance
- water fountains to define lines of travel
- seating to encourage people to visit and stay in the area
- outdoor dining areas
- shared-space pavement which reflect Bendigo heritage materials.

However, the level of differentiation and surface markings on the plans was not always as clear as intended in the final construction.

Integrating walking and cycling into transport design: project case studies

This case study is part of a series on integrating walking and cycling into transport design. Look for the other examples located in: Ararat, Cobram, Preston, St Kilda and Yarraville.

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Key statistics

Council:

City of Greater Bendigo

Project partners:

Department of Transport
(funding partner)

Project outputs:

- removal of 4 pedestrian barriers and 2 formal pedestrian crossings
- removal of signage and other non-essential control infrastructure
- streets narrowed by 3.6 metres to 6.5 metres
- installation of informal 1500m² shared zone
- three bluestone rubble strip entry treatments
- footpaths widen to 7.0 metres
- pavement constructed to provide level surface throughout intersection
- installation of 8 water fountains and 6 entry plinths.

Project commenced:

October 2007

Construction completed:

April 2009

Project cost: \$1.07M

Key design principles:

- slow-speed environments
- creating a well-defined urban precinct
- provision of a continuous pedestrian network
- altering spatial priorities
- retaining just essential traffic control infrastructure.