

Transport for NSW

Sydney Harbour Bridge Cycleway

Northern access project | June 2021



The Sydney Harbour Bridge connects Sydney's communities. One of the most iconic bridges in the world, it acts as a gateway and is there for all people to use and enjoy.

Transport for NSW has developed two options for a cycle ramp at the northern end of the Sydney Harbour Bridge Cycleway.

About the project

Around 2,000 bike trips are taken across the Sydney Harbour Bridge cycleway on weekdays, making it one of the most heavily used bike paths in Sydney. It is the only cross-harbour bike route in Eastern Sydney and a critical link between the Lower North Shore and Sydney CBD.

The Sydney Harbour Bridge Cycleway northern access project will improve the safety and increase capacity of the cycleway, enhance connections to the wider bike network and make bike riding convenient and a more appealing transport option for more people.

The problem

To get on and off the cycleway at the northern end, riders need to carry or push their bikes through safety barriers and up or down 55 steps at Bradfield Park.

The steps and safety barriers cause a build up of people as cyclists get on and off their bikes, slowing the movement of people and of cyclists especially at peak times. The steps are also a safety hazard and prevent a wider group of people from riding their bikes more.

Many plans to replace the steps with a ramp have been explored over the years, most recently in 2017. This is an opportunity to improve a critical link in Sydney's bike network and encourage more people to cycle as part of their daily commute, or for leisure and fitness.

Alternative approaches

Transport for NSW (TfNSW) has been taking a fresh look at this project. Our aim is to make cycling across the Sydney Harbour Bridge a safe and accessible choice for a wide range of people. We are also committed to ensuring that the project respects the heritage of the Sydney Harbour Bridge and delivers an outcome befitting this iconic location and highly valued open space.

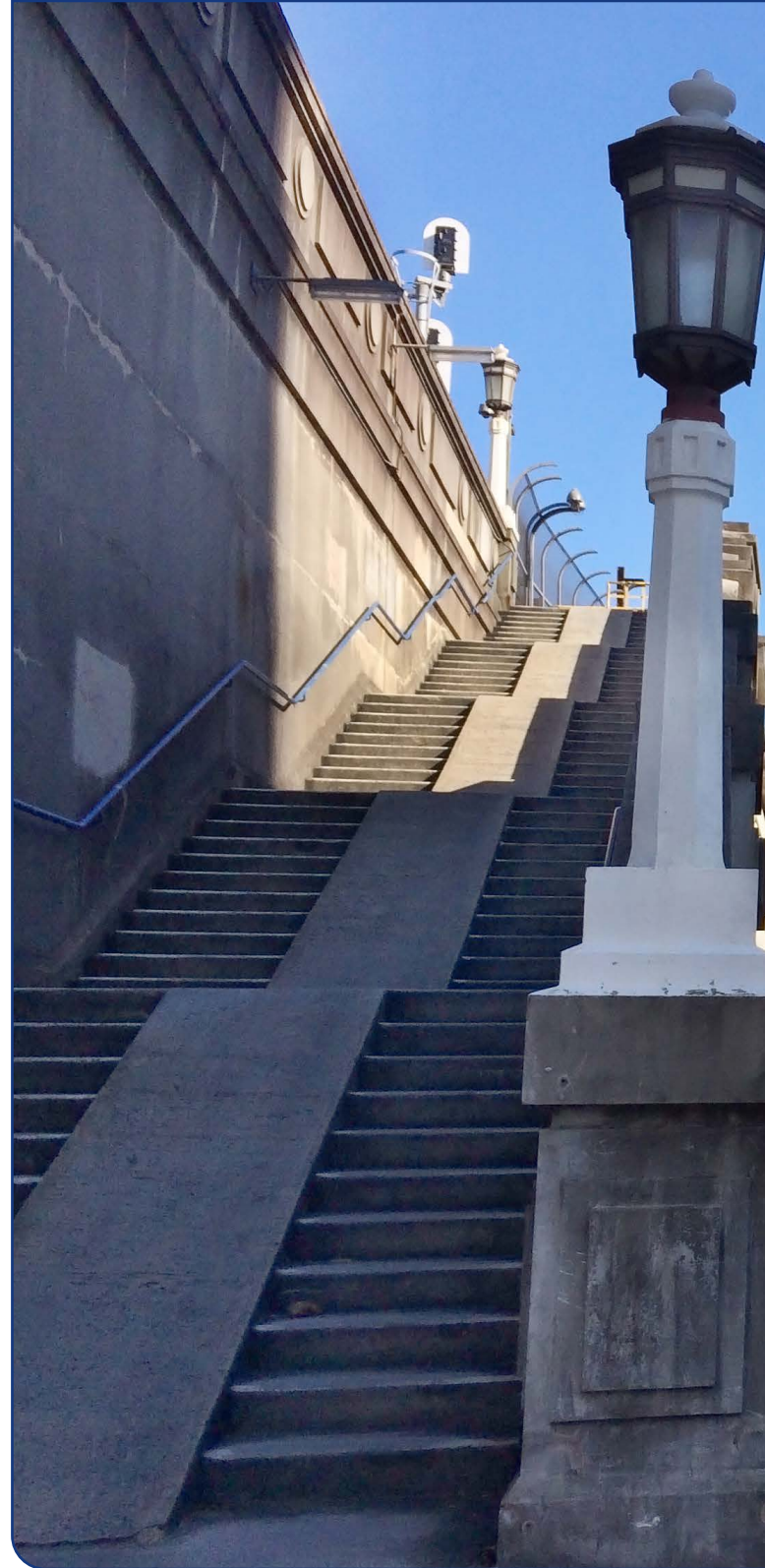
We investigated a range of strategic approaches before exploring ramp options. These included replacing the steps with lifts or travelators, swapping the cycleway to the eastern side of the bridge, and putting bikes back on the bridge deck. We also checked to make sure that the existing cycleway is fit for purpose given it is narrower than modern cycling standards recommend.

We have confirmed that:

- The cycleway is worth investing in as its capacity would more than double if the bottleneck at the stairs were removed. This extra capacity would meet growth in cycling demand over the next 15-20 years.
- The cycleway needs to remain on the west side of the bridge to connect to the CBD bike network including the Kent Street cycleway and routes to Darling Harbour and Pyrmont.
- Lifts and travelators would improve access for users of heavy bikes and older or less able cyclists but would not remove the bottleneck or safety risks created by the steps. Lifts and travelators would also reduce the current capacity of the cycleway.

Why not put cyclists on the bridge deck?

Our immediate priority is to improve access for our current and potential cycling customers as soon as possible, by providing a safe, accessible route that people of all ages and abilities can use.



Northern steps of the Harbour Bridge cycleway

As the works for the Western Harbour Tunnel are completed, there may be potential to reconsider the reallocation of road space alongside other considerations such as prioritising buses. Regardless of whether additional options might be provided for cycling in the future, this improved ramp access on the northern side of the Harbour Bridge will continue to be used by generations to come.



The options

Many ramp options have been considered over the years. We have reviewed those options and others to see what shape, structure, and alignment would work best for such a significant location. As a result, we have shortlisted two ramp concepts to replace the steps.

- **The first is a gently curving ramp running above the Milsons Point Station Plaza.**
- **The second is a double-looped ramp at Bradfield Park Central.**

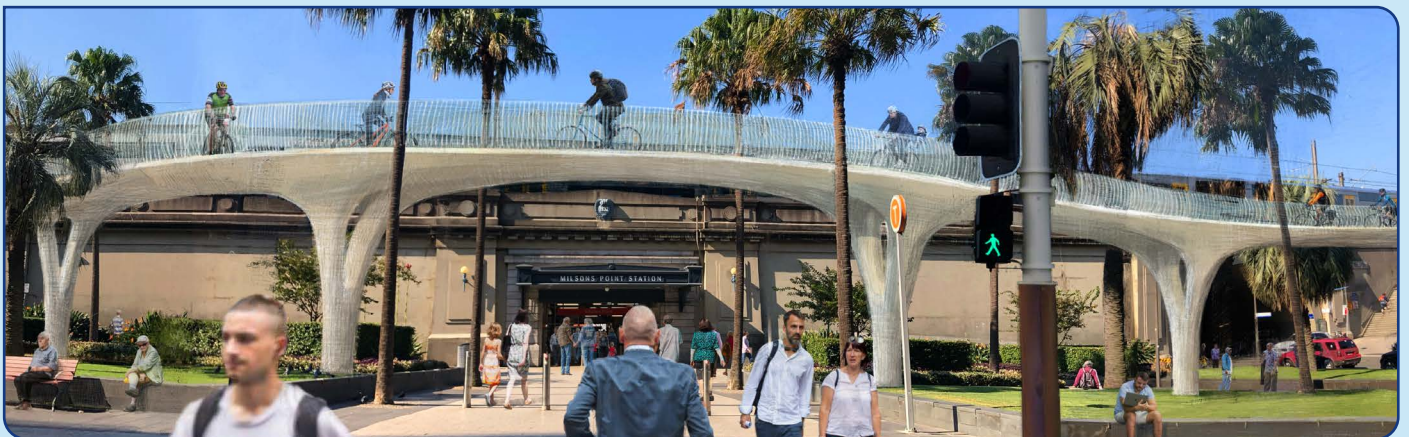
We have worked with leading urban design, architectural and heritage experts to develop these options and have sought the feedback of design experts.

The concepts are still in early development and a lot more work needs to be done. We are therefore keen to get community feedback and will work with bike riders and community members to ensure the final design is refined, elegant and appropriate for the heritage setting.

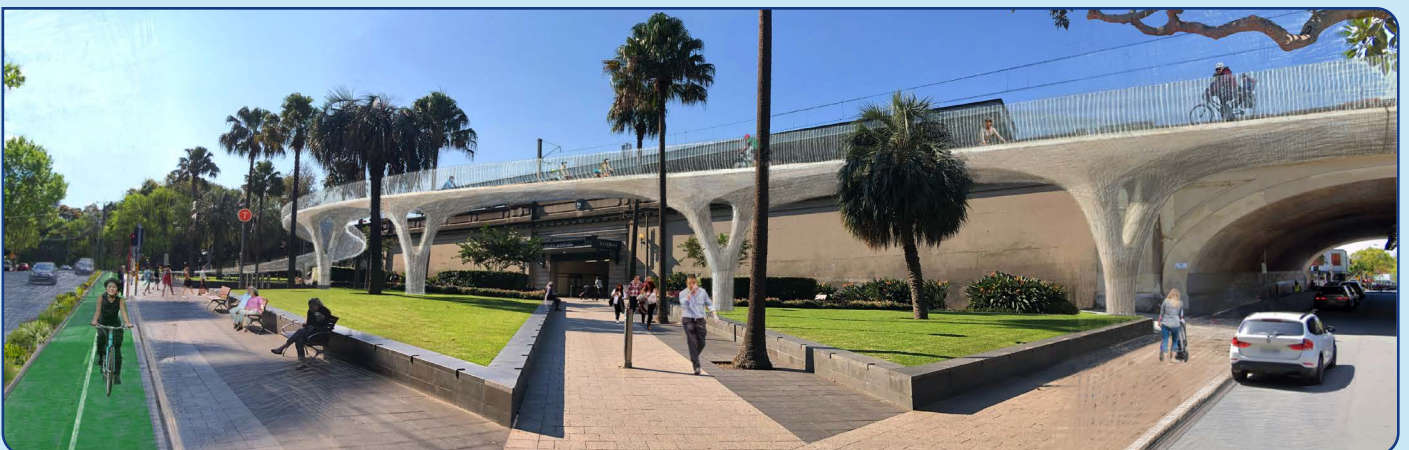
Option 1 – linear

The linear option has a winding design weaving between the palm trees at the Station Plaza and stopping short of the tree canopy in Bradfield Park North. The gentle curve would set the ramp back from the entrance of Milsons Point Station, reducing the view impact from Alfred Street and avoiding the need to remove trees. The linear option provides better rideability compared to the loop and is a smaller structure that has a stronger artistic form and design.

However, the linear ramp would run over the much-loved Station Plaza, affecting views from Bradfield Park North to the Sydney Harbour Bridge, and from Alfred Street to the heritage entrance of Milsons Point Station. In addition, this option would have some impact on Bradfield Park North.



Artist impression of the linear option looking at the entrance of Milsons Point Station from Alfred Street



Artist impression of the linear option looking north east from the corner of Burton Street and Alfred Street

Option 2 – looped

The looped option would be located at the southern bowling green in Bradfield Park Central. A double loop structure would minimise the ramp's land coverage and avoid the northern bowling green completely. The loop would provide good rideability with acceptable inclines and flatter sections on the curves for rider relief. It would be located well away from the Station Plaza and Bradfield Park North and allows for a future pedestrian connection between Burton Street and Fitzroy Street.

However, the loop is a larger structure compared to the linear option and would be clearly visible when viewing the Sydney Harbour Bridge from the eastern side of Bradfield Park. It would require the removal of the old bowling club building and a frangipani tree on Fitzroy Street and could affect active recreation on the southern bowling green.



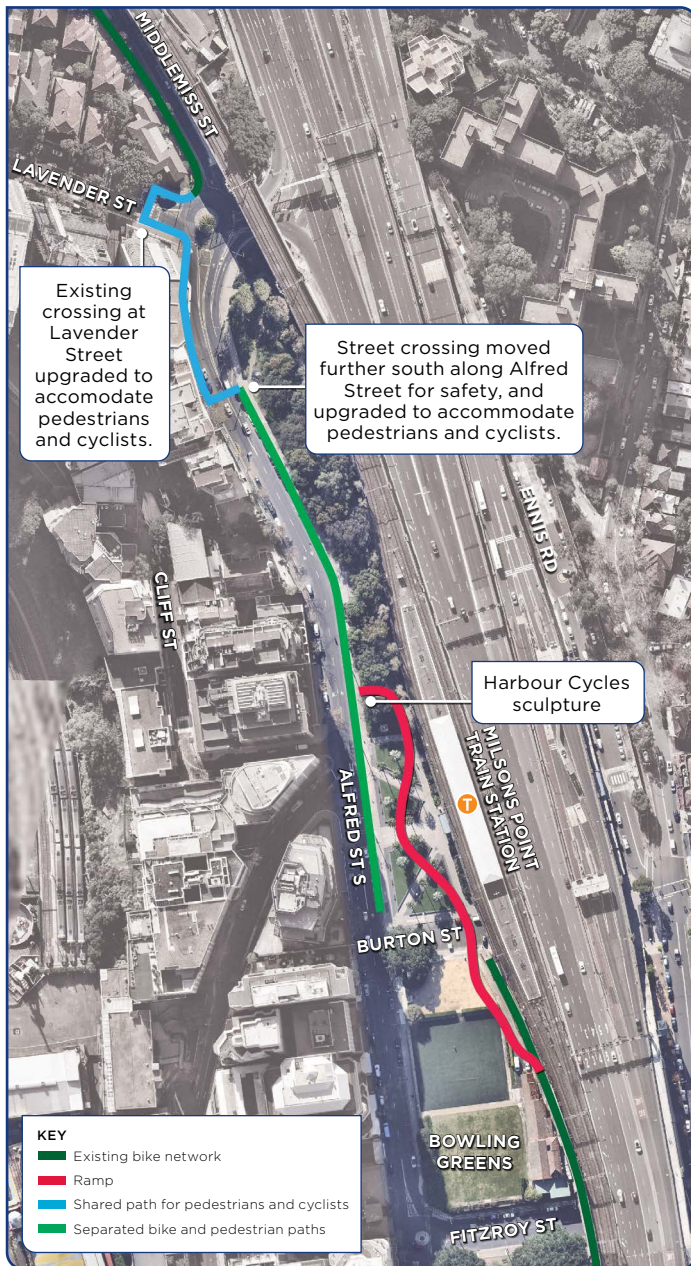
Artist impression of the looped option looking south from Burton Street



Artist impression of the looped option looking north east from the corner of Fitzroy Street and Alfred Street

Protecting pedestrian and cyclist safety

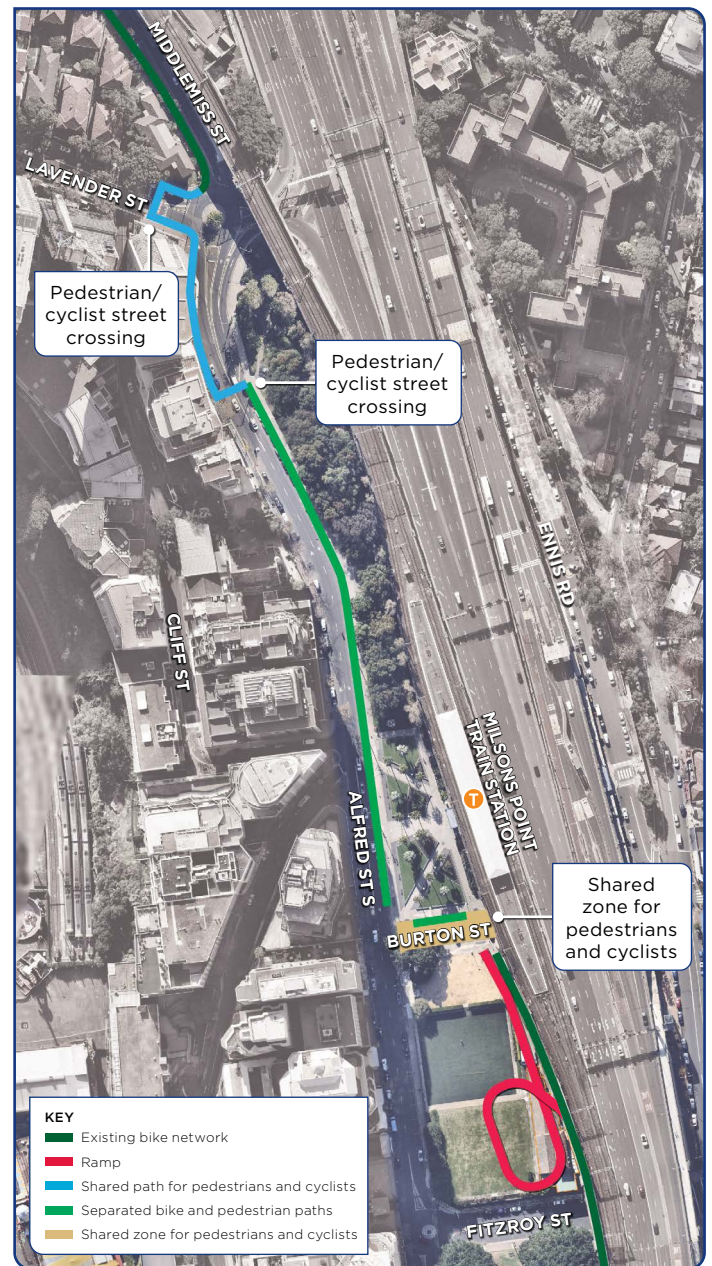
Both ramp options include upgrades to Alfred Street to ensure the safe transition of cyclists to the existing bike network and prevent collisions with pedestrians and other road users.



Linear option – separated cycle path along Alfred Street

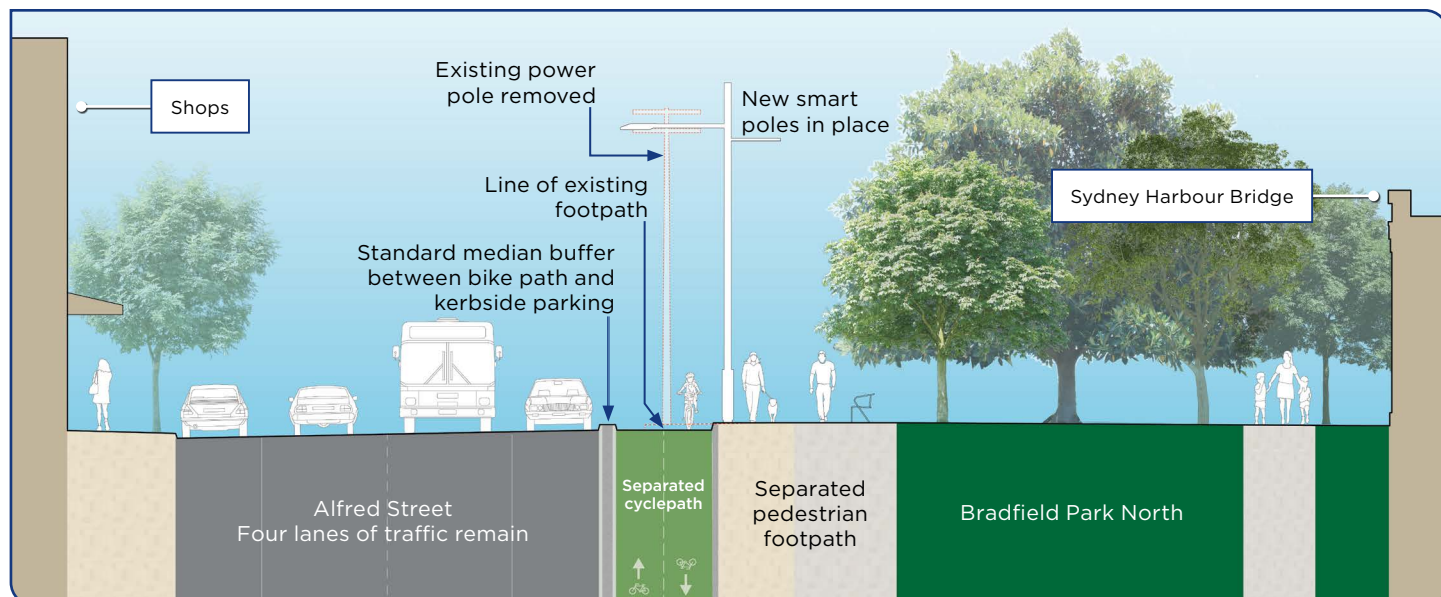
The linear option lands near the Harbour Cycles sculpture and would connect to a separated, two-way cycleway on the eastern side of Alfred Street.

Cyclists would cross Alfred Street at a new bike and pedestrian crossing outside 110-116 Alfred Street. They would then travel along about 100 metres of shared path on the western side of Alfred Street or on the road before crossing Lavender Street at an upgraded crossing in the existing location. They would join the existing bike network at Middlemiss Street.



Looped option – separated cycle path along Alfred Street and Shared Zone on Burton Street

The looped option would connect into a modified shared zone on Burton Street. This would move cyclists onto the separated cycleway on Alfred Street and ensure pedestrians, riders and vehicles can safely share and move through the area.



A cross-section of the proposed separated cycleway on Alfred Street

The separated cycle path would be created by putting overhead wires overground and realigning new smart light poles along Alfred Street. This would create space to fit in the bike path while retaining two lanes of traffic and parking on both sides of

Alfred Street. It would also allow for the shared path to be pedestrian only with bikes having their own designated space.

Options comparison – dimensions

The options minimise impacts to open space and provide a good riding experience for cyclists.

The linear option would be around 172 metres long (roughly the length of three and a half Olympic pools) and three metres wide.

The looped option would be about 50 metres long and 30 metres wide, so a similar sized footprint to one Olympic pool.

The table below provides more details about the dimensions of each option. The options are only early concepts so these details may change as the design develops.

The table also includes a 'Z' score, which is a measure of each option's difficulty. The Z score is measured by the height of the ramp squared, divided by its length.

Austrroads guidelines suggest an upper Z score of 0.25. However, customer feedback on existing bridges in Sydney, suggests a score of 0.5 would be acceptable on short sections of incline.

Both options fall within these upper limits and would provide a comfortable ride for a wide range of abilities.

	Linear	Loop
Cycleway ramp length	172 metres	245 metres
Cycleway gradient	0-5%	1-5%
Cycleway width	3 metres	3.6 metres
Bend/ curve radii	30 metres	10 metres
Structure height	2.2 meters to pedestrian paths	3.4 – 4.8 metres
Structure length	172 metres	50 metres
Ramp difficulty (Z score)	0.19	0.38

The Z score or ramp difficulty is the height squared divided by the length of the ramp (Source: Dutch Design Manual for Bicycle and Pedestrian Bridges)

Options comparison – features

This is a complex project that requires open space, heritage, and cycling considerations to be carefully balanced. The following table outlines the potential impacts side by side.

	Linear	Loop
Trees	<ul style="list-style-type: none"> No loss of trees 	<ul style="list-style-type: none"> Loss of one frangipani tree at Fitzroy Street
Open space	<ul style="list-style-type: none"> 315sqm of useable space lost Avoids mature landscape area at Bradfield Park North No building demolition Puts power poles on Alfred Street underground 	<ul style="list-style-type: none"> 480sqm of useable space lost Avoids Bradfield Park North completely Demolition of bowling club building Puts power poles on Alfred Street underground
Heritage	<ul style="list-style-type: none"> Set back from the entrance to Milsons Point Station to reduce view impact Affects views from Bradfield Park North looking south to Sydney Harbour Bridge 	<ul style="list-style-type: none"> Avoids heritage entrance to Milsons Point Station Avoids formal heritage curtilage of Sydney Harbour Bridge Affects views from Bradfield Park North looking south to Sydney Harbour Bridge
Rideability	<ul style="list-style-type: none"> Excellent compared to national and international standards 	<ul style="list-style-type: none"> Good compared to national and international standards
Connection	<ul style="list-style-type: none"> Connects to separated cycleway on Alfred Street New bike / pedestrian crossing on Alfred Street Upgraded bike / pedestrian crossing on Lavender Street 	<ul style="list-style-type: none"> Connects to shared zone at Burton Street and then separated cycleway on Alfred Street New bike / pedestrian crossing on Alfred Street Upgraded bike / pedestrian crossing on Lavender Street
Car parks	<ul style="list-style-type: none"> Loss of six car park spots to create a safe crossing on Alfred Street 	<ul style="list-style-type: none"> Loss of eleven car park spots to create a safe crossing on Alfred Street and a safe shared zone on Burton Street.

Southern access project

Access to the southern end of the cycleway includes a steep ramp between Upper Fort Street and Bradfield Highway outside the National Trust Building.

In 2016, Roads and Maritime Services (RMS) developed a design concept to replace this access with a separated and more accessible ramp. A Review of Environmental Factors was displayed in 2017.

However, the REF was not determined because the southern access project is unfunded.

We are committed to getting the right long-term solution for the cycleway but are not proposing to upgrade the southern access project just yet. We will stage our investment by first upgrading the northern access and reviewing the southern access as demand picks up in response to the northern upgrade.



The southern access ramp to the Sydney Harbour Bridge Cycleway

Get in contact

Phone:
1800 581 595

Email:
SydneyHarbourBridgeProjects@transport.nsw.gov.au