Traffic Lights for Pedestrians

David Ballm, Director Network Operations

City of Sydney LGA as a case study in Urban Mobility Transformation.

SNUG September 2026

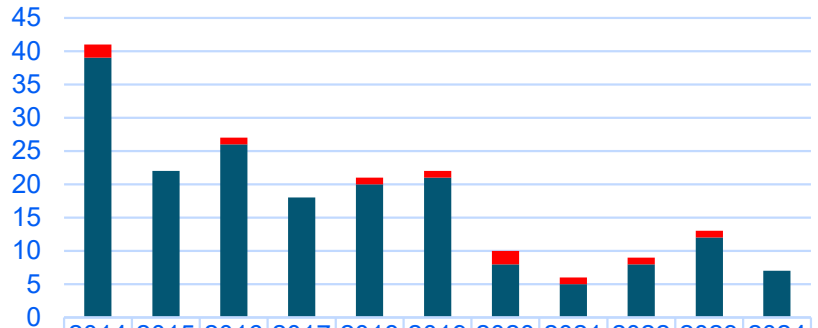


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Pedestrian Safety – Sydney CBD & LGA

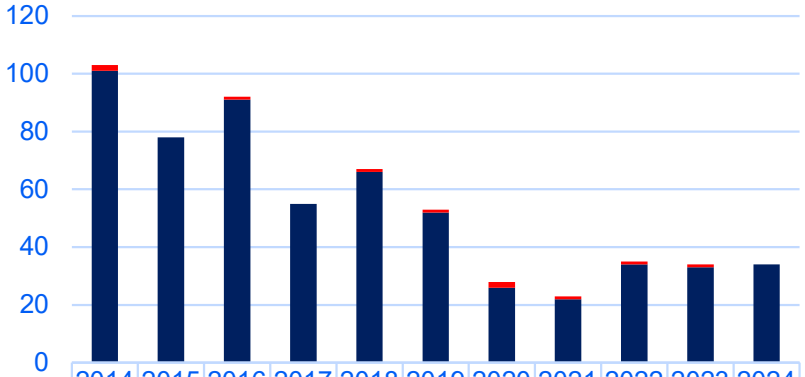
Ped FSI in Postcode 2000



	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Fatalities	2	0	1	0	1	1	2	1	1	1	0
Seriously Injuries	39	22	26	18	20	21	8	5	8	12	7

Seriously Injuries Fatalities

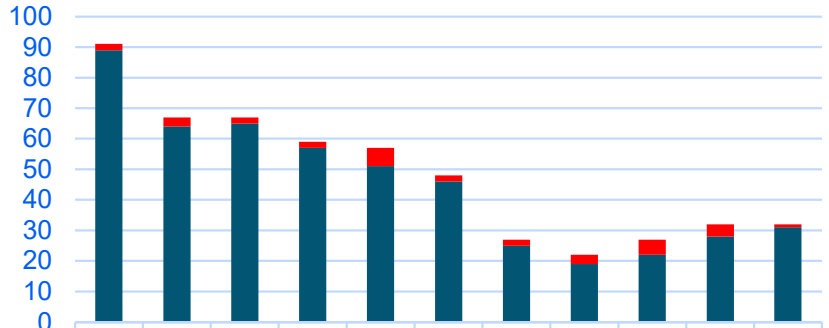
Ped Injuries in Postcode 2000



	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Fatalities	2	0	1	0	1	1	2	1	1	1	0
All Injuries	101	78	91	55	66	52	26	22	34	33	34

All Injuries Fatalities

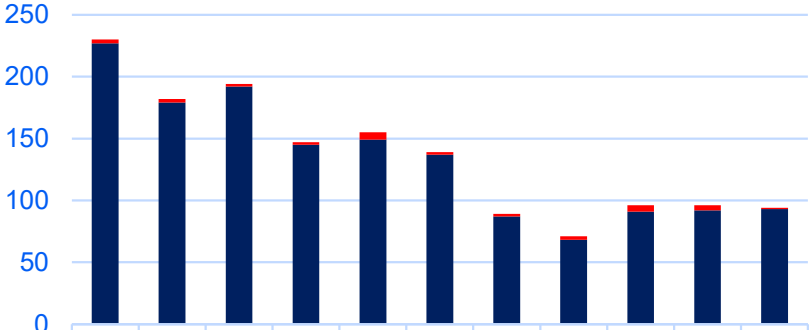
Ped FSI in Sydney LGA



	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Fatalities	2	3	2	2	6	2	2	3	5	4	1
Seriously Injuries	89	64	65	57	51	46	25	19	22	28	31

Seriously Injuries Fatalities

Ped Injuries in Sydney LGA



	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Fatalities	3	3	2	2	6	2	2	3	5	4	1
All Injuries	227	179	192	145	149	137	87	68	91	92	93

All Injuries Fatalities

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Speed Limits – Easy Wins

Local Streets:

- Every Local Road in Sydney LGA now has a 40 km/h speed limit



State Arterial Roads – Expansion of the 40 km/h:

- Expansion of the 40 km/h limit to State roads on the urban fringe of the CBD where major Pedestrian activity exists

Other State Road Speed Reductions:

- Where 40 km/h is not currently supported, lower limits can still reduce pedestrian crash risk.



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Infrastructure – Remove the Peds

High pedestrian and vehicle volumes create safety and operational challenges.

As part of Sydney Light Rail, two pedestrian bridges were built across Anzac Parade, improving access between Central Station, the Entertainment Quarter and major sporting venues.

The separation improves pedestrian safety while supporting bus, tram and car park operations during major events.



Infrastructure – Remove the Vehicles

Transport has been working with the CoS to help extend the pedestrianisation of George Street. Almost 15,000m^2 of additional footpath has been provided in the spine of the CBD. Vehicle access for private vehicles has been removed.

7 sets of traffic signals have been removed with journey time improvements for the tram and improved accessibility and safety for pedestrians.



Infrastructure – Pedestrian Fence

Pedestrian fencing is generally reserved for state classified roads with higher traffic speeds and volumes, or locations with significant safety risks around light rail.

Where appropriate, landscaping can provide the same pedestrian guidance with less visual impact. The lower image shows hedging on Cleveland Street approaching Chalmers Street.





Infrastructure - Missing Ped Crossings

TfNSW has been working with the City of Sydney Council to install missing pedestrian crossings wherever possible.

In most instances Transport will accept the traffic inefficiency to gain the pedestrian safety and amenity benefit.

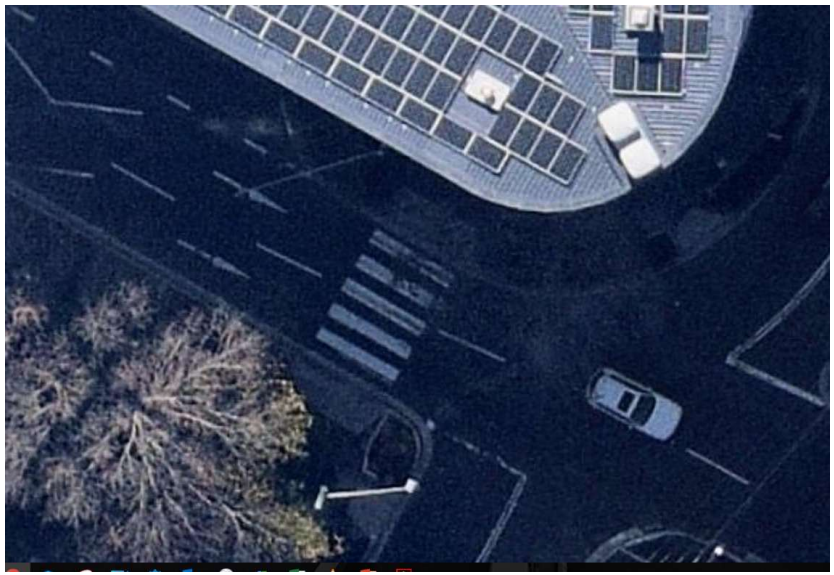




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Infrastructure - Unsafe Zebra Crossings

In May 2006 a child was seriously injured crossing a multilane zebra crossing which had two lanes in each direction.



A conflict exists where a vehicle slows or stops to give way, preventing a driver in the adjacent lane from seeing a pedestrian, especially a child, on the crossing.

This resulted in an RTA Technical Direction and ultimately a change to the Australian Standards to prohibit further installation of these crossings.



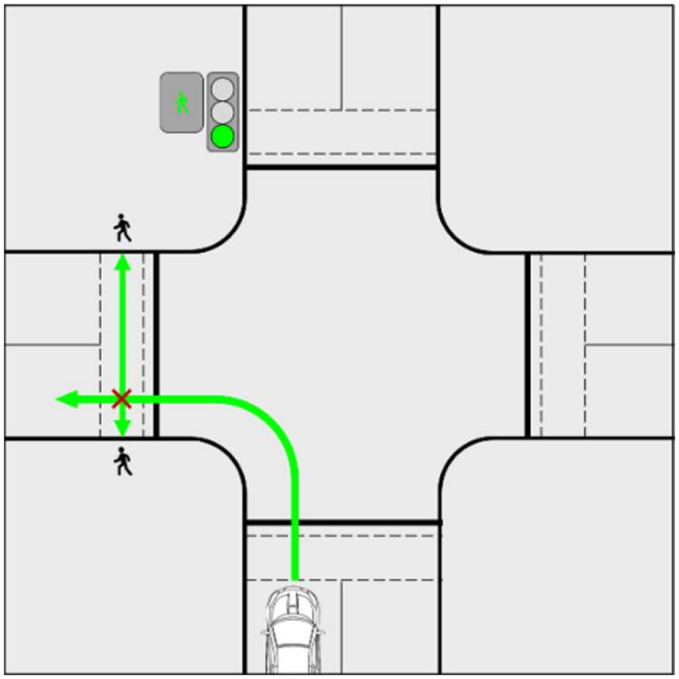
All multilane crossings have been removed in Sydney LGA.

Operations - Green on Green

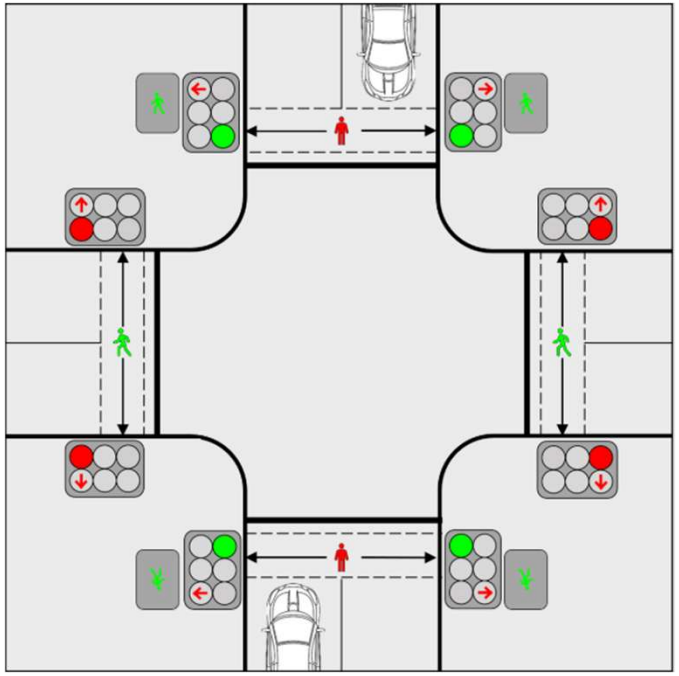
Traffic Signal changes to reduce pedestrian conflict with turning vehicles. This generally consisted of red arrows, where a turning vehicle is delayed, such that pedestrians can establish themselves on a crossing.

All high risk 2 phase sites in NSW have been upgraded, with the program expanding to completely remove this conflict in the coming decade.

Before



After





Operations - GoG Flashing Yellow Arrows

Video Removed, play video 01 from link below on SNUG website

Operations – Rest In Ped



At Rest in Ped sites, the pedestrian phase operates as the arterial phase. Vehicle phases are demanded via detection at the stop line.

This provides a high level of pedestrian service when vehicle volumes are low.

The arterial phase can be modified through XSF for time-of-day operation.

During frequent vehicle demand, operation may resemble conventional signal operation such as Martin Place during peak periods.

Operations – Rest In Ped

Video Removed, play video 02 from link below on SNUG website

Operations - Walk For Green

Wherever one-way streets meet, or there are banned turns, Transport has significantly increased the pedestrian WALK time as there is no conflict.

The image below, at Bathurst and Castlereagh Streets, highlights this functionality.

Note that the traffic signal is green for vehicles and the WALK on the left is still displayed, whereas on the right the flashing DON'T WALK is displayed. This is because eastbound vehicles on Bathurst St may turn right into Castlereagh St.



Operations – Lower Cycle Times

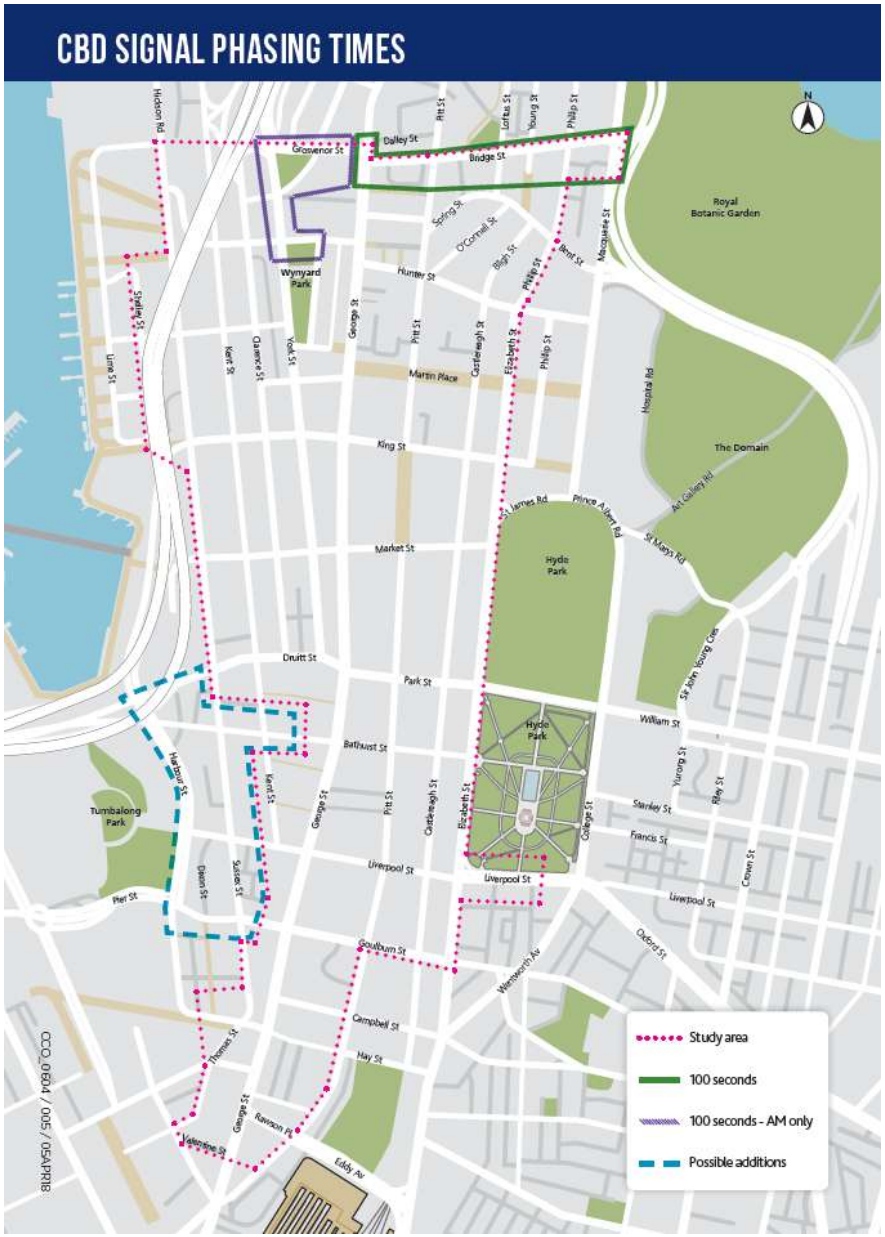
Reduced cycle times increase the rate in which phases are called reducing the delay for pedestrians.

In Sydney CBD at least 20-30 seconds was removed at each intersection.

To enable this the only scramble crossing in the CBD was removed as the clearance time could not fit into 90s.

Traffic signal coordination is maintained when applied across an area.

This was also designed to limit the amount of jaywalking by pedestrians.



Operations – Double Cycling

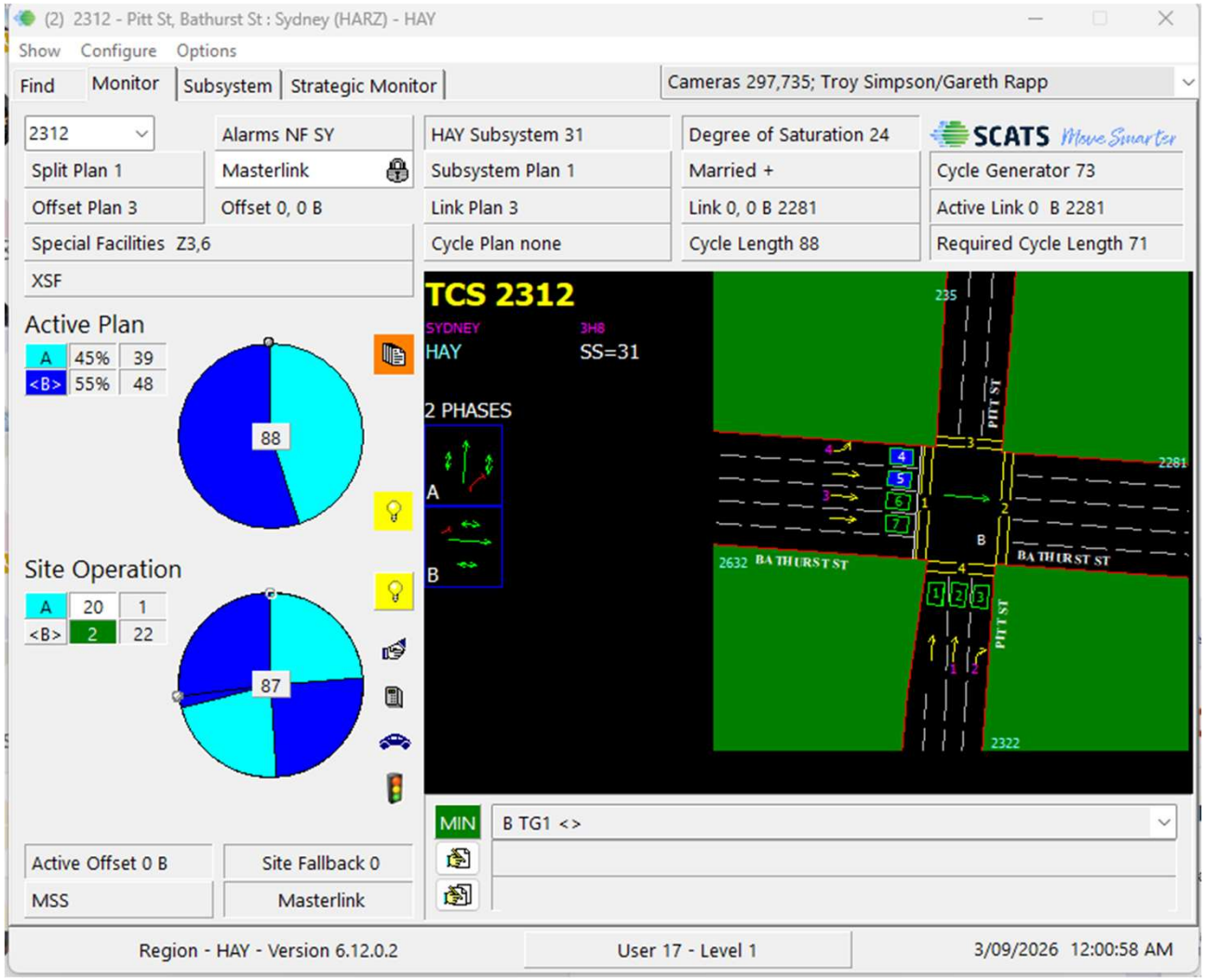
To maintain coordination across a corridor the same cycle time must be used.

An exception to this is when a specific multiple of the common cycle time is used.

The CBD runs on a maximum cycle time of 90 seconds.

Basic sites can be phased at 45 seconds or half the time.

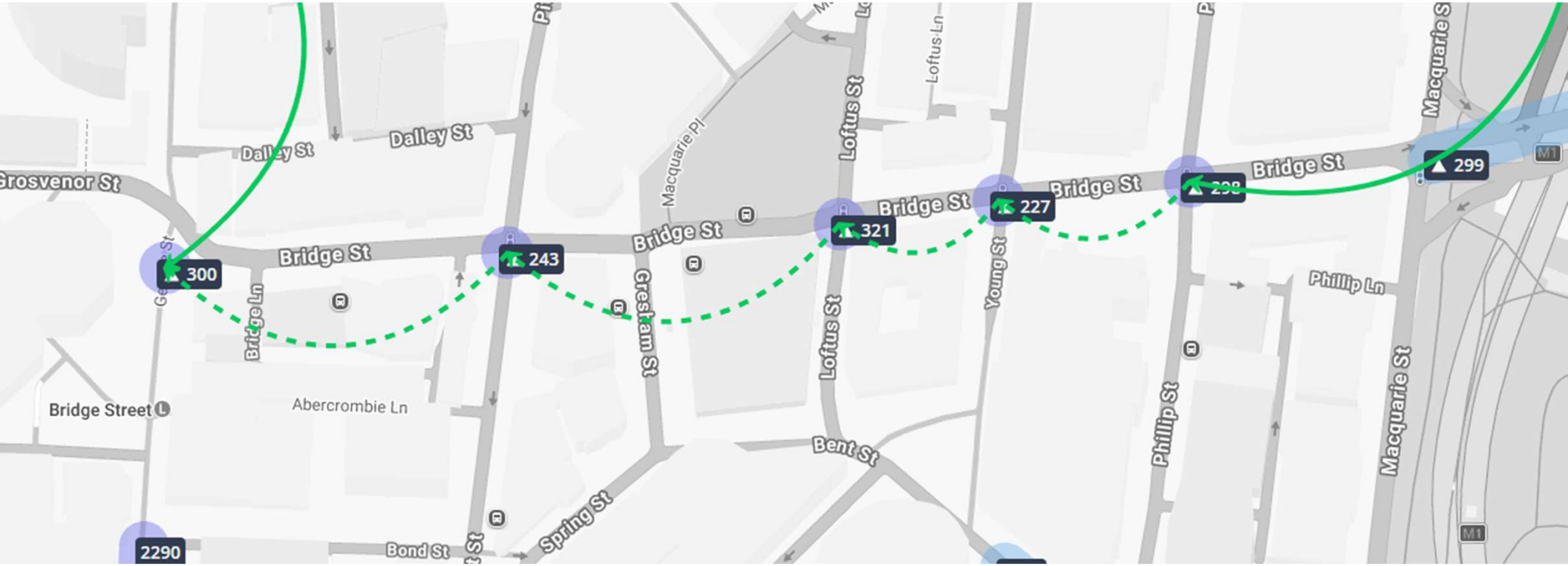
This is commonly referred to as double cycling as shown on the right.



Operations - Divorce isn’t always Bad!

Even in dense CBD networks with intersections only 50 metres apart, reducing LK values can allow corridors to operate independently and respond to local demand.

This creates opportunities to prioritise pedestrians beyond peak periods, rather than optimising signals primarily for a few hours each day.



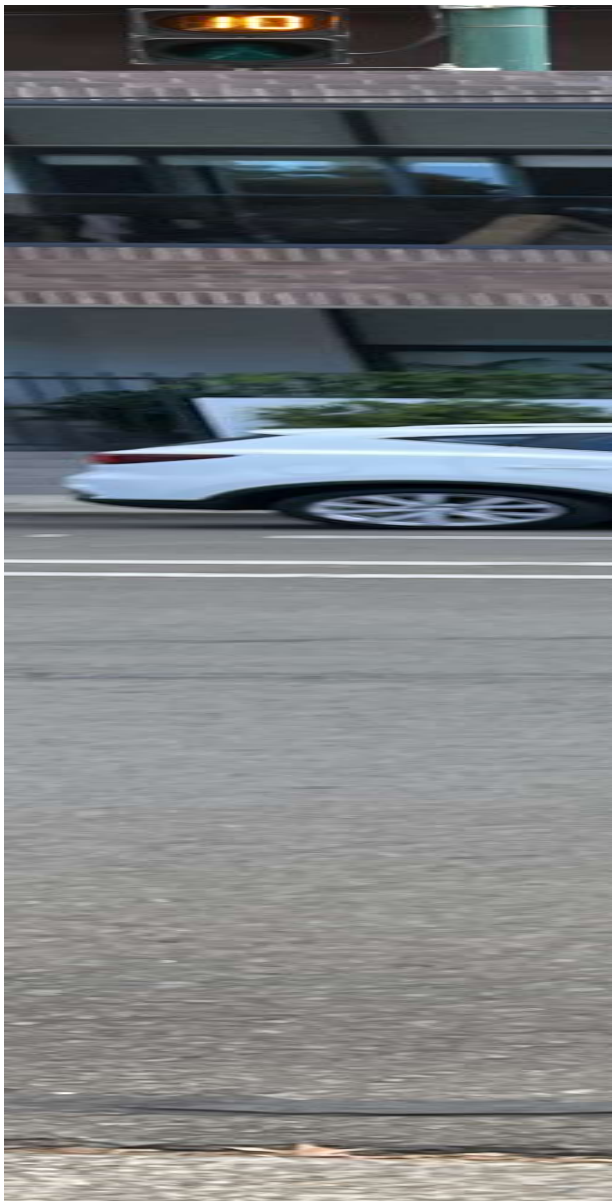
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Operations - PCTs & Permanent Demand

Pedestrian Countdown Timers show how many seconds you have left to finish crossing the road and either replace or support the flashing DON'T WALK Symbol.

They are currently limited to intersections with exclusive pedestrian phases, although trials are underway to expand their usage beyond this. They are very popular and pedestrians consistently request their expansion.

For several decades, the Sydney CBD, together with parts of North Sydney and Parramatta, have had traffic signals that permanently demand the pedestrian phase without the need to push the button.



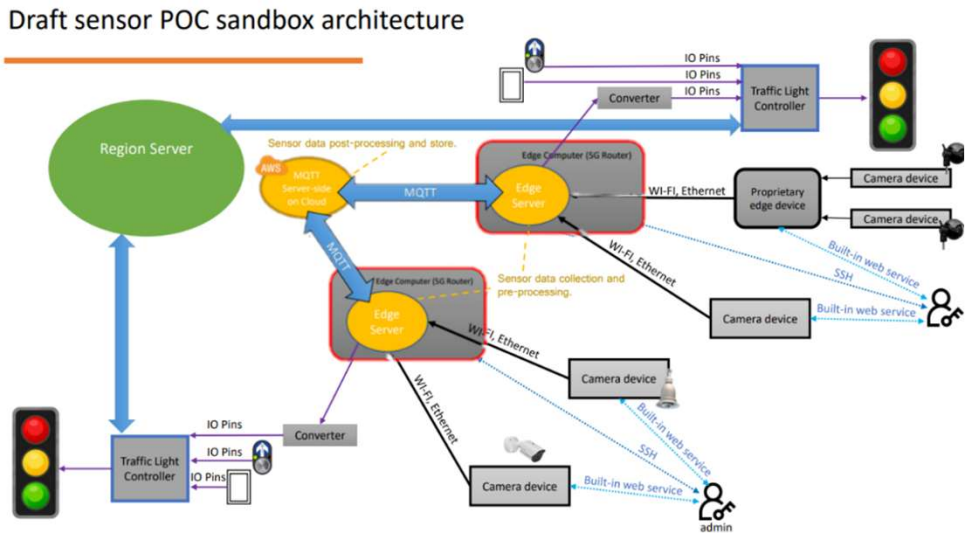
Operations - Pedestrian Sensor Trial

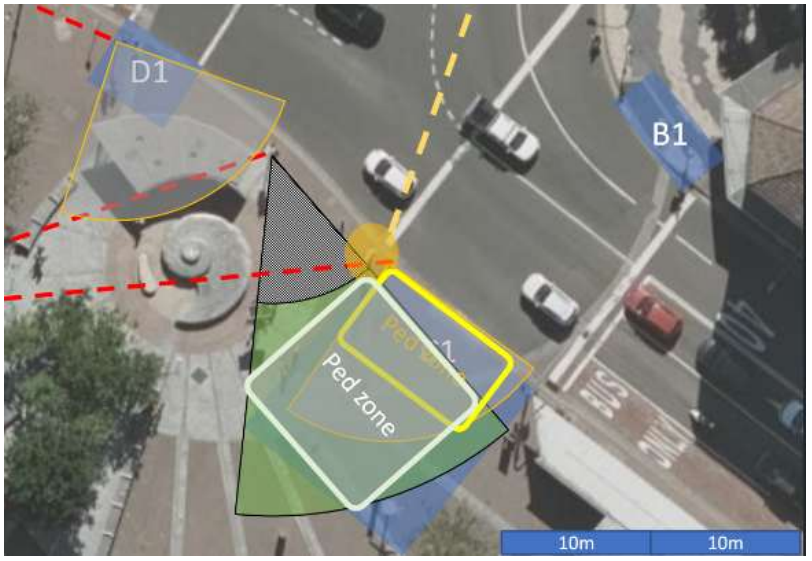
The objectives of the Sensor Trial are to:

- Adaptively respond to varying pedestrian demand by extending WALK time.
- Assess the viability of modern sensors to accurately capture comprehensive traffic data.
- Increase pedestrian safety.
- Test architecture, to facilitate multiple device types in parallel at a second site.
- To verify performance over a variety of conditions.
- To build and test an extensible, scalable sensor agnostic messaging architecture for sensor data.



Fig09. Sensor deployment at Site 863



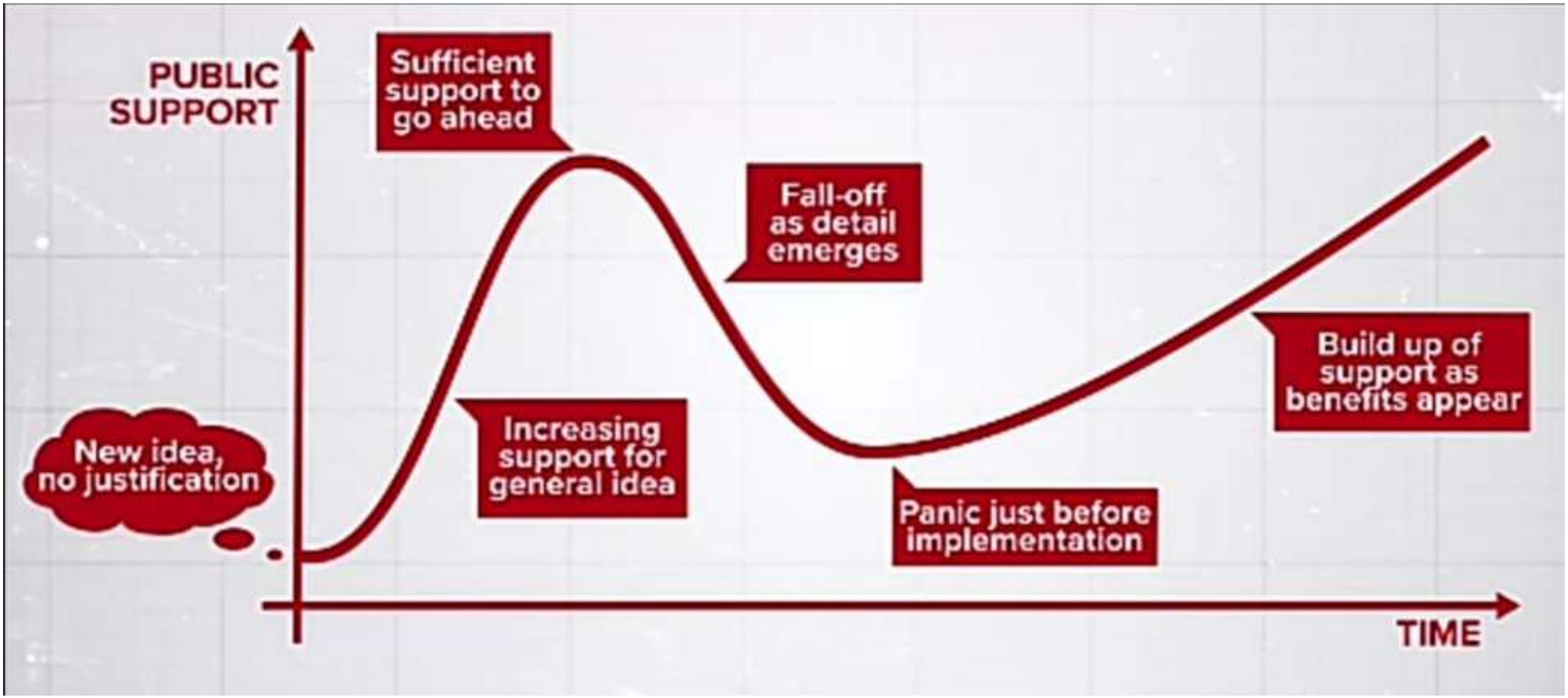


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The Goodwin Curve

Almost every project delivered was the result of relatively minor infrastructure or operational upgrade to traffic signals.

Vocal opposition arose from residents, businesses, lobbyists and even religious premises who were directly affected by the proposals. Once implemented, almost all of these concerns failed to materialise.



Questions?

