Briefing: For Approval

To: John Hardwick

CC: Click here to choose an addressee.

Transport Roads & Maritime Services

Improving pedestrian accessibility in the CBD

Topic: To approve a Minister's Brief that will inform both Ministers of a planned evaluation of improved pedestrian conditions in the CBD from early-January 2018.

Analysis: Transport Coordination and Roads and Maritime have developed a plan to introduce lower cycle times and evaluate the impacts on pedestrians, cyclists, buses, vehicle travel times and traffic flows in the CBD including queue lengths on key corridors.

Key issues

Improving pedestrian accessibility, amenity and safety

The Greater Sydney Commission draft Eastern City District Plan lists developing a more accessible and walkable city as one of ten directions and planning priorities. The Sydney City Centre Access Strategy showed 92 per cent of trips within the city centre are walking trips and this will continue to grow.

Providing shorter waiting times for pedestrians at intersections may assist in reducing the instances of jaywalking in the CBD thus reducing the overall risk of pedestrian crashes. It will also reduce walking trip times making walking a more viable trip alternative in the CBD.

Background

Traffic Lights in the CBD use the Sydney Coordinated Adaptive Traffic System (SCATS) to coordinate vehicle traffic throughput at traffic signals. In order to coordinate traffic lights the total cycle time at every site must be the same for a given route or corridor. Some level of coordination can also be maintained when cycles lengths are half the general time in seconds, this is generally referred to as double cycling.

Traffic lights in the CBD have historically been coordinated at 110 seconds, both to ensure low levels of congestion and due to the complex nature (high number of phases) and overall footprint of the intersections

Each of the traffic signal sites in the study area bounded by and including Bridge Street, Elizabeth Street, Goulburn Street and Kent Street (see Attachment A) have been assessed at cycle lengths of 90 seconds, 100 second and existing 110 seconds. We have also reviewed the impact of double cycling a number of the intersections where the cycle times are half that of the controlling intersections i.e. 45, 50 or 55 seconds.

The links to the traffic light sites adjacent to the study area have also been reviewed to determine if those links can be removed or if additional sites should be included in the evaluation.

There are a number of intersections where it will be difficult to provide all traffic movements within a shorter cycle time and retain the flexibility to adapt to changing traffic conditions. In the medium to long term we could consider banning movements or simplifying intersections where necessary.

It is predicted that the whole CBD study area could operate with a 100 second cycle time in its current arrangement without undue congestion. However, in order to reduce pedestrian wait times as much as possible 90 second cycles are being investigated in the first instance.

Staged introduction of CBD traffic signal cycle time changes

Transport Coordination and Road and Maritime believe there is an opportunity to evaluate the operation of the 90 second cycle times in mid-January 2018 when CBD traffic volumes are low. The introduction of the change would be supported by dedicated monitoring.

Should the initial evaluation prove successful it will be extended into the new year . At any stage if there is an unexpected and significant impact on traffic the evaluation would be scaled back in line with the stages set out below.

Stage one: Introduce 90 second cycle time for all traffic signals in the evaluation area (**Attachment A**) from 7 to 28 January 2018.

Stage two: If required adjust key corridors of Bridge Street, Bathurst Street and Elizabeth Street (shown in green on **Attachment A**) to 100 seconds. The remainder of the evaluation area will stay at 90 seconds.

Stage three: If required adjust all traffic signals in the evaluation area to 100 seconds during the AM peak 7:30am – 9:30am and PM peak 4:00pm – 7:00pm and 90 seconds the rest of the time with the exception of the key corridors (shown in green on **Attachment A**).

Stage four: If required adjust all traffic signals in the evaluation area to 100 seconds at all times.

Stage five: If required return all traffic signals in the evaluation are to their original 110 second cycle time.

Supporting analysis

Financial impact

The evaluation of the changed signal phasing to reduce pedestrian wait times will be managed through CAPEX and will cost s74 - Out of Scope

Consultation

This is a collaborative project between Roads and Maritime Services and Transport Coordination who are responsible keeping Sydney moving. No formal public consultation is proposed pending the outcome of the evaluation. The City of Sydney has made consistent representations to the NSW Government over many years, seeking to have traffic signal cycle times adjusted to provide improved pedestrian conditions.

Neil Forrest **Director Network Integration South East Precinct** *Roads and Maritime Services* s74 - Out of Scope **Date:** 14/12/2017	*Lara Kirchner* **Director South East Precinct** *Roads and Maritime Services* **Date:** 18.12.2017	*Steven Head* **Head of Sydney Planning** *Roads and Maritime Services* s74 - Out of Scope **Date:**

Briefing:
Minister for Transport and Infrastructure
Minister for Roads, Maritime and Freight
FOR INFORMATION

Reducing pedestrian waiting times in the CBD

NSW GOVERNMENT | Transport for NSW

Purpose: To inform both Ministers of a planned evaluation of improved pedestrian conditions in the CBD from early January 2018.

Analysis: Transport Coordination and Roads and Maritime Services have investigated opportunities to improve pedestrian accessibility, amenity and safety in the Sydney CBD, in line with the Greater Sydney Commission draft Eastern City District Plan and the Transport for NSW *Sydney City Centre Access Strategy*.

The Sydney CBD traffic signal network has historically operated with relatively high (110 second) cycle times which are more efficient for traffic, but result in long waiting times for pedestrians. While this is appropriate on many road corridors with high traffic volumes and few pedestrians, it is less appropriate in the highly pedestrianised Sydney CBD.

Transport Coordination and Roads and Maritime have developed a plan to introduce lower cycle times and evaluate the impacts on pedestrians, cyclists, buses, vehicle travel times and traffic flows in the CBD, including queue lengths on key corridors.

Key issues

Improving pedestrian accessibility, amenity and safety

The Greater Sydney Commission draft Eastern City District Plan lists developing a more accessible and walkable city, as one of ten directions and planning priorities. The *Sydney City Centre Access Strategy* showed 92 per cent of trips within the city centre are walking trips and this will continue to grow.

Currently pedestrians experience longer delays at intersections in the CBD than other road users, as a result of different timing and phasing allocations at traffic lights, even though they are often the largest proportion of customers passing through an intersection.

Providing shorter waiting times for pedestrians at intersections may assist in reducing the instances of jaywalking in the CBD thus reducing the overall risk of pedestrian crashes. It will also reduce walking trip times, making walking a more viable trip alternative in the CBD.

Evaluation of planned change

Each of the traffic signal sites in the evaluation area, bounded by and including Bridge, Elizabeth, Goulburn and Kent streets (see **Attachment A**) have been assessed at cycle lengths of 90 seconds, 100 second and the existing 110 seconds.

The complexity of the CBD road network makes it difficult to accurately predict the impacts of the different cycle times. However, in general terms, the reduction in cycle times may increase the risk of impacting on traffic. There is a high degree of confidence that the 100-second cycle time could be introduced without significant impact on existing traffic conditions. There is less certainty surrounding 90-second cycle times which would provide a more significant benefit to pedestrians.

Staged introduction of CBD traffic signal cycle time changes

Transport Coordination and Road and Maritime believe there is an opportunity to evaluate the operation of the 90 second cycle times from 7 January 2018, when CBD traffic volumes are low. The introduction of the change would be supported by dedicated monitoring.

The evaluation would continue through February 2018, when schools and businesses have fully resumed, then into March and beyond, when universities start and traffic has returned to normal volumes. This will allow for continuous assessment of the reduced cycle times on the network. At any stage if there is an unexpected and significant impact on traffic, the evaluation can be scaled back in line with the stages below.

Stage one: Introduce 90 second cycle time for all traffic signals in the evaluation area (**Attachment A**) from 7 January 2018.

Stage two: If required, adjust key corridors of Bridge, Bathurst and Elizabeth streets (shown in green on **Attachment A**) to 100 seconds. The remainder of the evaluation area will stay at 90 seconds.

Stage three: If required, adjust all traffic signals in the evaluation area to 100 seconds during the morning peak 7.30am to 9.30am and evening peak 4pm to 7pm and 90 seconds the rest of the time, with the exception of the key corridors (shown in green on **Attachment A**).

Stage four: If required, adjust all traffic signals in the evaluation area to 100 seconds at all times.

Stage five: If required, return all traffic signals in the evaluation area to their original 110 second cycle time.

Supporting analysis

Financial impact

The evaluation of the changed signal phasing to reduce pedestrian wait times will be managed through capex and will cost s74 - Out of Scope

Consultation

This is a collaborative project between Roads and Maritime and Transport Coordination who are responsible keeping Sydney moving. No formal public consultation is proposed pending the outcome of the evaluation. The City of Sydney has made consistent representations to the NSW Government over many years, seeking to have traffic signal cycle times adjusted to provide improved pedestrian conditions.

Agency Approval

John Hardwick Executive Director Sydney Roads and Maritime Services s74 - Out of Scope Date: 18/12/2017	Ken Kanofski Chief Executive Roads and Maritime Services Date: 18/12/2017	
Steve Issa Executive Director Operations and Planning Sydney Transport Coordination Office s74 - Out of Scope Date: 11/12/2017	Marg Prendergast Coordinator General Transport Coordination Office Date: 18/12/17	~~Rodd Staples~~ STEPHEN TROUGHTON Acting Secretary Date: 19/12/17

Ministers

Minister for Transport and Infrastructure s74 - Out of Scope Noted Date: 24/12/17	Minister for Roads, Maritime and Freight ~~Noted~~ Date:

TfNSW will wait until both Ministers have noted before any action is taken. A separate brief will be send to each Minister.

Background

Historically, traffic lights in the CBD have been coordinated at relatively high cycle times of 110 seconds due to heavy traffic demands, the complex nature of a number of key intersection sites, the short block lengths and the overall footprints of the intersections.

Since 2014, Transport Coordination and Roads and Maritime have worked to deliver a number of initiatives to improve traffic flow within the core of the Sydney CBD, which has included:

- Tomorrows Sydney Campaign.
- Travel Choices (Travel Demand Management).
- Sydney City Centre Capacity Improvement project – Improve traffic flow on the outer perimeter of the CBD to prioritise the CBD core for pedestrians and public transport.

Over that period, there has been a continued reduction in private vehicle trips entering the CBD core in the morning peak period, which has improved traffic flow in the Sydney CBD and has enabled the proposed reduction in traffic signal cycle times.

Attachments

Attachment	Title
A	Map of CBD signal phasing times

Briefing:
Minister for Transport and Infrastructure
Minister for Roads, Maritime and Freight
FOR INFORMATION

Improved pedestrian accessibility in the CBD

Purpose: To inform both Ministers of the outcomes of evaluation of improved pedestrian conditions in the CBD.

Analysis: Transport Coordination and Roads and Maritime Services have investigated opportunities to improve pedestrian accessibility, amenity and safety in the Sydney CBD in line with the Greater Sydney Commission draft district plan and the Transport for NSW Sydney City Centre Access Strategy.

The Sydney CBD traffic signal network has historically operated with relatively high (110 second) cycle times which are more efficient for traffic but result in long waiting times for pedestrians. While this is appropriate on many road corridors with high traffic volumes and few pedestrians it is less appropriate in the highly pedestrianised Sydney CBD.

Transport Coordination and Roads and Maritime have developed a plan to introduce lower cycle times and evaluate the impacts on pedestrians, buses, vehicle travel times and traffic flows in the CBD including queue lengths on key corridors.

Key issues

Evaluation of the reduced signal phasing times

The evaluation of the improved pedestrian conditions through reduced cycle times has been a success, with all signals continuing to operate at 90 seconds with the exception of:

- Bridge Street, as shown in green (Attachment B),
- York Street at Grosvenor, Jamison/Lang and Margaret Streets and Margaret Street at Carrington Street in the AM peak as on shown in purple (Attachment B).

Both of these are now operating at a 100 second cycle time. We will be assessing these locations to seek opportunities to revise back to 90 seconds over the next 12 months

The evaluation of the 90 second cycle times to reduce pedestrian delays in the CBD in commenced in early January 2018. It was monitored for a three month period by RMS with Sydney Coordination Office (SCO) assistance.

The evaluation has resulted in reduced cycle phasing times in the CBD with the majority remaining at 90 seconds and a handful operating at 100 seconds. None of the signal phasing in the evaluation area were returned to the 110 second cycle times.

Supporting analysis

The evaluation included an assessment on the impact of buses, pedestrians and vehicles in the CBD.

Buses continued to operate normally during the evaluation. Comparison of data for bus travel times on Elizabeth and York/Clarence Streets in the AM and PM peak one hour. In general travel times for buses on Elizabeth Street and York/Clarence in the AM peak are arriving

earlier than scheduled compared to last year. And Elizabeth Street PM has an improved running time while York/Clarence has variable travel times.

Analysis of pedestrian data for a number of north-south and east-west walking corridors showed that the average dwell time at signals for pedestrians has reduced for all intersections in the CBD.

General traffic vehicle travel times were operating as normal with the exception of a couple locations in the CBD. The only locations where the phasing was changed were:

- Bridge Street (in early February) where the intersection of Bridge Street and Grosvenor Street was unable to maintain the 90 second phasing. This resulted in queueing from Bridge, and Grosvenor Streets along Lang and York Streets. The signal timing was changed at Bridge Street from George Street to Macquarie Streets to 100 sec to reduce queuing.
- York Street at Grosvenor, Jamison/Lang and Margaret Streets and Margaret Street at Carrington Street in the AM peak. In early March the Sydney Harbour Bridge tollbooths were removed and the off ramps were realigned these changes impacted the northern part of the CBD, resulting in a change of the phasing to 100 seconds phasing on these streets in the AM peak.

Consultation

This is a collaborative project between Roads and Maritime Services and Transport Coordination who are responsible keeping Sydney moving. No formal public consultation is proposed pending the outcome of the evaluation. The City of Sydney has made consistent representations to the NSW Government over many years, seeking to have traffic signal cycle times adjusted to provide improved pedestrian conditions.

Agency Approval

John Hardwick ***Roads and Maritime Services*** **Date:**	***Ken Kanofski*** **Chief Executive** ***Roads and Maritime Services*** **Date:**	
Steve Issa **Executive Director Operations and Planning** ***Sydney Coordination Office*** **Date:**	***Marg Prendergast*** **Coordinator General** ***Transport Coordination Office*** **Date:**	***Rodd Staples*** **Secretary** ***Transport for NSW*** **Date:**

Ministers

Minister for Transport and Infrastructure	Minister for Roads, Maritime and Freight
Noted	Noted
Date:	Date:

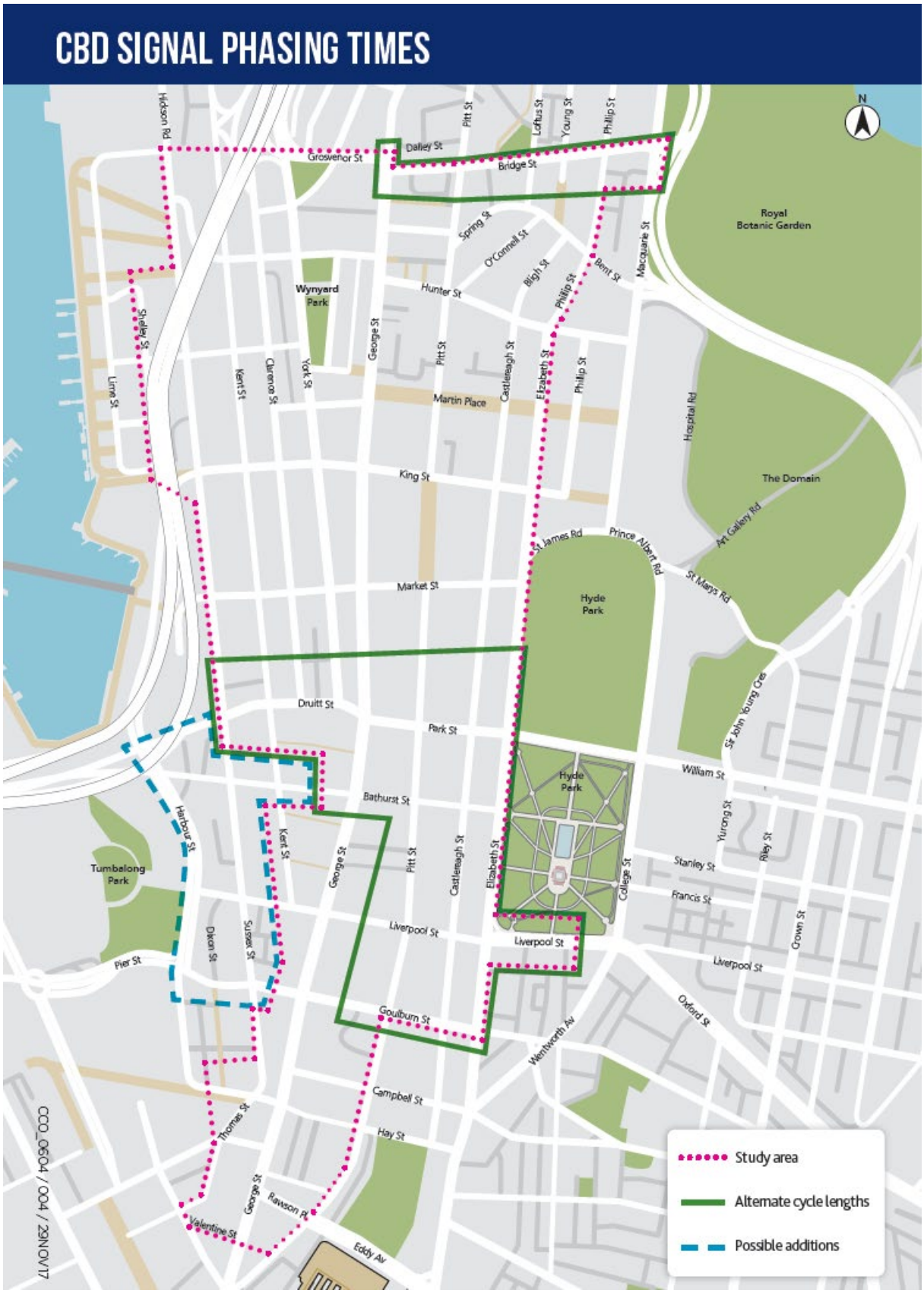
TfNSW will wait until all Ministers have noted before any action is taken. A separate brief was sent to each Minister.

Attachments

Attachment	Title
A	Map of original CBD area for evaluation
B	Map of Revised CBD signal phasing times

Attachment A

Map of Original CBD Signal Phasing Times



Attachment B

Map of Revised CBD Signal Phasing Times