

5. HOMEBUSH NORTH PRECINCT

5.1 Uplift Development Summary

The proposed redevelopment in Homebush North precinct would result in:

- 479 medium density residential dwellings
- 517m² GFA of retail development
- 30,763m² GFA of commercial development.

The Homebush North Precinct will retain its residential nature and a (B7) Business Park zone will be added to the precinct. Most residential developments are proposed near the train station and provide proximate pedestrian access to the station.

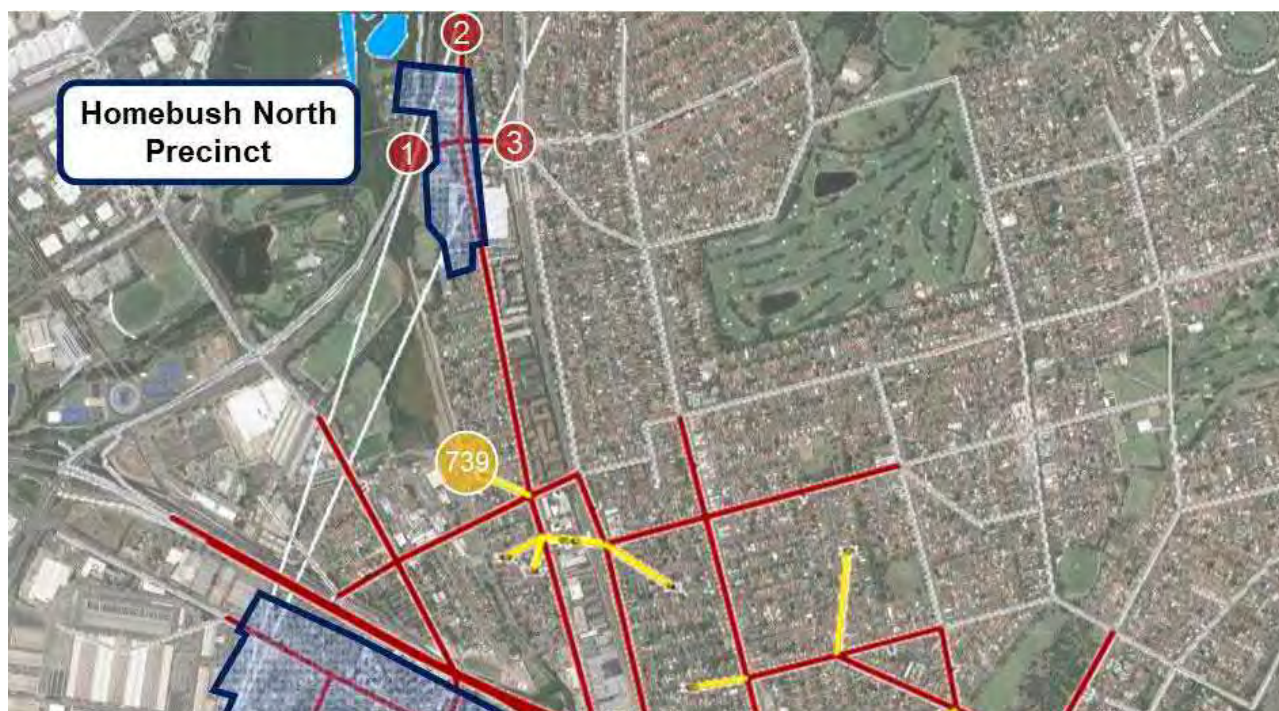


Source: Nearmap

Figure 5-1: Homebush North Precinct Proposed Rezoning Areas

5.2 Traffic Generation

Figure 5-2 shows the STFM zones which are associated with the Homebush North precinct's catchment. There are a total of three external zones (Zones 1, 2 and 3) and one internal zone (Zone 739).



Source: Google Maps

Figure 5-2: Homebush North Precinct - STFM Zones

The total traffic generation estimated in the STFM for the zones within the Homebush North catchment is summarised in Table 5-1. Due to the coarseness of the STFM zoning system, these numbers include additional catchments and their respective but relatively minor future growth from just outside of the precinct.

Table 5-1: Homebush North Traffic Generation and Growth from 2019

Scenario	Traffic OUT (veh)	Traffic IN (veh)	Total TWO-WAY (veh)
AM 2-Hour			
2019 AM	820	843	1,663
2026 AM No Dev	755	627	1,382 (-281)
2026 AM with Dev	938	719	1,657 (-6)
2036 AM No Dev	772	617	1,389 (-274)
2036 AM with Dev	1,542	979	2,521 (+858)
PM 2-Hour			
2019 PM	673	1,341	2,014
2026 PM No Dev	509	1,207	1,716 (-298)
2026 PM with Dev	591	1,498	2,089 (+75)
2036 PM No Dev	521	1,225	1,746 (-268)
2036 PM with Dev	868	2,294	3,162 (+1,148)

The STFM does show some reductions in traffic in the AM peak, presumably due to modal shift trips associated with existing development.

5.3 Integrated Strategic Response

An integrated local area strategic response has been developed for this precinct based on the traffic modelling and gaps and needs analysis detailed in Chapter 4. The following measures have been considered:

- Road network upgrades
- Public transport (Train/Metro/Bus) upgrades
- New pedestrian connections and footpaths
- New cycleway connections
- Parking provision strategies and restrictions
- Car share provisions
- Local street network changes.

The Homebush North integrated strategic response is shown in Figure 5-3.

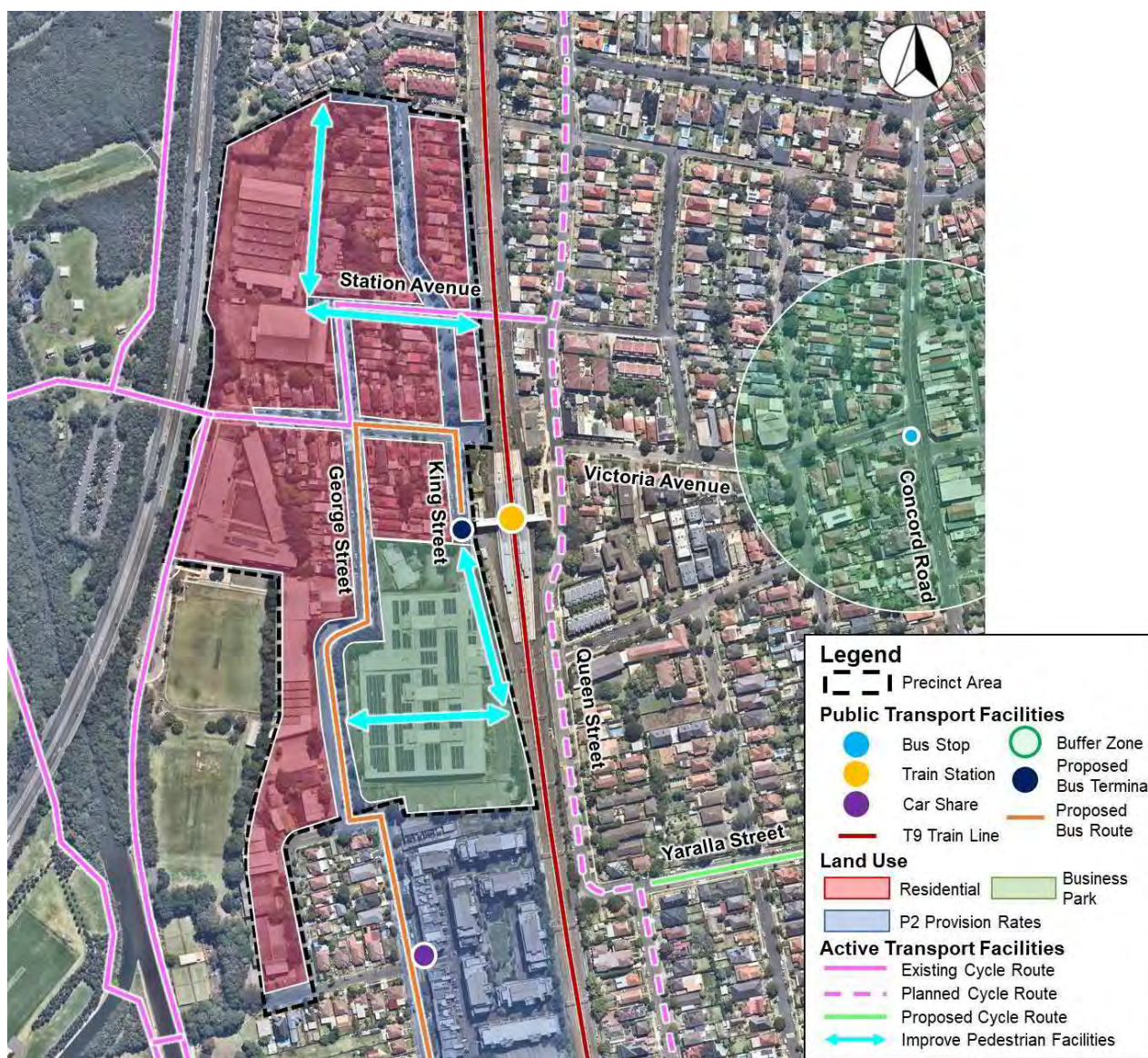


Figure 5-3: Homebush North Precinct - Integrated Transport Strategic Response

5.4 Road Network Upgrades

5.4.1 General

No major traffic upgrades are proposed in this precinct. The roads and intersections within the precinct operate satisfactorily in 2036 and most of the congestion issues that the development uplift influences to are to the south of the precinct. Major upgrades at those locations would not solve these issues because they would simply transfer delays to the already congested Parramatta Road. A more measured, locally sensitive approach to queue and movement management has been adopted.

5.4.2 George Street / Pomeroy Street

The intersection of George Street / Pomeroy Street is not located within the Homebush North precinct however it is directly impacted as a result of growth in both Homebush precincts due to its traffic travelling to and from Parramatta Road. The intersection is geometrically constrained, and has long queues and delays caused by the traffic signals.

Existing Intersection Arrangement

Based on the SCATS data collected for this intersection, the signals currently operate with an A-B-C phase sequence (shown below in Figure 5-5). The intersection runs with filtered right turns on both George Street and Pomeroy Street, with a single dedicated trailing right turn phase from Pomeroy Street (eastern railway bridge).



Source: Nearmap

Figure 5-4: George Street / Pomeroy Street Current Phase Sequence

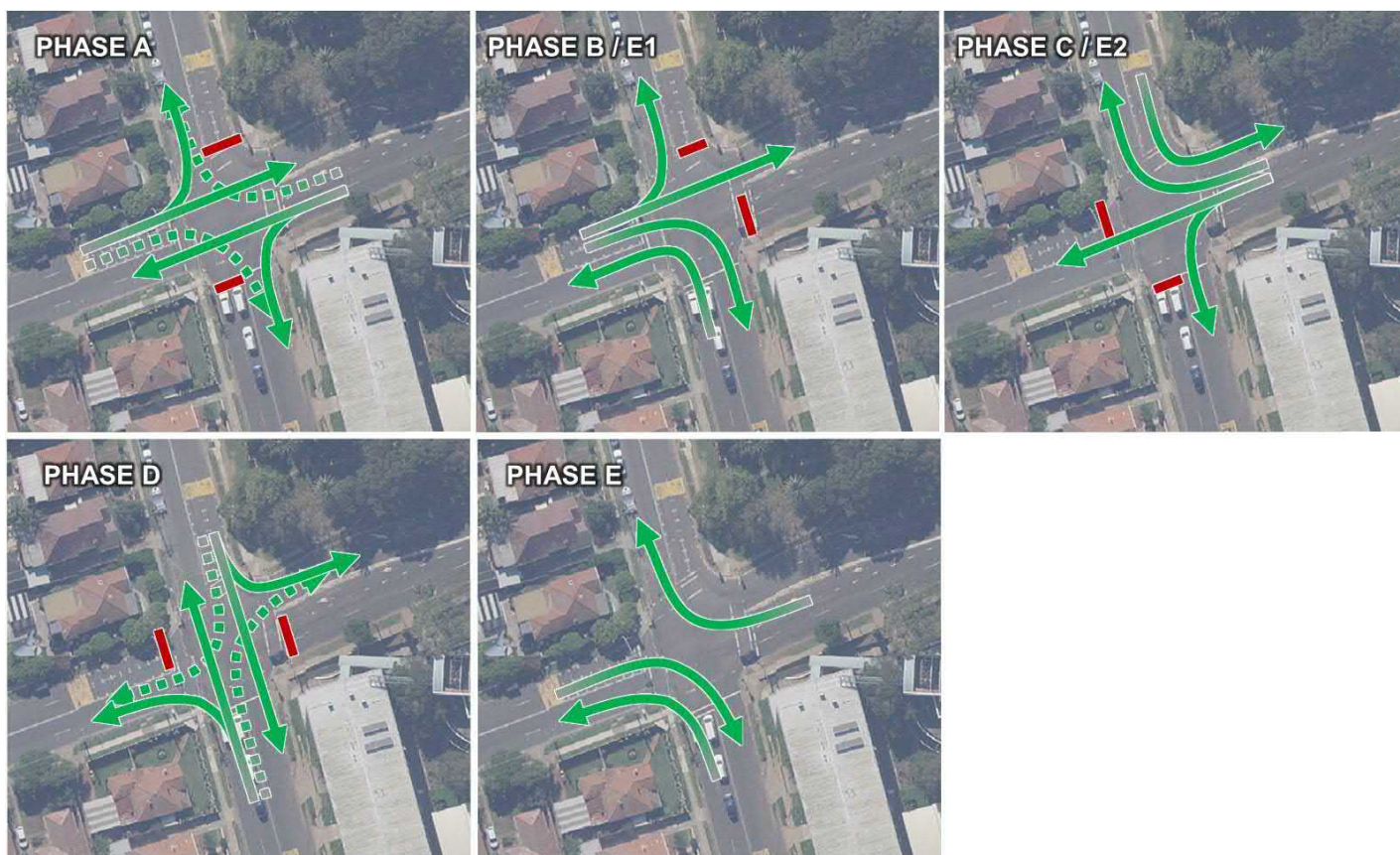
With the existing intersection arrangement and signal phasing, future year traffic congestion is caused primarily by filtering right turning traffic. This applies to both Pomeroy Street and George Street traffic, with the growth in traffic from the precinct, plus additional traffic from major external roads like Homebush Bay Drive to the north-west. Filtering traffic rarely finds an opportunity to safely turn, particularly for the west-to-south turn against traffic coming across the railway bridge on Pomeroy Street.

Future Intersection Arrangement

It is understood that Canada Bay Council has plans to upgrade the intersection as follows:

- New dedicated short right turn bay on the west approach (Pomeroy Street)
- New left turn slip lane from the northern approach (George Street) to the eastern departure (Pomeroy Street)
- Changed to single diamond overlap signal phasing (on Pomeroy Street).

The planned signal phase changes are shown in Figure 5-5, not including conditional movements to allow pedestrian crossing actuations.



Source: Nearmap

Figure 5-5: George Street / Pomeroy Street Proposed Phase Sequence

Council’s proposed arrangement for the George Street / Pomeroy Street traffic signals includes a change to diamond signal phasing and a new slip lane on the north approach. Compared to the modelled arrangement (which retains existing geometry but introduces a new dedicated right turn phase for Pomeroy Street traffic), the proposed arrangement should show improved efficiency of the traffic signals and lower average delays due to the slip lane. However, the proposed addition of a new right turn bay on the western approach will reduce through traffic to a single lane, which may lead to residual queueing on this approach under future, higher traffic demands.

To support the diamond signal phasing, the existing signal lanterns for the southern and western approaches will need to be upgraded from 3-aspect lanterns to 6-aspect lanterns.

5.4.3 Underwood Road / Pomeroy Street

The intersection of Underwood Road / Pomeroy Street experiences similar issues to that of George Street / Pomeroy Street, with long queues caught behind filtering right turning vehicles or on side roads with insufficient capacity to meet the demand. As part of the ‘Do Minimum’ upgrades (see Section 4.4.1), changes were made to this intersection to facilitate greater capacity for right turn movements. To address additional congestion issues at this intersection, the following action is proposed.

Signal Phase Changes

Based on the SCATS data collected for this intersection, the signals currently operate with an A-B-C-D phase sequence as shown below in Figure 5-6. Phase E does not run during peak hours. The intersection runs with a key filtered right turn from Underwood Road to Pomeroy Street. While there are dedicated Phases B and E to support this movement, their corresponding phase times are too short to cater for future year traffic growth.



Source: Nearmap

Figure 5-6: Underwood Road / Pomeroy Street Current Phase Sequence

To reflect the increasing importance of turning movements and in this case the right turning movements in the future at this intersection, the following changes were made to the signal phasing:

- Reduction of cycle time from around 120 seconds to 80 seconds.
- Modified phase sequence from A-B-C-D to A-C-D-E (i.e. changing from a lagging right turn phase to a leading right turn phase).
- Increased relative phase time for Pomeroy Street (E) approach from George Street (Phase C) and the protected Underwood Road right turn phase (Phase E).

These changes were undertaken on the basis of SIDRA intersection modelling of the intersection to determine optimum phase timings. This sequence benefits heavy right turn flows like those on the east-to-north movement or north-to-east movement. For safety reasons, the transition from Phase E to Phase A would require the northbound right turn signal to pass through a red interphase period, only dropping to off in Phase A after the through flow is established.

5.5 Public Transport Initiatives

The Homebush North precinct relies on the T9 Line and Concord West Train Station. This area is currently partly serviced by buses. The T9 Line provides excellent loop connection from Hornsby to Concord West and then Gordon via Central Station with the capability to change line at Strathfield Station for access to Parramatta, Central Coast, Blue Mountains and South West.

King Street is an appropriate location (subject to some geometry upgrades to provide bus turnaround area) for construction of a bus terminal immediately next to Concord West train station to provide bus connectivity to the surrounding residential and commercial neighbourhoods. This may require some encroachment onto the surrounding private property or into the adjacent rail corridor.

A new bus route could be provided from the south and along George Street and provide connections to east and west along Parramatta Road.

The existing and proposed public transport infrastructure in the Homebush North precinct is shown in Figure 5-7.



Figure 5-7: Proposed Public Transport Improvements

5.6 Active Transport Initiatives

Based on the Strava Heat Maps for the Homebush North precinct, pedestrian activity is relatively low. To encourage an increase in walking and cycling, east-west and south-north pedestrian links have been proposed for the residential area in the north of the precinct. Also, an east-west and a south-north pedestrian connection has been recommended crossing the proposed Business Park to provide a safe and accessible connection for business park staff and visitors to / from Concord West Train Station. Whilst not shown in Figure 5-8, there would also be some benefits in a pedestrian connection over the rail line from Yaralla Street into the southern end of the precinct, subject to further discussions with stakeholders.

In terms of cycleways, the precinct is well connected to the local network, with a mostly off-road route along the western edge of the precinct connecting south towards Homebush and north towards Rhodes. The route is also connected to Concord West Station and a railway underpass via local streets within the precinct. Canada Bay Council's draft bike plan has nominated Queens Street as a future north-south cycle route. An additional connection is being proposed in this study between the proposed cycle route on Queens Road and the existing cycle route on Nullawarra Avenue via Yaralla Street. Victoria Avenue and Wilga Street may be considered as an alternative connection.

The existing and proposed active transport infrastructure in the Homebush North precinct is shown in Figure 5-8.

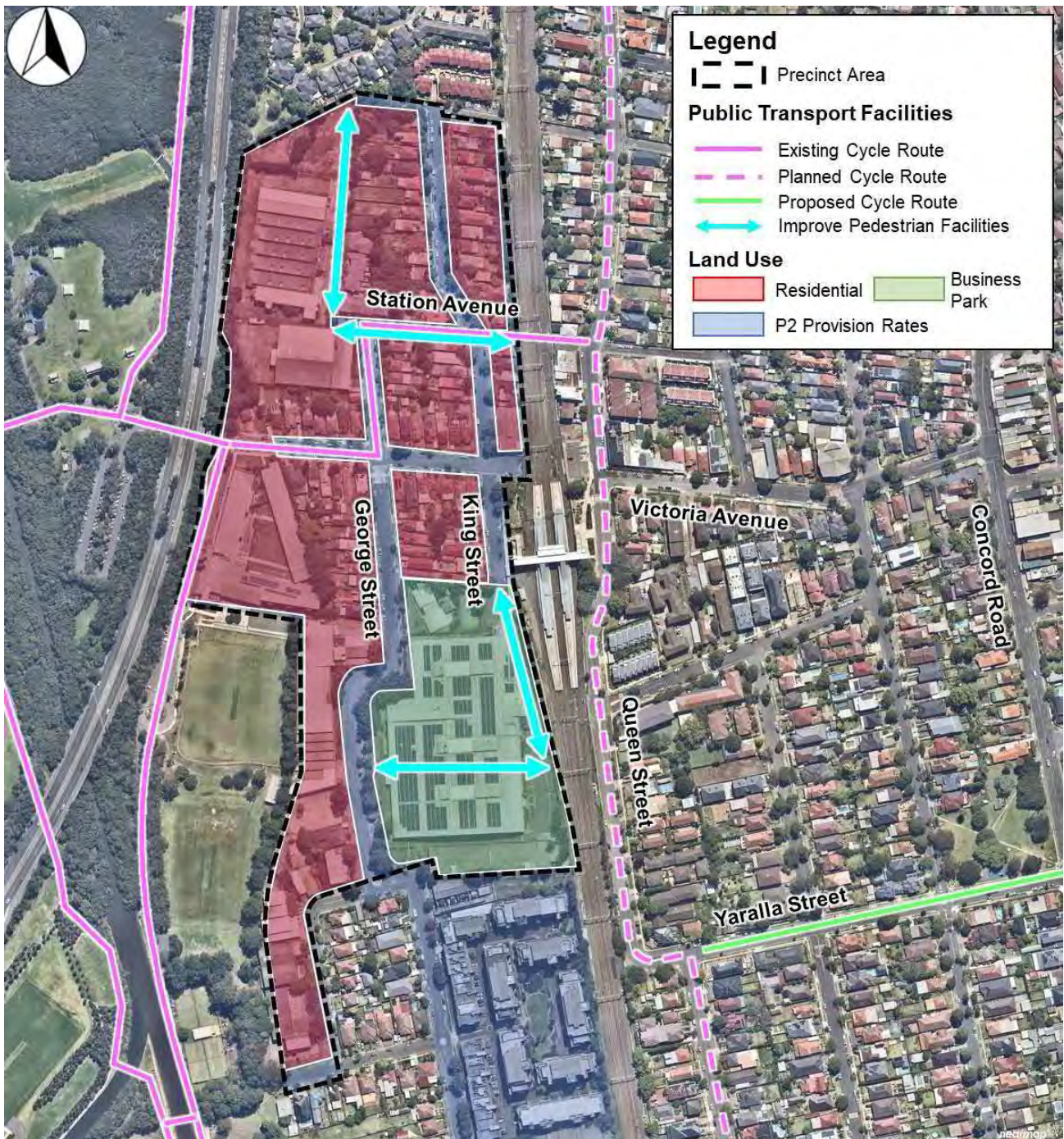


Figure 5-8: Proposed Active Transport Improvements

5.7 Parking Initiatives

5.7.1 Off Street Parking

The Homebush North precinct includes a train station and a proposed bus route but the number and scale of destinations that can be reached quickly is relatively small. Given this, the area would be suitable for a 'P2' parking supply categorisation as per Section 4.7.2, as shown in Figure 5-9.

Depending on the configuration of the developments within the business precinct, it may be that a single consolidated off-street parking area may be better than individual, development-specific provisions.



Figure 5-9: Proposed Development Parking Rates Category

5.7.2 On-Street Parking

With Parramatta Road being a 24 hour Clearway near this precinct, the parking demand associated with Parramatta Road land uses would largely be on its side streets. However, the development of the Homebush North precinct is unlikely to impact this parking demand or supply given its distance away from Parramatta Road.

5.8 Car Share Initiatives

A car share pod (or pods) has been proposed to be located on George Street near Conway Street. The precinct could certainly benefit from additional car share pods given proposed commercial facilities and business park in the area.



Figure 5-10: Existing Share Car Pods Coverage Area South of Homebush North Precinct

5.9 Local Street Considerations

The proposed area to the north of Station Avenue could be further divided, as development occurs, to provide a north-south and east-west laneway, reducing street block lengths to under 100m.

Similarly, a new road connection from Victoria Avenue public school to George Street and across to King Street, aligned with the Station overpass and the interface between the business park and residential area, would also be advantageous, if development staging permits.

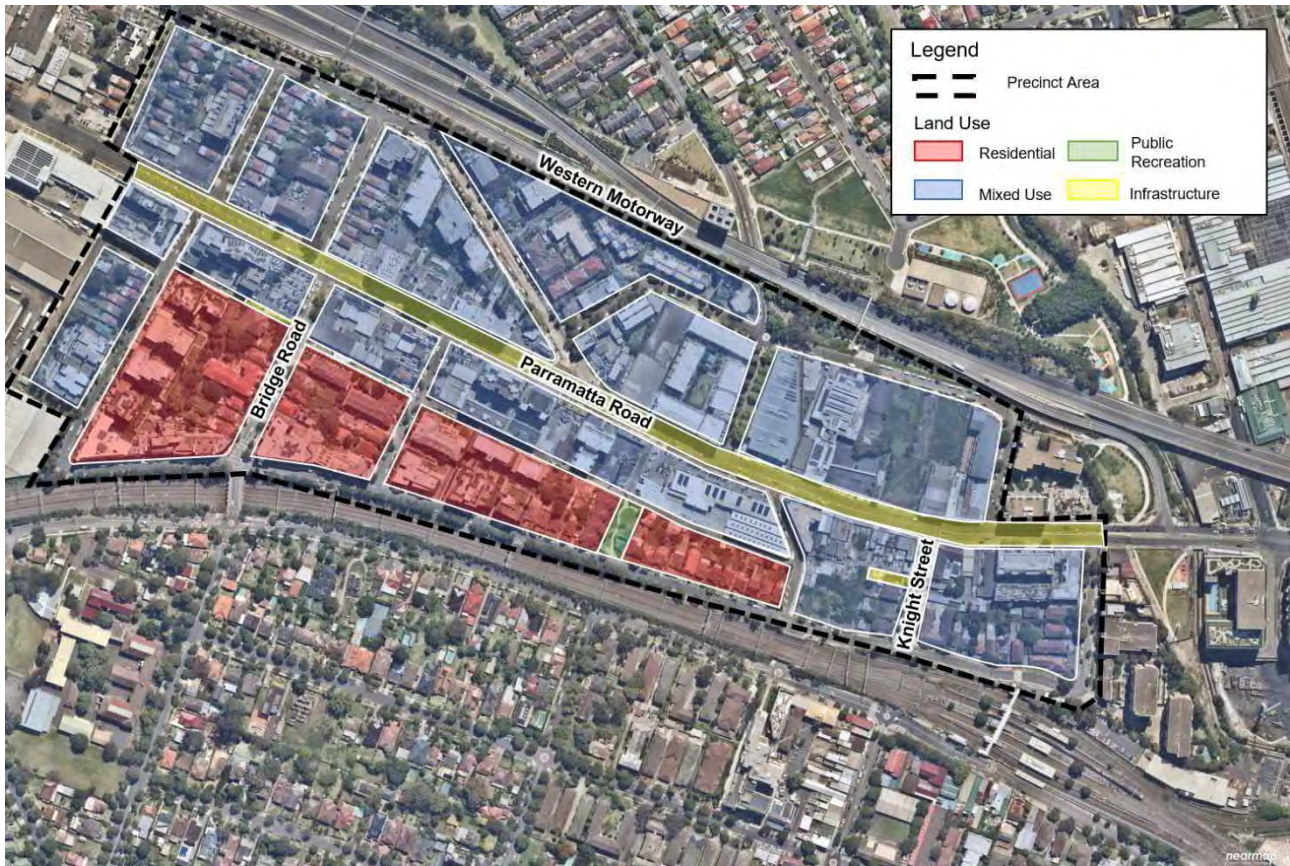
6. HOMEBUSH SOUTH PRECINCT

6.1 Uplift Development Summary

The proposed redevelopment in the Homebush South precinct would result in:

- 4,399 medium density residential dwellings
- 37,333m² GFA of retail
- 65,769m² GFA of commercial.

Most of the Homebush South Precinct will transition into (B4) Mixed Use premises with residential uses retained north of the rail line but as (R3) Medium Density residential. The proposed land rezoning is shown in Figure 6-1.

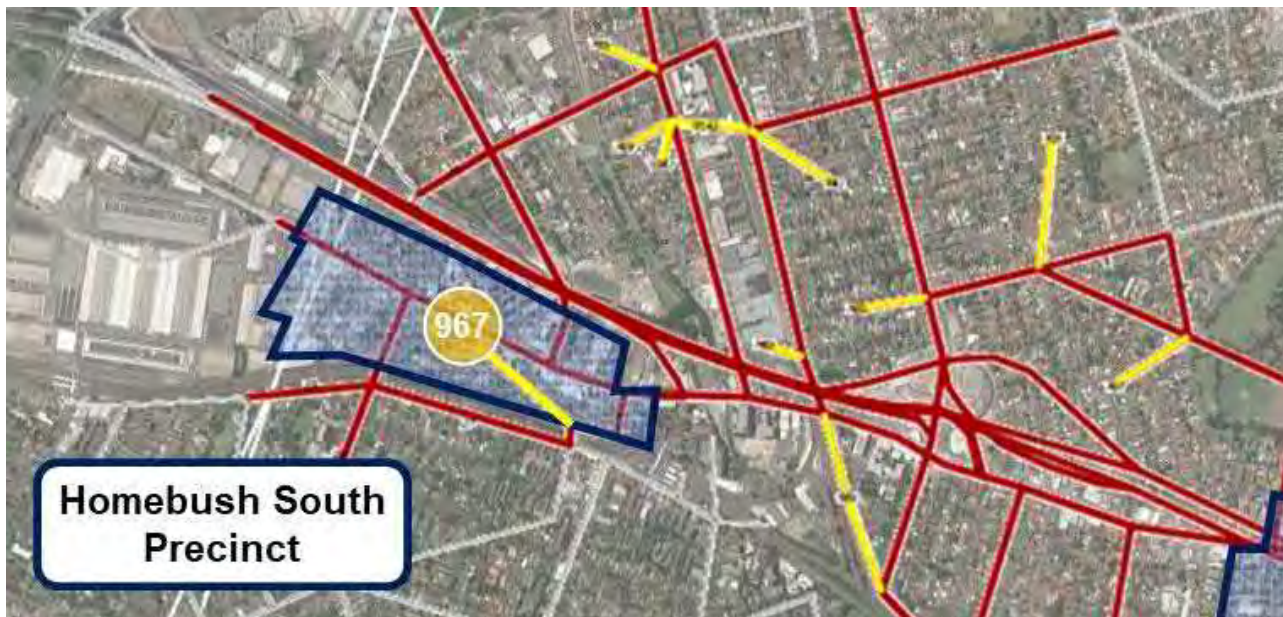


Source: Parramatta Road Transformation Homebush - RobertsDay

Figure 6-1 Homebush South Precinct Proposed Rezoning Areas

6.2 Traffic Generation

Figure 6-2 shows the STFM zone (967) which covers most of the Homebush South precinct.



Source: Google Maps

Figure 6-2: Homebush South Precinct - STFM Zones

The traffic generation forecast by the STFM for the Homebush South zone is shown in Table 6-1.

Table 6-1: Homebush South Traffic Generation and Growth from 2019

Scenario	Traffic OUT (veh)	Traffic IN (veh)	Total TWO-WAY (veh)
AM 2-Hour			
2019 AM	567	280	847
2026 AM No Dev	354	214	568 (-279)
2026 AM with Dev	993	564	1,557 (+710)
2036 AM No Dev	350	219	569 (-278)
2036 AM with Dev	1,015	605	1,620 (+773)
PM 2-Hour			
2019 PM	379	606	985
2026 PM No Dev	283	384	667 (-318)
2026 PM with Dev	732	1,079	1,811 (+826)
2036 PM No Dev	288	384	672 (-313)
2036 PM with Dev	777	1,110	1,887 (+902)

Similar to the Homebush North precinct, the STFM shows some decline in AM peak demand, presumably due to modal shift, but without a commensurate reduction in PM peak traffic growth.

6.3 Integrated Strategic Response

The proposed development uplift plus background traffic growth has triggered the need for a set of network road upgrades as well as active transport and public transport improvements to cater for future travel demands. These improvements have considered:

- New pedestrian connections and footpaths
- New cycleway connections
- Parking provision strategies and restrictions
- Car share provisions
- Local street network changes.

The Homebush South integrated strategic response is shown in Figure 6-3.

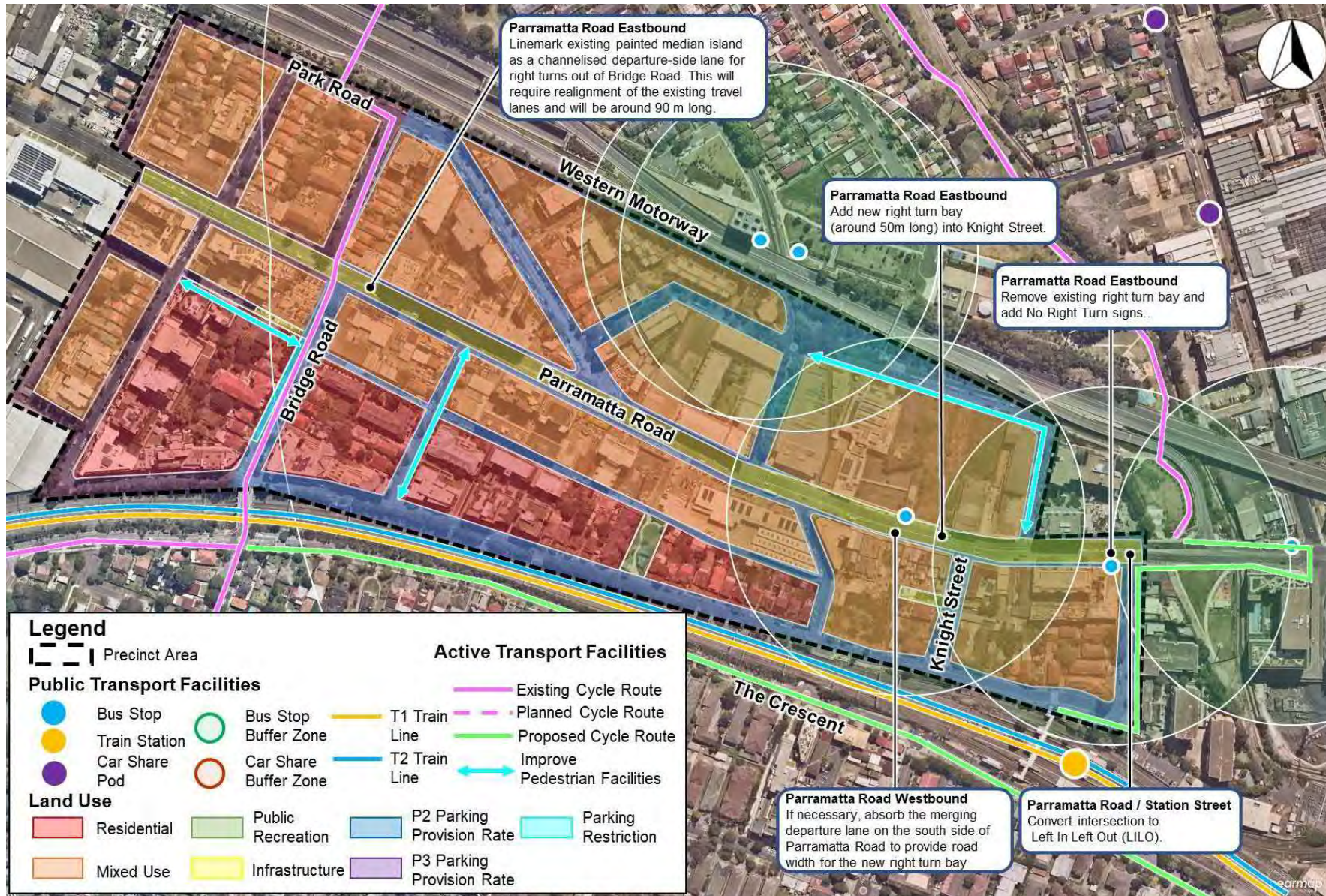


Figure 6-3: Homebush South Precinct – Integrated Transport Strategic Response

6.4 Road Network Upgrades

6.4.1 General

This section of Parramatta Road West of the M4 interchange is heavily constrained with the Motorway to the north and the rail line to the south. This means that north-south traffic heading towards or across Parramatta Road is funnelled into a few crossing points, generally high turning demands at a few key intersections, generating significant pinch points by 2036.

The fundamental issue with providing major intersection upgrades to 'release' these pinch points is that it will:

- Simply (attempt to) add more traffic to the queues already in Parramatta Road
- Encourage even more traffic to pass through the north-south streets in the area, contrary to their residential functions.

Instead, a series of pinch point management upgrades have been proposed.

6.4.2 Parramatta Road / Bridge Road

The traffic issues at Bridge Road are heavily influenced by the performance of Parramatta Road. While the intersection does approach capacity due to the projected traffic growth in the precinct and surrounds, the delays are fundamentally linked to blockages on Parramatta Road.

To better manage this, the following actions are proposed:

- **Peak hour clearways:** To facilitate greater queueing capacity and better access to both lanes, it is proposed that AM peak hour clearways are extended along the northbound carriageway of Bridge Road north of Loftus Crescent for 100m beyond the existing No Stopping parking restrictions
- **Departure Channelisation:** To facilitate a minimum level of traffic release from Bridge Road onto Parramatta Road during each signal cycle, it is proposed that the existing painted median island be converted to a channelised departure lane. Under this scheme, Parramatta Road traffic would be re-aligned to the existing two traffic lanes to ensure that even in heavily congested conditions queues on Parramatta Road will not fully block right turns out from Bridge Road. This may require the installation of a 'seagull' traffic island to formalise the channelisation.

The locations of these proposed changes are shown in Figure 6-4.



Source: Nearmap

Figure 6-4: Proposed Changes - Parramatta Road / Bridge Road

Traffic issues at this location are mainly caused by queues eastbound on Parramatta Road extending through the Bridge Road intersection. As a result, vehicles on Bridge Road sometimes have no space to turn onto Parramatta Road eastbound on a green signal, causing extensive delays and queues for Bridge Road northbound. It is for this reason that the ‘channelisation’ is proposed; to ensure a minimum level of queuing capacity on the departure side of the intersection and to facilitate a more regular and safer release of vehicles out of the Bridge Road right turn.

As the capacity of the intersection is limited by queuing capacity on Parramatta Road, upgrades aimed at increasing capacity on Bridge Road such as parking restrictions or road widening will only be effective after the congestion on Parramatta Road is resolved.

6.4.3 Parramatta Road / Knight Street

The intersection of Parramatta Road / Knight Street currently has a right turn restriction from Parramatta Road (west) into Knight Street (south). Access to the catchment south of Parramatta Road by eastbound traffic is via the nearby right turn into Station Street. However, this arrangement reaches capacity with the forecast increases in traffic on Parramatta Road. As the Station Street intersection is uncontrolled, drivers attempting to turn right turn both into and out of this side street are unable to find gaps in opposing traffic flows. This leads to extensive queuing and congestion.

To address this, the following actions are proposed:

- **New Right Turn Bay:** Add a new 50m lane right turn bay from Parramatta Road to Knight Street. If existing road reserve and property boundary limitations prevent the widening of the road, the westbound merge departure lane could be used to provide sufficient road width. This proposed shifts the right turn access from the uncontrolled Station Street turn to the new signalised Knight Street turn
- **Signal Phasing Changes:** Adjust the signal phasing to allow a dedicated right turn phase for traffic turning from Parramatta Road to Knight Street.
- **Convert Station Street to Left-in, Left-out (LILO):** Add new ‘No Right Turn’ restrictions for the existing uncontrolled Parramatta Road / Station Street intersection. This measure also includes the removal of the existing right turn bay on Parramatta Road, and closure of the median break.

The demand for right turns out of the Homebush South catchment into Parramatta Road in the future is too high to be reasonably and safely supported by a priority intersection.

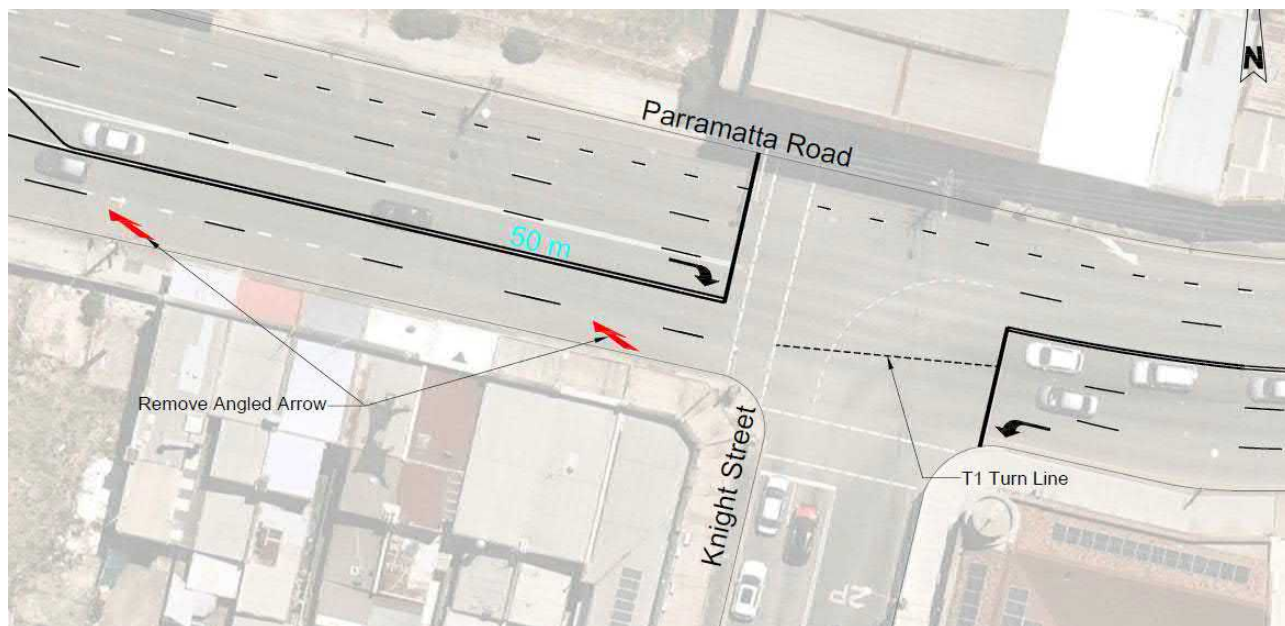
The proposed upgrades are shown in Figure 6-5.



Source: Nearmap

Figure 6-5: Proposed Road Network Upgrades – Parramatta Road / Knight Street

A concept of the Parramatta Road / Knight Street intersection is shown in Figure 6-6 with further detail provided in in **Appendix A**.



Source: Nearmap

Figure 6-6: Proposed Road Network Upgrades – Parramatta Road / Knight Street Concept

6.5 Public Transport Initiatives

The Homebush South precinct is serviced by the T1 and T2 train lines through Homebush Train Station. The eastern part of this precinct has good bus connections from Parramatta Road to the major transport hubs including Burwood, Parramatta and Strathfield. As shown in Figure 6-7 the western end of the Homebush South precinct would benefit from additional bus stops used by new or extended (existing) bus services as it redevelops. This area is poorly serviced with no existing stops. Given the mixed use and residential density uplift in this area, additional or extended bus routes, and additional stops should be introduced into the Underwood Road to Bridge Road section of Parramatta Road in consultation with TfNSW.



Figure 6-7: Homebush South Precinct, Public Coverage Map

6.6 Active Transport Initiatives

To encourage an increase in walking and cycling as the area redevelops, east-west and north-south pedestrian links have been proposed within the residential and mixed-use redevelopment areas at the eastern and western ends of the precinct.

There is an on-road cycling route running through the western side of the precinct connecting between Flemington and Olympic Park. This study is proposing a shared path along the route for consistency with other sections of the Bay to Bay Cycle and Walkway.

There is also a cycleway that terminates at Ismay Park on the eastern side of the precinct. An additional link across Parramatta Road is being proposed to connect between Ismay Park and Homebush Stadium, and an additional route is proposed to connect the existing cycle route on Bridge Road and Strathfield Station via The Crescent, Beresford Road, Elva Street and Albert Street.

The existing and proposed active transport infrastructure is shown in Figure 6-8.



Figure 6-8: Proposed Active Transport Improvements

6.7 Parking Initiatives

6.7.1 Off-Street Parking

The Homebush South precinct has a very good coverage of public transport services at its eastern end in proximity to the T1 and T2 Train Line and Homebush Station. However, the number of destinations that can be reached from these services are limited and the 'P2' development parking rate category (see Section 4.7.2) has been recommended for the eastern area. The western area, however, has been categorised as 'P3' because it has relatively poor access to public transport, unless this can be addressed through TfNSW.

6.7.2 On-Street Parking

An AM peak hour clearway has been recommended northbound on Bridge Road as a road network improvement initiative.

The proposed parking changes for the Homebush South precinct are shown in Figure 5-9.



Figure 6-9: Proposed Parking Initiatives

Developments in the Homebush South precinct will result in an increased demand for on-street parking on side streets such as Bridge Road, Crane Street, Knight Street and Station Street etc. There is limited spare capacity for this parking demand and redevelopment will likely see the need for more on-street parking restrictions in the precinct.

6.8 Car Share Initiatives

Two car share pods have been located on Queen Street near north of M4. The precinct would benefit from additional car share pods given proposed commercial facilities and a business park in the area. More car share pods could potentially be deployed in Knight Street or Park Road to cover both residential and commercial redevelopments in the precinct.



Figure 6-10: Existing Share Car Pods Coverage Area West of Homebush Precinct

6.9 Local Street Considerations

The street network to the south of Parramatta Road is affected by only two crossing of the rail line. Additional crossings would generate significant issues in streets south of the rail line though.

The lack of north-south permeability through the mixed use area south of Parramatta Road for pedestrians from the residential uplift area immediately south should however be rectified with the provision of a number of north-south pedestrian links between Loftus Lane and Parramatta Road as redevelopment occurs.

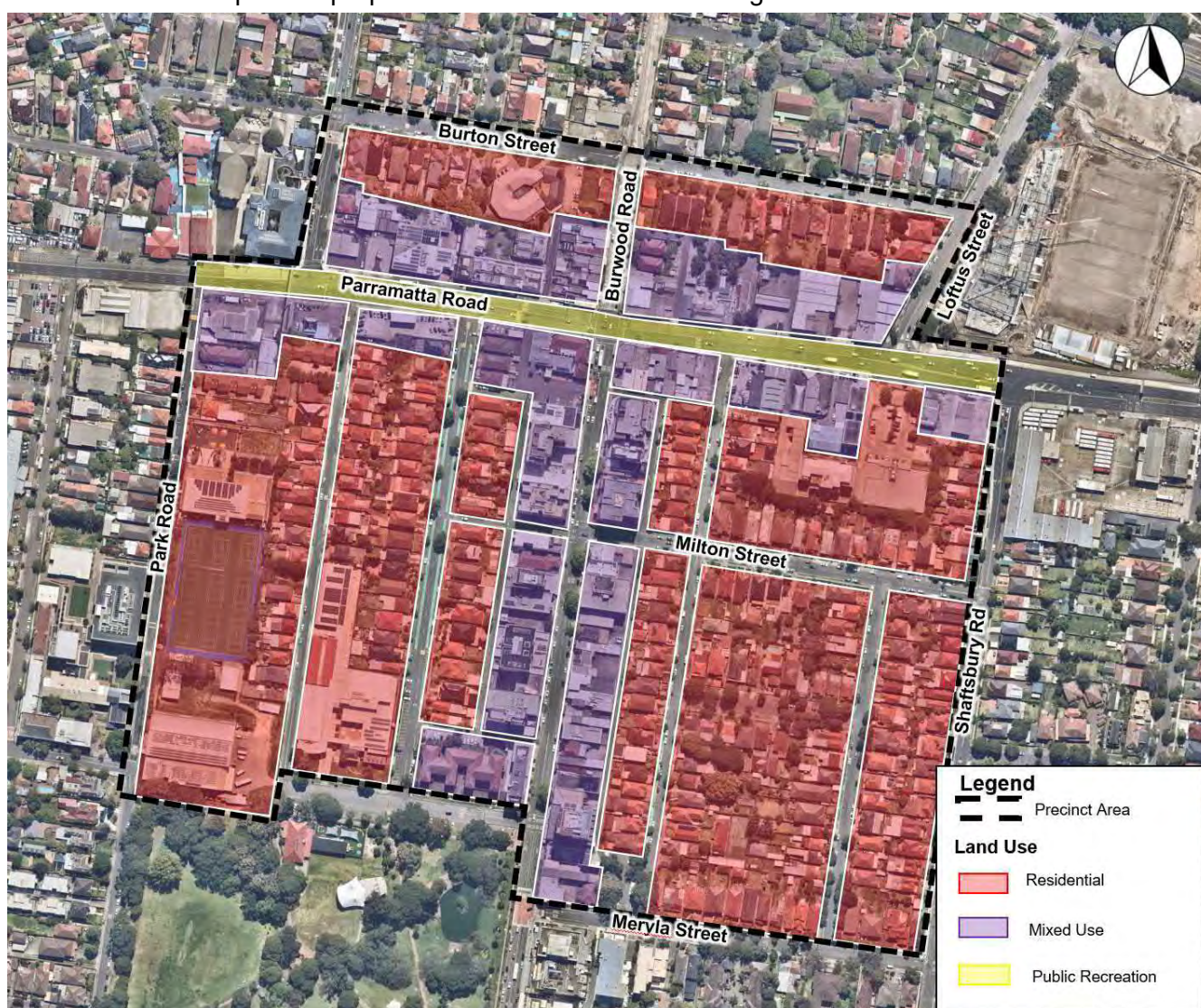
7. BURWOOD - CONCORD PRECINCT

7.1 Uplift Development Summary

The proposed redevelopment in the Burwood - Concord precinct would result in:

- 4,694 medium density residential dwellings
- 15,832m² GFA of retail
- 50,810m² GFA of commercial.

The Burwood - Concord Precinct is centred on Burwood Road from the northern edge of the existing Burwood Town Centre across Parramatta Road to the proposed Metro Station location. (B4) Mixed Use is proposed adjacent to Burwood Road and Parramatta Road, with the surrounding existing low density residential area converted into (R3) Medium Density Residential. Most residential and mixed use developments are located within convenient walking distance to the proposed Burwood Metro Station and bus stops. The proposed land uses are shown in Figure 7-1.

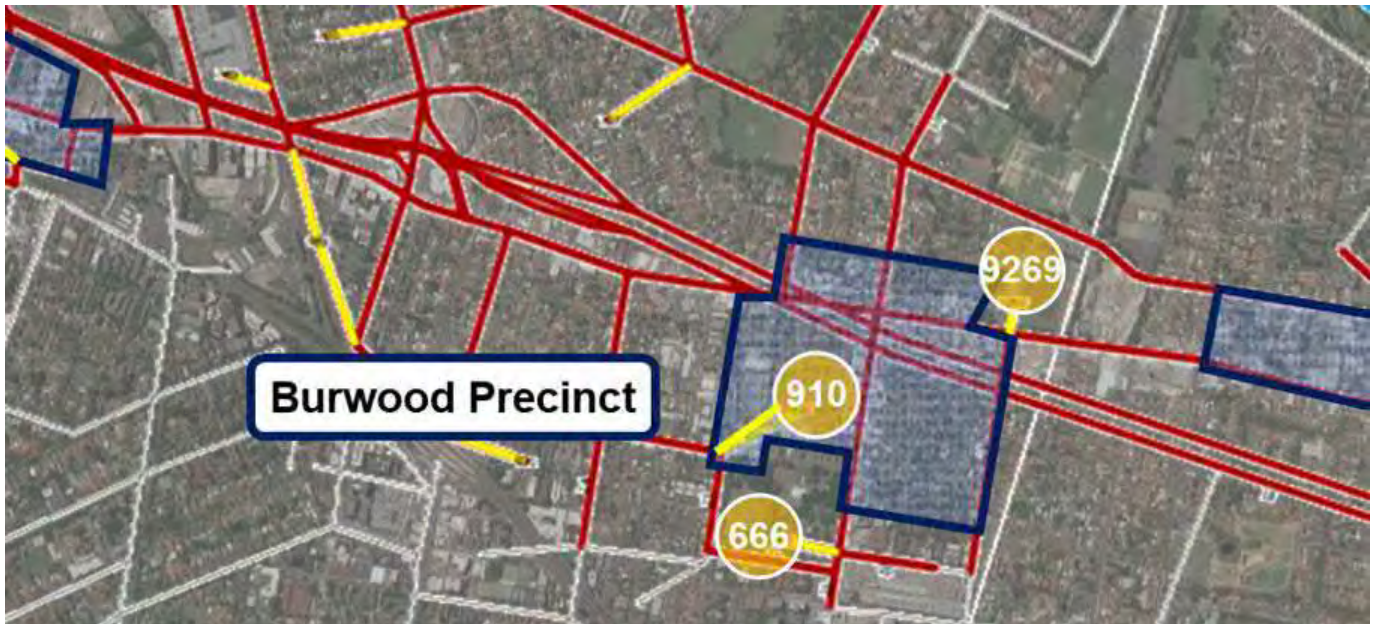


Source: Nearmap

Figure 7-1 Burwood – Concord Precinct Proposed Rezoning Areas

7.2 Traffic Generation

Figure 7-2 shows the STFM zones which are associated with the Burwood - Concord precinct (Zones 666, 910 and 9269).



Source: Google Maps

Figure 7-2: Burwood - Concord Precinct STFM Zones

The total traffic generation from the STFM for the zones within the Burwood - Concord precinct is summarised in Table 7-1. The coarseness of the STFM zoning system means that the zones include adjacent areas although the redevelopment potential of these areas is limited, and zone-based traffic growth is mostly associated with the precinct.

Table 7-1: Burwood Traffic Generation and Growth from 2019

Scenario	Traffic OUT (veh)	Traffic IN (veh)	Total TWO-WAY (veh)
AM 2-Hour			
2019 AM	1,018	1,403	2,421
2026 AM No Dev	836	1,114	1,950 (-471)
2026 AM with Dev	1,812	1,565	3,377 (+956)
2036 AM No Dev	986	1,655	2,641 (-220)
2036 AM with Dev	2,049	2,349	4,398 (+1,977)
PM 2-Hour			
2019 PM	1,676	1,363	3,039
2026 PM No Dev	1,339	1,094	2,433 (-606)
2026 PM with Dev	1,947	2,379	4,326 (+1,287)
2036 PM No Dev	1,950	1,252	3,202 (+163)
2036 PM with Dev	2,834	2,642	5,476 (+2,437)

There are some reductions in locally generated traffic in the AM peak to 2036 and in the 2026 PM peak, most likely associated with modal shift from existing trips. The 2036 AM and PM peaks with the precinct development show an 80% increase in locally-generated traffic.

7.3 Integrated Strategic Response

The proposed land rezoning as well as background traffic growth have triggered the need for a set of road network upgrades as well as active transport and public transport improvements to cater for future travel demands within Burwood - Concord precinct. The following measures have been considered:

- Road network upgrades
- New pedestrian connections and footpaths
- New cycleway connections
- Parking provision strategies and restrictions
- Car share initiatives
- Local street network changes.

The Burwood - Concord integrated strategic response is shown in Figure 7-3.

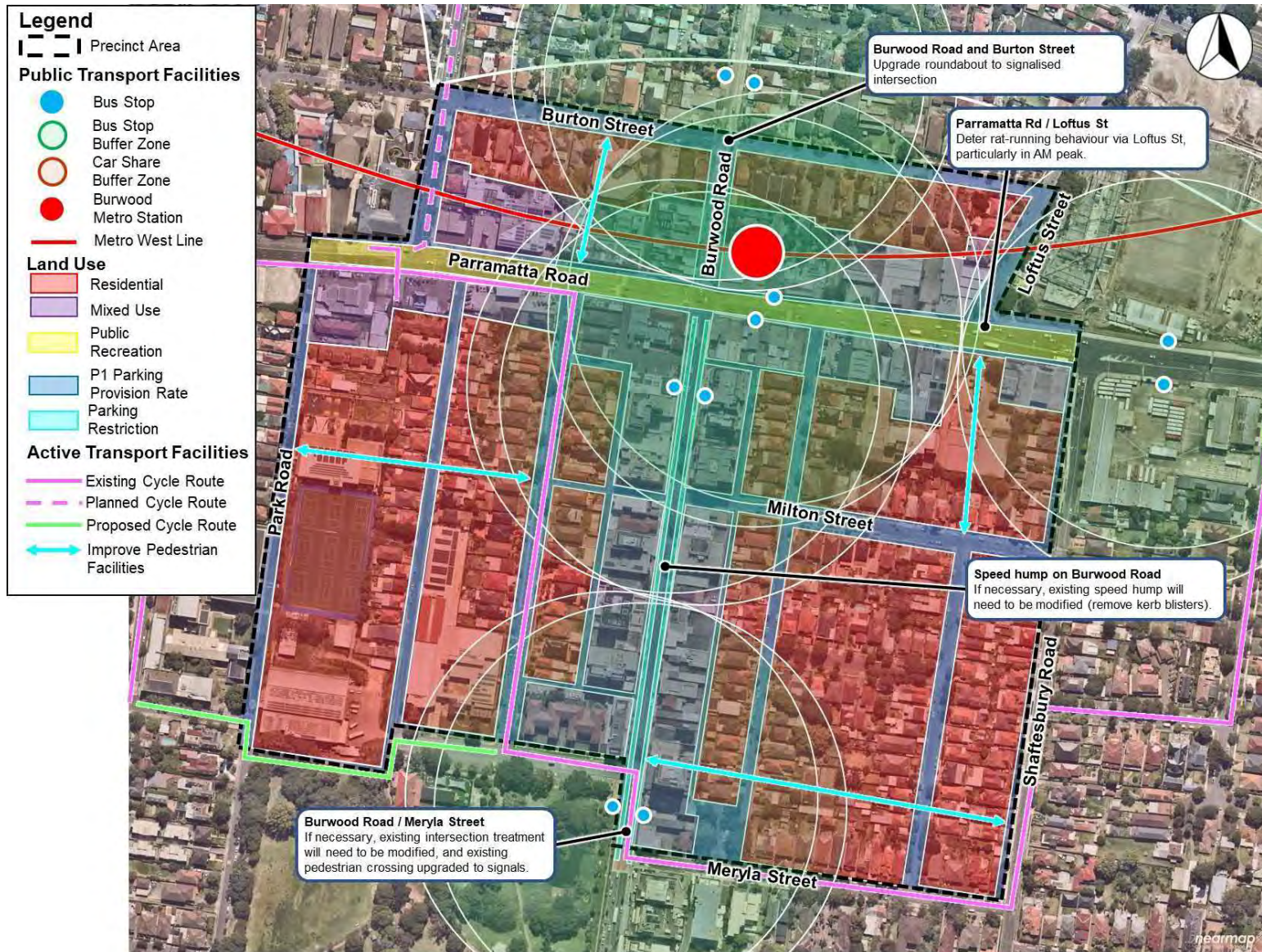


Figure 7-3: Burwood - Concord Precinct – Integrated Transport Strategic Response

7.4 Road Network Upgrades

7.4.1 General

Burwood Road is the primary traffic route through the precinct. It is a 'main street' where its 'place' function is dominant over its movement function in many parts. Notwithstanding this, Burwood Road carries heavy volumes of traffic and buses.

By 2036, and with reliance on the Burwood Road / Parramatta Road intersection for access into / out of the precinct, Burwood Road will see significant congestion with long queues to the north and the south. These queues, due to Parramatta Road capacity limitations, will encourage traffic to use side streets to 'filter' towards Parramatta Road elsewhere. The consequences include more turning traffic at intersections with Burwood Road south of Parramatta Road, which also generate queues and congestion.

The inability to 'clear' blockages on Parramatta Road means that the best that can be achieved on approaching roads to it, is to better manage queues and to better allow for turning movements between Burwood Road and the redevelopment precinct either side.

The following initiatives have been proposed on this basis.

7.4.2 Burwood Road between Park Avenue and Parramatta Road

The capacity of Burwood Road and its intersection with Parramatta Road is a key contributor to congestion within the Burwood Precinct, with some sections of the road reaching up to 1,000 vph in each direction during the 2036 peak periods. Due to the inter-relationship between Burwood Road and Shaftesbury Road (because of the right turn restrictions at Parramatta Road / Burwood Road), traffic on side streets through the precinct are often blocked from turning out due to queues on Burwood Road. To address this, the following actions are proposed:

- **Peak hour clearways:** Restricted parking during peak hour periods along Burwood Road between Park Avenue and Parramatta Road, which is a 500m long section northbound in the AM peak and southbound in the PM peak. This additional traffic capacity reduces queue lengths and minimises consequential impacts at side streets.

This section of Burwood Road is characterised by independent commercial businesses, including medical, education, real estate agencies, accountants and laundromats. While there is some level of retail and cafes, these land uses are less prominent in the northern section of Burwood Road compared to Burwood Road south of Park Avenue.

The introduction of clearways would inevitably have some impact on nearby businesses if implemented in the short term. However, the clearways would not be needed for many years and would be aligned with significant redevelopment of the precinct, which would be expected to completely change the shop types and their reliance on 'quick' drop in trade which relies on proximate street parking.

- **Modified traffic calming – Speed hump south of Milton Street:** A speed hump is located on Burwood Road south of Milton Street, with supporting kerb blisters. If clearways extend through the traffic calming device, then it would need to be modified. This could be achieved with speed cushions in each travel lane
- **Modified traffic calming – Meryla Street Pedestrian Crossing:** A pedestrian crossing was installed in 2019 at the intersection of Burwood Road and Meryla Street (relocated from the north of Meryla Street). At the same time, a raised threshold was added to the intersection of Burwood Road / Meryla Street for traffic calming purposes.

If clearways extend through the intersection, then the zebra crossing would need to be upgraded to signals and would need to accommodate the new cycling route between Comer Street and Meryla Street. Alternatively, in lieu of a mid-block signalised crossing, the intersection with Meryla Street or Comer Street could be upgraded to a full signalised intersection with shared pedestrian / cyclist crossings (this option has not been tested in the modelling and would need further assessment if selected to proceed to detailed investigation).

The proposed upgrades are shown in Figure 7-4.



Source: Sixmaps

Figure 7-4: Proposed Upgrades along Burwood Road

Other important considerations for Burwood Road include:

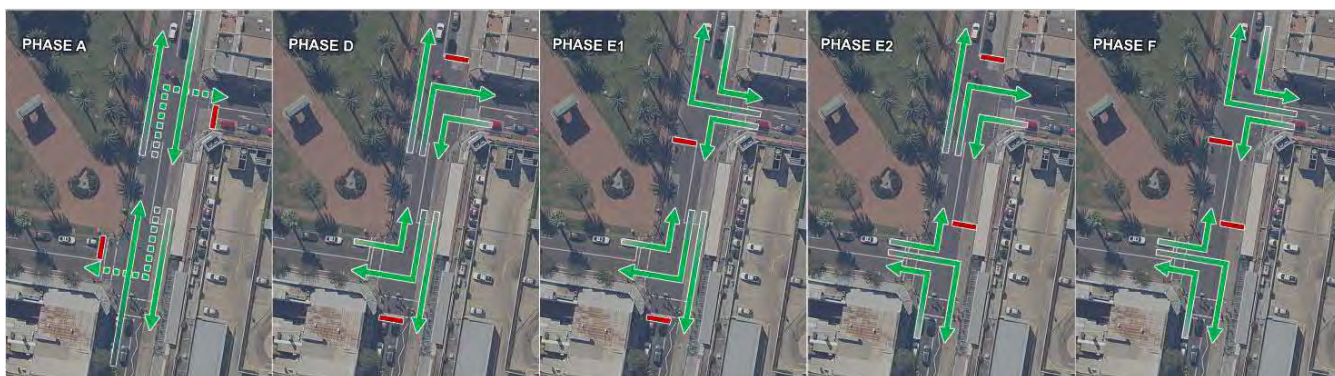
- **Pedestrian crossing impacts:** Whilst the clearways would not be needed until substantial redevelopment has occurred, further investigations into signalised mid-block crossing opportunities would need to be undertaken in parallel with the implementation of clearway restrictions at that time, in order to maintain existing levels of cross-street pedestrian accessibility. One opportunity would be signalising the intersection of Burwood Road / Milton Street, which would service both pedestrians and vehicles in the precinct.
- **Burwood Road ‘Place’ considerations:** The trade-off between Movement and Place is a critical consideration for Council. Prioritising movement along the Burwood corridor will reduce the expected levels of congestion, queueing and delays during peak periods but needs to be balanced against the Place-related benefits of a more narrow, local street environment. It is recognised that Burwood Road will have an increasingly important Place function between the Burwood Centre and the new Metro Station, and that the introduction of clearways (even peak hour ones) would in some way compromise the safety and amenity of pedestrians due to the wider effective roadway. Burwood Road would distinctly split the precinct in two, relying on isolated links to provide a sense of connection. The peak period removal of parking on one side of the road would also create a visually wider road environment along Burwood Road, contrary to its emerging sense of Place.

7.4.3 Burwood Road / Park Avenue / Wilga Street

The intersection of Burwood Road / Park Avenue / Wilga Street is a critical pinch point in the Burwood precinct due its staggered signalised intersections. To address this, the following action is proposed.

Signal Phase Changes

Based on the SCATS data collected for this intersection, the signals currently operate with an A-D-E-F phase sequence (shown below in Figure 7-5). Phase E1 and Phase E2 are variable phases operating as the transition between Phase D and Phase F based on the demand for right turns on Burwood Road.



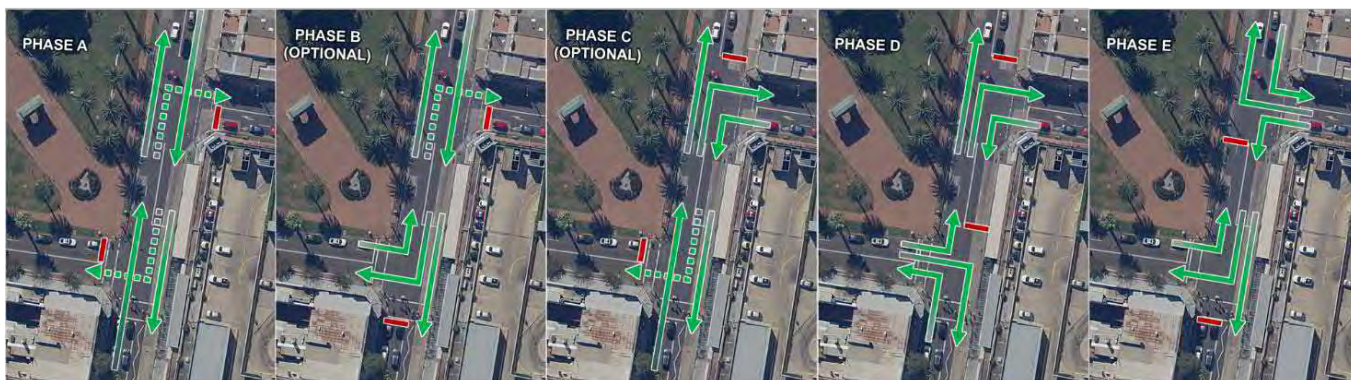
Source: Sixmaps

Figure 7-5: Burwood Road / Park Avenue / Wilga Street Current Phase Sequence

Traffic congestion issues arise by 2036 due to right turning traffic which filters during Phase A. With the growth in traffic along Burwood Road, filtering traffic rarely finds a gap to turn with three or four right turning vehicles on Burwood Road held at the internal stop lines between the two side roads.

With the current phase sequence, Phase D only services the vehicles waiting within the intersection, a maximum of around four vehicles. There are no other phases which permit a continuous protected right turn movement through the intersection. Drivers therefore have to wait multiple phases to complete a simple right turn movement. This issue is exacerbated by traffic turning out of Park Avenue or Wilga Street during Phase F. These vehicles will often fill up the internal waiting area prior to Phase A, such that right turners from Burwood Road have to wait before the intersection.

To address this, the phase sequence is proposed to be changed to allow additional and safer opportunities for right turning traffic on Burwood Road. The proposed changes are shown in Figure 7-6, not including the conditional movements to allow for pedestrian crossing actuations.



Source: Sixmaps

Figure 7-6: Burwood Road / Park Avenue / Wilga Street - Proposed Phase Sequence

The inclusion of optional Phases B and C facilitates a continuous right turn movement on Burwood Road without dependency on filtering but would require Phase B and Phase C to operate on a mutually exclusive basis. Phase D and Phase E (previously Phase E1 and E2 respectively) are separate phases and will operate independently.

This phase sequence will not require any additional signal infrastructure.

7.4.4 Burwood Road / Burton Street

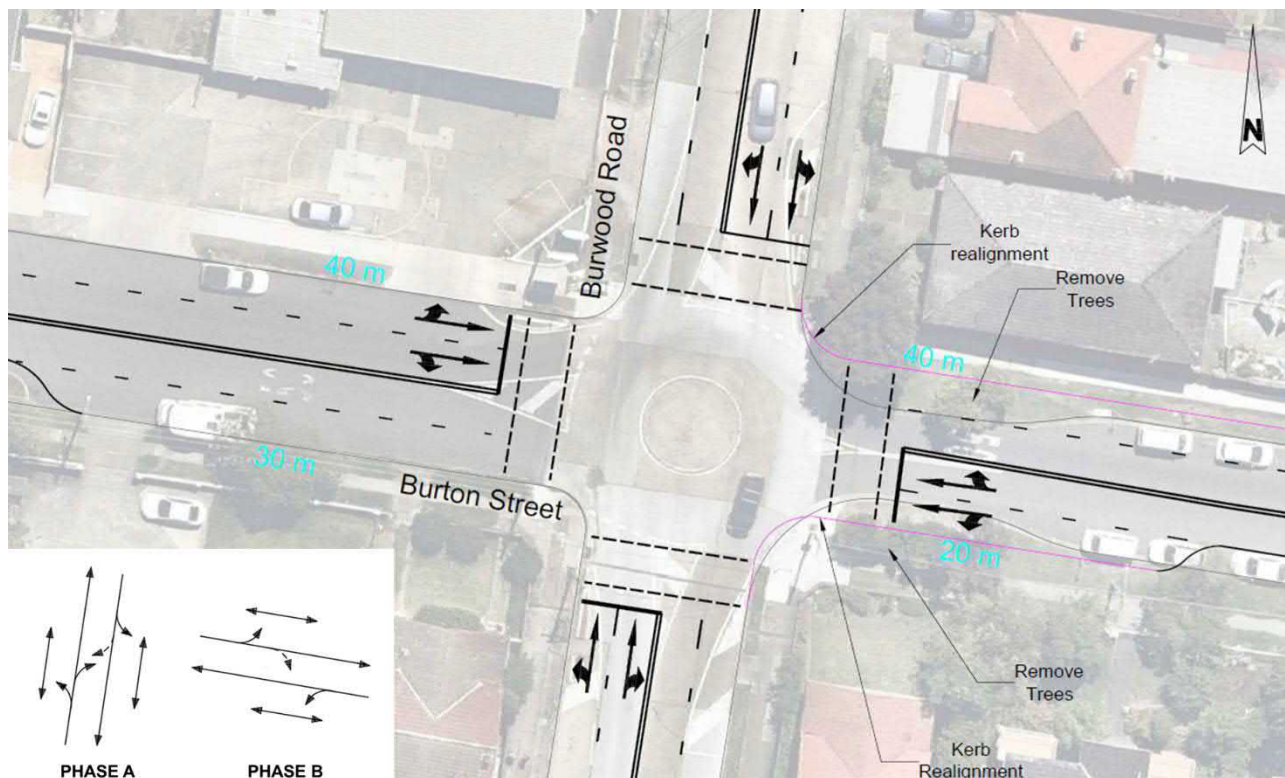
The roundabout of Burwood Road and Burton Street is seen as a key pinch point in 2036 modelling. This intersection controls queueing in the local network north of Parramatta Road. The proposed Metro station will be located near this intersection and is expected to greatly increase both vehicle and pedestrian movements nearby.

New Traffic Signals

The roundabout is proposed to be upgraded traffic signals, with pedestrian crossings on all approaches. Traffic signals will allow greater control over the traffic flow and queue management at the intersection and provide the opportunity for coordination with other signals at Parramatta Road and at Gipps Street for integrated queue management.

Concept is shown in Figure 7-7, reflecting the modelled arrangement. This upgrade can generally be achieved within the existing road reserve with some minor re-alignments to kerbs. There may be opportunity for further enhancements (e.g. dedicated turning bays) depending on the availability of the surrounding land as it develops, particularly at the Metro site.

The concept drawings can be found in **Appendix A**.



Source: Nearmap

Figure 7-7: Proposed Road Network Upgrades – Burwood Road / Burton Street Concept

7.4.5 Parramatta Road / Loftus Street

The intersection of Parramatta Road / Loftus Street is located on the corner of Concord Oval and is currently unsignalised. As a part of the recent intersection improvements at Parramatta Road and Shaftesbury Road (undertaken by TfNSW in March 2021), the Loftus Street approach was converted from a Give Way to a STOP priority.

However, Loftus Street also provides an alternative route through the area which bypasses the congestion on Burwood Road and particularly from the Burwood Road / Burton Street roundabout. The change to STOP control in combination with the heavy future traffic flows on Parramatta Road was shown in the year 2036 modelling to result in long delays for the left turn from Loftus Street onto Parramatta Road, with drivers waiting a long time before finding a gap in traffic. The proximity of this intersection to the frequently used Shaftesbury Road intersection also resulted in weaving movements across multiple lanes within a short distance, which is a safety concern.

Despite this, the modelling indicated that the attractiveness of Loftus Street was such that up to 1,000 vph were expected to use it. While this level of traffic may not be actually realised in reality it reflects that Loftus Street is a logical rat run to avoid Burwood Road congestion.

Potential measures to control this behaviour could include:

- **Traffic calming:** along Loftus Street to slow down traffic and discourage through traffic use in the form of speed humps or slow points
- **Threshold treatments:** at the entrances to Loftus Street to highlight a changed road environment, more orientated to local traffic and less to through trips. These could take the form of narrow flat-top road humps with landscaped kerb blisters
- **One-way Loftus Street:** another option which for consideration is the conversion of Loftus Street to one-way northbound between Burton Street and Parramatta Road, preventing all southbound traffic accessing Parramatta Road. This would increase turning movement pressure and congestion at intersections on Parramatta Road but would improve street safety amenity and ease of walking and cycling along the laneway as redevelopment occurs.

7.4.6 Gipps Street / Broughton Street

The intersection of Gipps Street / Broughton Street is not directly located within or on the boundary of the Burwood – Concord Precinct. However, due to its proximity and congestion-related network re-routing, it is affected by the growth in traffic within the precinct.

Signal Phase Changes

Based on the SCATS data collected for this intersection, the signals currently operate with an A-B-C phase sequence (shown below in Figure 7-8). The intersection runs with filtered right turns on both Gipps Street and Broughton Street, with a single dedicated trailing right turn phase from Gipps Street (east). There is a No Right Turn restriction from Gipps Street (west) to Broughton Street (south).

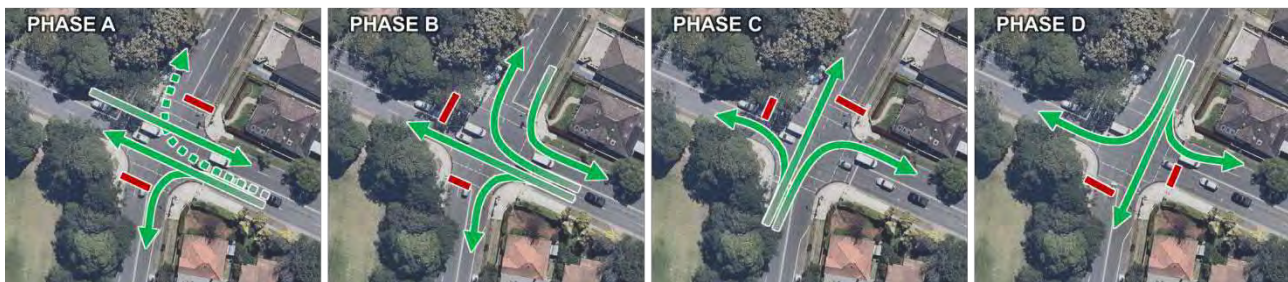


Source: Nearmap

Figure 7-8: Gipps Street / Broughton Street Current Phase Sequence

Traffic queues are seen in the modelling to develop by 2036 due to filtering right turning traffic on both the Gipps Street and the Broughton Street approaches. While the volume of right turns is not extremely high, the filtering traffic rarely finds an opportunity to turn against the oncoming traffic flow, with long delays and queues. Due to the intersection configuration, the queues end up blocking off the heavier through and left turning traffic.

To address this, the phase sequence is proposed to be changed to allow more opportunities for right turning traffic. The proposed changes are shown in Figure 7-9, not including conditional movements to allow pedestrian crossing actuations.



Source: Nearmap

Figure 7-9: Gipps Street / Broughton Street Proposed Phase Sequence

The proposed sequence 'splits' the Broughton Street approaches into separate phases, allowing for safe and consistent clearance of right turns every signal cycle. This moves the intersection away from the current two-phase sequence which heavily preferences traffic on Gipps Street, aligned with the intensification of development to the south of the intersection.

This phase sequence will require amendments to the signal lantern infrastructure to facilitate split side road phases on Broughton Street. No changes to turn restrictions are proposed as a part of these amendments.

7.5 Public Transport Initiatives

The Burwood – Concord precinct includes the Burwood North Metro Station. Both northern and southern parts of this precinct are well serviced by buses along Burwood Road and Parramatta Road which also route to the surrounding major transport hubs including Burwood, Parramatta, Strathfield and the Sydney CBD. The future Metro West line will provide the highest levels of public transport connectivity to Parramatta, Sydney CBD, Bankstown and Sydney northwest.

The existing public transport facilities in the Burwood – Concord precinct are shown in Figure 7-10.

It would be reasonable to expect that as the precinct redevelops and demand for public transport increases, that TfNSW would introduce new services and stops along Park Road and along Shaftsbury Road, potentially anchored by the proposed Metro Station.



Figure 7-10: Burwood Precinct – Public Transport Coverage

7.6 Active Transport Initiatives

To encourage increased walking and cycling to, from and within this precinct, east-west and north-south pedestrian links have been proposed for the residential and mixed use areas east and west of the precinct. The block between Milton Street and Meryla Street is still quite large and could be divided further by local laneways as redevelopment occurs.

An additional cycle route is proposed along the north side of Burwood Park to connect the existing cycle routes on Neich Parade and Grantham Street and form a more direct east-west route through the precinct. The route is proposed to be on-road in mixed traffic except for the off-road section through Burwood Park.

The existing and proposed and active transport infrastructure is shown in Figure 7-11.



Figure 7-11: Proposed Active Transport Improvements

7.7 Parking Initiatives

7.7.1 Off-Street Development Parking Rates

The Burwood - Concord precinct has excellent public transport coverage. With the Metro, and due to its close proximity to high frequency bus routes, the entire precinct could be subject to the 'P1' parking category (see Section 4.7.2) with maximum parking rates used rather than minimum rates and including the potential for unbundled parking.

7.7.2 On-Street Parking

Clearways have been recommended along Burwood Road, northbound in the AM peak and southbound in the PM peak, as shown in Figure 7-12.

Developments in the Burwood - Concord precinct will result in an increased demand for on-street parking on side streets such as Shaftesbury Road, Meryla Street, and Park Road. Additionally, on-street restrictions are likely to be needed in these locations as development occurs.



Figure 7-12: Proposed Parking Initiatives

7.8 Car Share Initiatives

Car Share pods have been proposed in the Westfield Shopping Centre carpark. The precinct would benefit in the future from additional car share pods elsewhere, as demand increases, given the proposed commercial facilities, the Metro Station and the proposed, lower development parking rates.

Additional car share pods should, at that time, also be considered along Burwood Road, closer to Parramatta Road and in Burwood North to cover both residential and commercial developments in the precinct.

The initially - proposed car share pod coverage in Westfield Shopping Centre is shown in Figure 7-13



Figure 7-13: Proposed Car Share Pod Coverage

7.9 Local Street Network Changes

The blocks south of Milton Street either side of Burwood Road have poor east-west traffic permeability. Opportunities exist to introduce a finer grained street network in these areas to improve traffic circulation and access as redevelopment occurs.

8. KINGS BAY PRECINCT

8.1 Uplift Development Summary

The proposed redevelopment in the Kings Bay precinct would result in:

- 3,293 medium density residential dwellings
- 20,450m² GFA of retail development
- 6,935m² GFA of commercial development.

The Kings Bay Precinct is proposed to form a new urban village between Parramatta Road and Queens Road, with a central core of (B4) Mixed Use around Spencer Street. The scheme comprises a shopping precinct with grocery stores and destination retail. The surrounding residential land use is retained but with higher densities than the existing development. Most of the proposed residential and mixed use land is located within walkable distances to bus routes. The proposed land use map for the Kings Bay precinct is shown in Figure 8-1.



Source: Nearmap

Figure 8-1: Kings Bay Precinct Proposed Rezoning Areas

8.2 Traffic Generation

Figure 8-2 shows the STFM zones which are associated with the Kings Bay precinct (Zones 12, 13 and 744).



Source: Google Maps

Figure 8-2: Kings Bay Precinct – Associated STFM Zones

The total traffic generation from the STFM for the zones within the Kings Bay precinct and its growth from 2019 is summarised in Table 8-1.

Table 8-1: Kings Bay Traffic Generation and Growth from 2019

Scenario	Traffic OUT (veh)	Traffic IN (veh)	Total TWO-WAY (veh)
AM 2-Hour			
2019 AM	2,118	2,585	4,703
2026 AM No Dev	2,090	2,362	4,452 (-251)
2026 AM with Dev	2,986	2,833	5,819 (+1,116)
2036 AM No Dev	2,104	2,435	4,539 (-164)
2036 AM with Dev	3,263	3,183	6,446 (+1,743)
PM 2-Hour			
2019 PM	2,590	2,155	4,745
2026 PM No Dev	2,357	2,114	4,471 (-274)
2026 PM with Dev	2,854	3,086	5,940 (+1,195)
2036 PM No Dev	2,475	2,292	4,767 (+22)
2036 PM with Dev	3,205	3,458	6,663 (+1,918)

The STFM shows about a 37% increase in the AM peak traffic and a 40% increase in PM peak traffic between 2019 and 2036 with the development of the precinct.

8.3 Integrated Strategic Response

The combination of local development traffic and through traffic growth to 2036 has triggered the need for a set of road network upgrades and integrated transport strategies to cater for the future travel demands within Kings Bay precinct. The following measures have been considered:

- New pedestrian connections and footpaths
- New cycleway connections
- Parking provision strategies and restrictions
- Car share pods initiatives
- Local street network changes.

The Kings Bay precinct integrated transport strategic response is shown Figure 8-3.

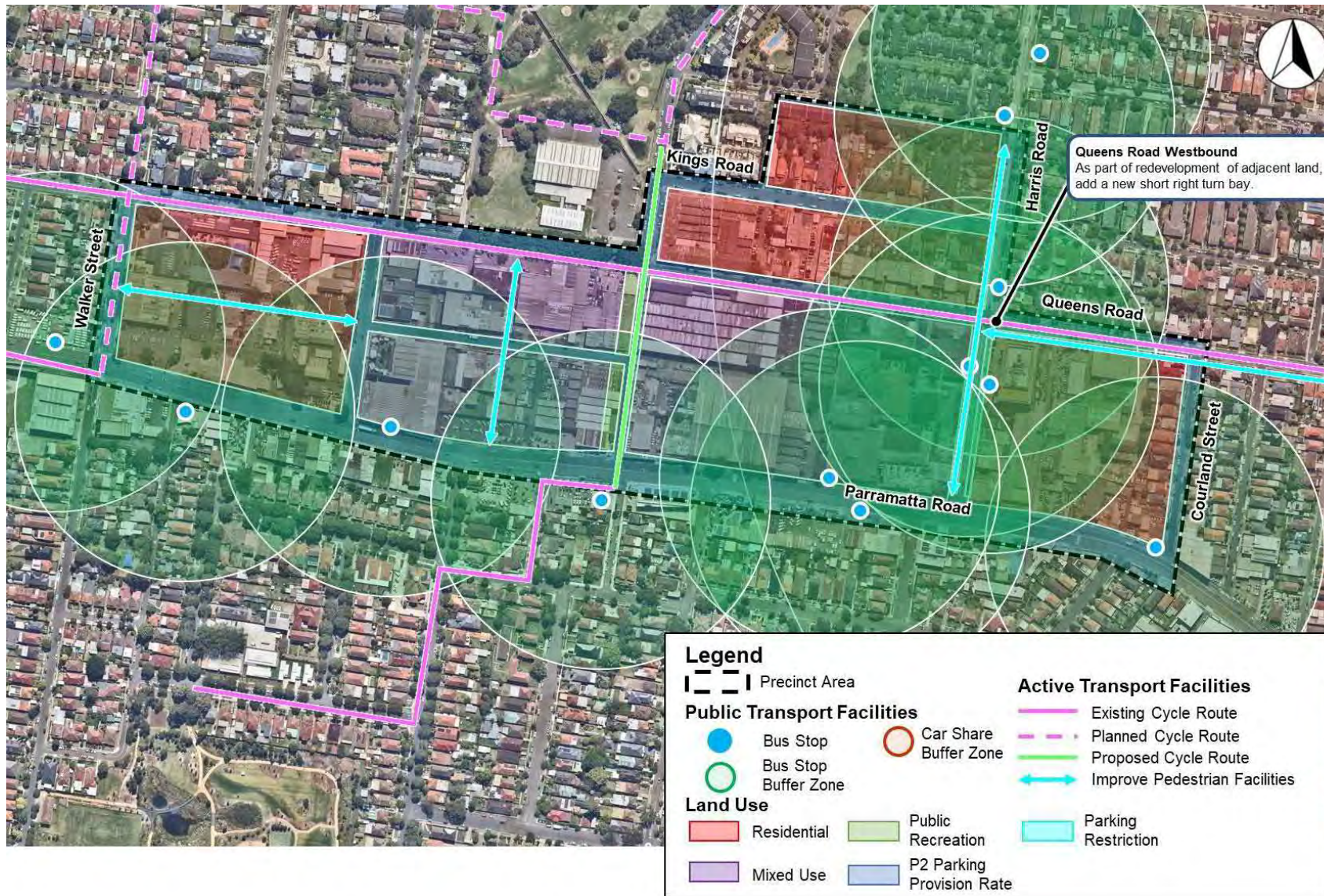


Figure 8-3: Kings Bay Precinct – Integrated Transport Strategic Response

8.4 Road Network Upgrades

8.4.1 Harris Road

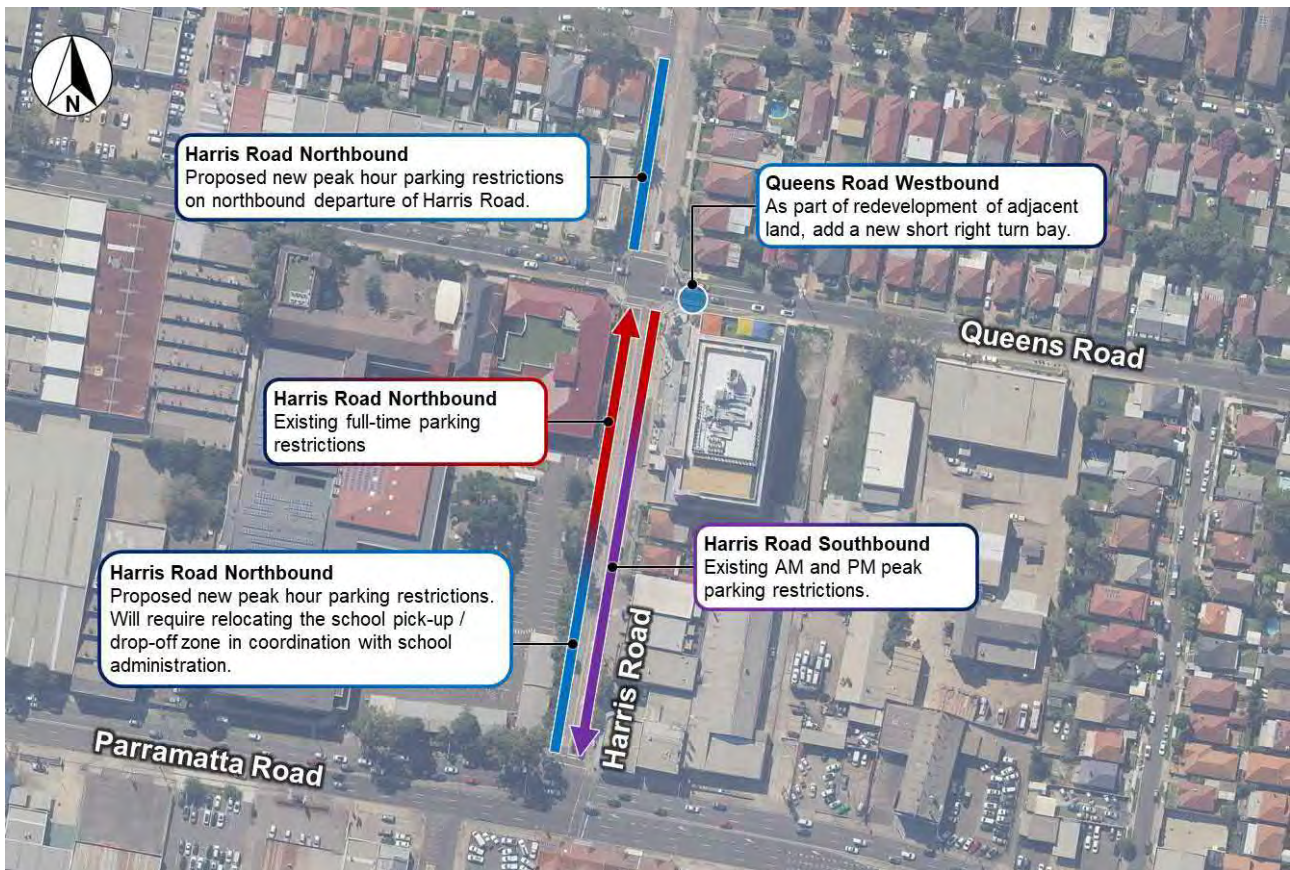
Harris Road is a key link in the road network, servicing a large residential catchment and multiple schools between Lyons Road and Parramatta Road. The road is also used by a number of bus services travelling to Five Dock and beyond.

Harris Road is the main north-south road passing through the Kings Bay redevelopment precinct. Due to increased traffic by 2036, delays and queues along Harris Road (due to Parramatta Road) cause significant impacts to its intersecting east-west road such as Queens Road.

To address this, the following actions are proposed:

- **New peak hour clearways:** Sections of Harris Road already feature peak hour parking restrictions. It is proposed that these clearway conditions be extended to entire length of Harris Road between Queens Road and Parramatta Road, a section which with carries over 1,000 vph in 2036. This initiative will affect the existing timed No Parking zone on the northbound kerbside which supports Rosebank College as a pick-up and drop-off zone. While this is an important facility for the school, the friction of high-frequency kerbside parking manoeuvres causes severe disruptions to traffic flows. The pick-up and drop-off facility should be relocated in coordination with the College administration (potentially within the school on-site car park, or alternative locations on the school frontage). This would only be required once substantial redevelopment has occurred, closer to 2036
- **Short turning bay on Queens Road:** The Queens Road westbound approach at the Harris Road / Queens Road intersection consistently experiences flows and exceeding 1,000 vehicles, per hour by 2036, with long queues and delays caused by the single-lane approach to the signals (due to the narrow carriageway), and the filtering of right turning vehicles at the intersection. As part of the redevelopment of the surrounding properties, the roadway at this location could be widened to allow for a short turning bay for right turning vehicles to allow them to store clear of the heavier through traffic flows. The road widening will require property acquisition.

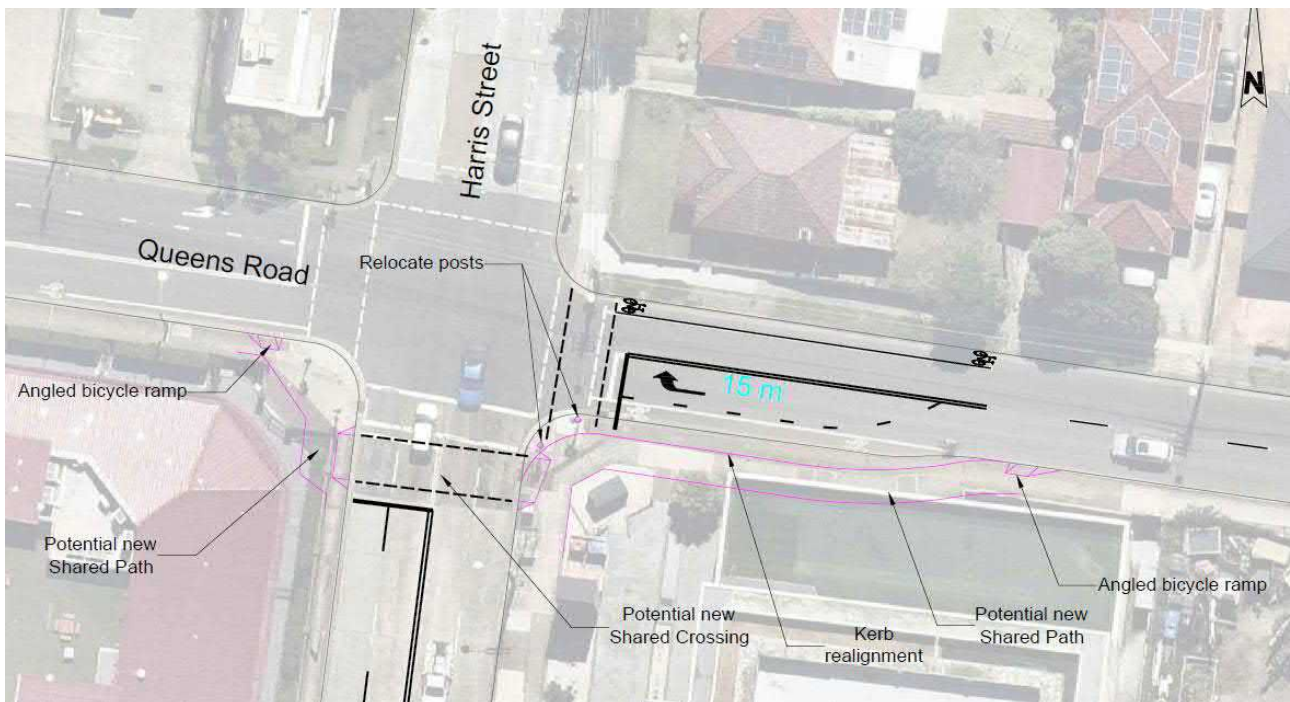
The proposed upgrades are shown in Figure 8-4.



Source: Sixmaps

Figure 8-4: Proposed Road Network Upgrades – Harris Road

A concept of the Harris Road / Queens Road intersection is shown in Figure 8-5. More detailed concept full drawings can be found in **Appendix A**.



Source: Nearmap

Figure 8-5: Proposed Road Network Upgrades – Harris Road / Queens Road Concept

8.4.2 Great North Road and Surrounds

The Great North Road connects between Parramatta Road and Five Dock Town Centre and is impacted by the congestion issues around Harris Road and Queens Road. Downstream blockages often push back to Great North Road (e.g. westbound queues on Queens Road), affecting the traffic performance at key intersections such as Great North Road / Queens Road / Fairlight Street and Great North Road / Parramatta Road.

To address these issues the following actions are proposed in addition to the works near Harris Road:

- **New peak hour clearways:** new clearway restrictions along the Queens Road westbound carriageway near Great North Road, extending the existing section of two-lane westbound carriageway from 50m to 100m. This will minimise congestion caused by merging traffic near the traffic signals, particularly for through traffic from Fairlight Street
- **Changed lane designations:** adjustments to the lane designations at Parramatta Road / Great North Road to allow a double right turn movement. This upgrade will encourage the use of Parramatta Road instead of Queens Road for westbound traffic from Great North Road. The proposed change will allow greater usage of the available road capacity without compromising the adjacent left turn movements.

The proposed upgrades are shown Figure 8-6.



Source: Sixmaps

Figure 8-6: Proposed Road Network Upgrades – Harris Road / Queens Road Concept

8.5 Public Transport Initiatives

The Kings Bay precinct has a good coverage of bus services generally along Parramatta Road and Harris Road connecting to major transport hubs including Burwood, Parramatta and Strathfield.

The existing public transport infrastructure of Kings Bay precinct is shown in Figure 8-7.

The northern parts of Kings Bay precinct, along Queens Road, would benefit from additional bus services and stops possibly as an extension of the existing bus services. The provision of additional / extended bus services at the northern end of the precinct should be considered further in consultation with TfNSW, including new bus stops along Queens Road.



Figure 8-7: Public Transport Coverage

8.6 Active Transport Initiatives

To encourage increased walking and cycling to, from and within the redevelopment area, a number of east-west and north-south pedestrian links have been proposed for the precinct.

An on-road cycle route has also been proposed along the northern edge of the precinct at Queens Road which crosses the precinct parallel to Parramatta Road. Canada Bay Council has also proposed new routes connecting existing cycle routes at St Lukes Park, Cheltenham Road and Bevin Avenue via a number of local streets including Walker Street, Renown Street, Watts Street and William Street.

An additional link along William Street is proposed to connect the existing shared path on Parramatta Road at Short Street and the cycle route along Bevin Avenue.

The existing and proposed active transport infrastructure for this precinct is shown in Figure 8-8.

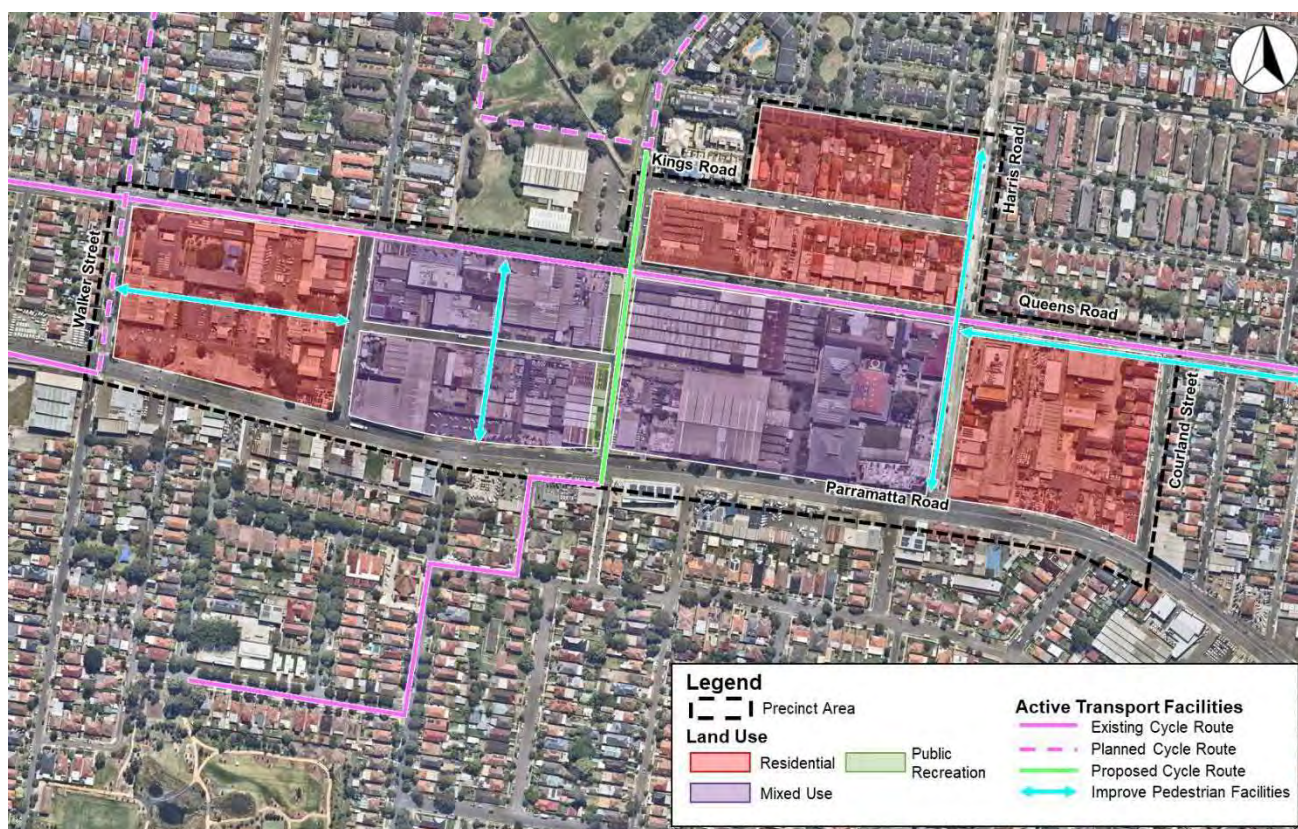


Figure 8-8: Active Transport Initiatives

8.7 Parking Initiatives

8.7.1 Off-Street Development Parking

The Kings Bay precinct has reasonably good coverage of bus-based public transport services, however the frequency and destinations of these services are insufficient to justify highly restrictive development parking rates. The 'P2' category (see Section 4.7.2) has been nominated near the bus routes servicing Parramatta Road and Harris Road and the 'P3' category has been nominated for most of Queens Road given its limited services.

8.7.2 On-Street Parking

Peak period clearways have been proposed along Harris Road within the precinct.

Development in the Kings Bay precinct will result in an increased demand of parking on side streets such as Harris Road, Walker Street and residential streets north of Queens Road. It is likely that greater restrictions would evolve in these areas as this development occurred.



Figure 8-9: Proposed Parking Initiatives

8.8 Car Share Initiatives

Two car share pods are located north of Queens Road but east of the precinct. The precinct could benefit from additional car share pods given proposed commercial and residential facilities and the proposed development parking policies particularly south and east of the precinct. Additional car share pods should be considered along Kings Road and Queens Road, west of Harris Road, to cover both the residential and commercial development areas in the precinct.



Figure 8-10: Existing Share Car Pods Coverage Area East of Kings Bay Precinct

8.9 Local Street Network Changes

East-west permeability in the precinct is reasonable however there is a lack of permeability north-south. Opportunities to break up the existing blocks with 1-2 additional north-south streets or lanes per block should be explored as redevelopment occurs.

9. STAGING AND IMPLEMENTATION

9.1 2026 Modelling and Staging

9.1.1 Approach

To determine the staging of proposed road upgrade works as a part of this corridor study, the ultimate year model network was run with 2026 traffic demands including uplift precinct traffic demands and other traffic growth by that year (see Section 4.1). The modelled upgrades were then progressively 'stripped back' from the network and then re-evaluated based on the levels of congestion revealed.

Due to the subjectivity in evaluating traffic performance across the entire network and the necessity of early upgrades, the performance target used was to achieve similar levels of traffic performance when compared to the '2036 Uplift with Upgrades' scenario.

9.1.2 Project Staging Modelling Outcomes

Figure 9-1 shows the recommended staging of the proposed road network upgrades.

The projects needed by 2026 are concentrated in the Strathfield and Burwood LGAs largely as a consequence of needing to address existing issues that are exacerbated with some precinct redevelopment. This is reflective of the concentration of traffic congestion towards the western end of the network. The Kings Bay precinct projects are all recommended to be delivered between 2026 and 2036.

Some works can be linked directly to nearby triggers. For example, the timing of the Burwood Road / Burton Street signals can be aligned with the Burwood Metro Station works. The majority of actions related to parking restrictions can be initiated towards 2036 which is when the aggregate influence of redevelopment impacts are realised.

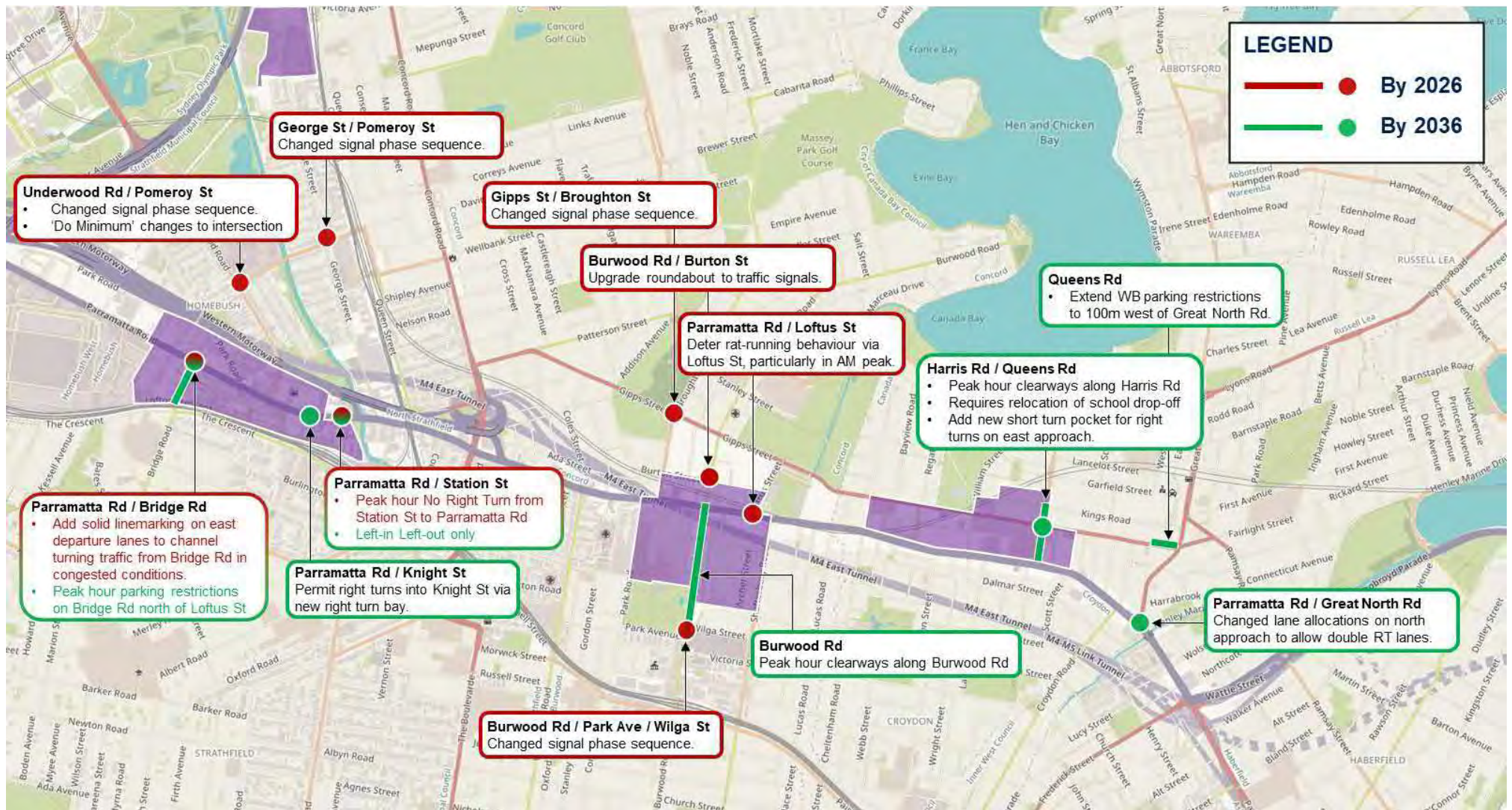


Figure 9-1: Proposed Upgrades and Staging

9.1.3 Network Statistics Comparison

Figure 9-2 compares the AM peak network-wide statistics for the ‘2026 Staged Upgrades’ scenario and the ‘2036 Uplift with Upgrades’ scenario.

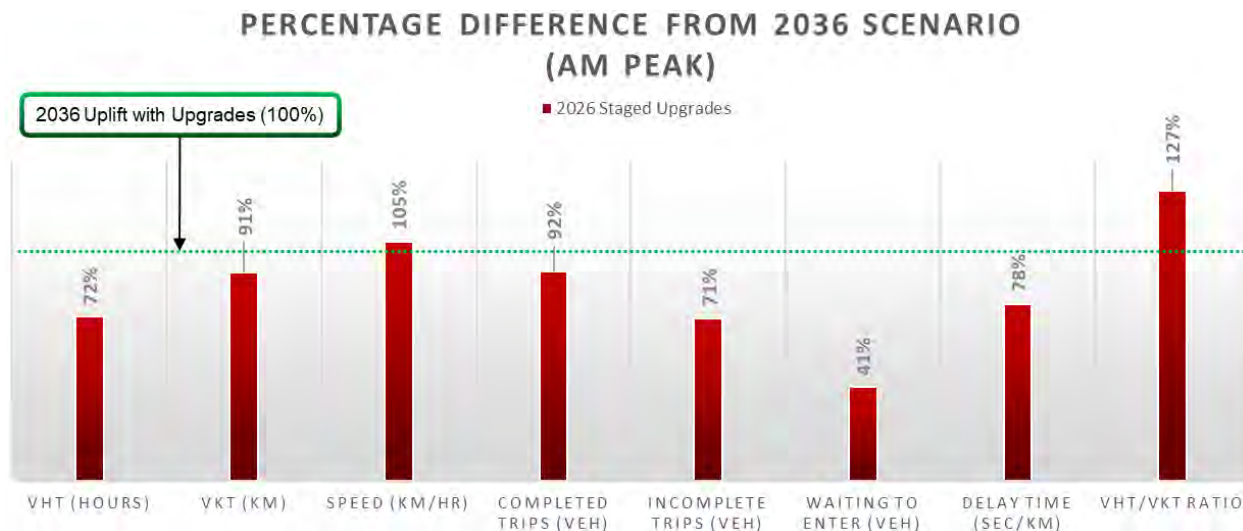


Figure 9-2: 2026 vs 2036 Network Statistics Comparison– AM Peak

Figure 9-3 shows the comparison between PM peak comparison between network-wide statistics for the ‘2026 Staged Upgrades’ against the ‘2036 Uplift with Upgrades’ scenario.

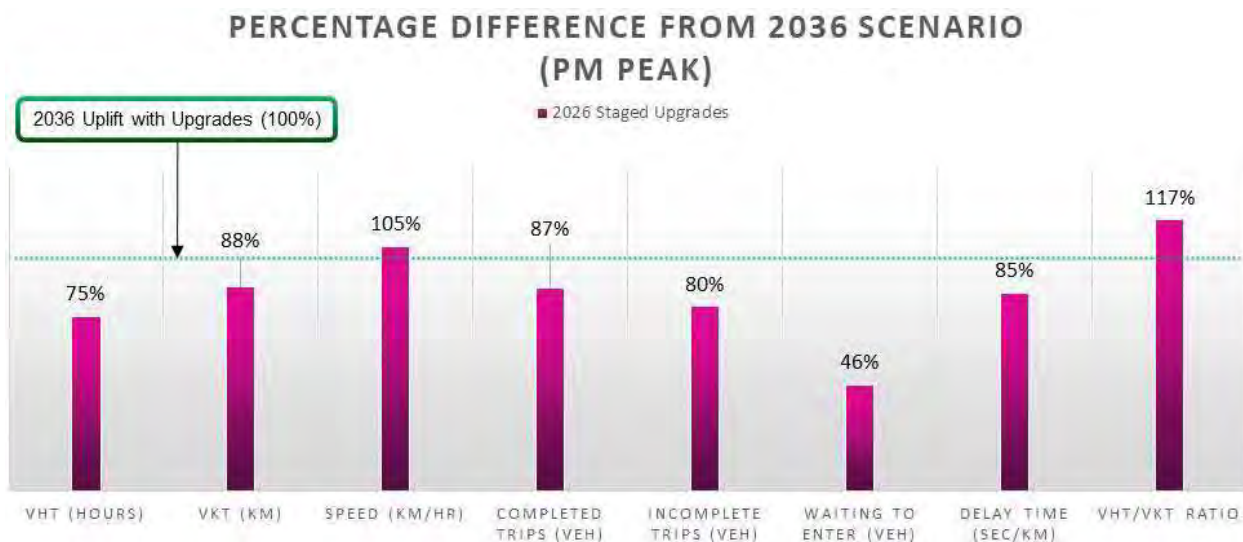


Figure 9-3: 2026 vs 2036 Network Statistics Comparison – PM Peak

The results show that in both the peak periods, the 2026 scenario exhibits:

- Lower VHT and VKT outputs, but a higher VHT/VKT ratio, meaning that average travel speeds travelled through the network are faster in 2026 than 2036 which is indicative of lower traffic congestion
- A lower number of trips overall, including completed, incomplete and waiting to enter (this is expected due to the reduced traffic demands compared to 2036)
- Lower average delay times across the network.

Overall, these outcomes demonstrate that the ‘2026 Staged Upgrades’ network has acceptable performance levels relative to the ‘2036 Uplift with Upgrades’ scenario.

9.2 Road Network Upgrade Staging Summary

Table 9-1 summarises the proposed road network upgrades across the study area and nominates the recommended staging of works. The signal phasing changes have all been assumed to be implemented by 2026 due to the minimal works required and the benefits that would be accrued immediately.

Table 9-1: Proposed Road Network Upgrades – Details by Precinct and Stage

Location	Upgrade	Relevant Precinct	By 2026	By 2036
Parramatta Road / Bridge Road	Modify departure lane on eastern side of intersection to provide channelised right turn from Bridge Road	Homebush South	☑	☑
	Install peak hour parking restrictions on Bridge Road between Loftus Street and Parramatta Road	Homebush South	☒	☑
Parramatta Road / Station Street	Install peak hour No Right Turn restriction from Station Street to Parramatta Road (interim)	Homebush South	☑	☑
	Install left-in left-out configuration change to Parramatta Road / Station Street intersection	Homebush South	☒	☑
Parramatta Road / Knight Street	Install new right turn bay into Knight Street at the traffic signals	Homebush South	☒	☑
Underwood Road / Pomeroy Street	Implement changes to the signal phase sequence / timing	Homebush North	☑	☑
	'Do Minimum' changes	Homebush North	☑	☑
George Street / Pomeroy Street	Implement changes to the signal phase sequence / timing	Homebush North	☑	☑
Burwood Road	Install peak hour clearways along Burwood Road	Burwood	☒	☑
Burwood Road / Park Avenue / Wilga Street	Implement changes to the signal phase sequence / timing	Burwood	☑	☑
Gipps Road / Broughton Street	Implement changes to the signal phase sequence / timing	Burwood	☑	☑
Burwood Road / Burton Street	Upgrade the existing roundabout to a new set of traffic signals	Burwood	☑	☑
Parramatta Road / Loftus Street	Implement measures to deter rat-running behaviour through Loftus Street	Burwood	☑	☑
Harris Road / Queens Road	Install peak hour clearways along Harris Road	Kings Bay	☒	☑
	Install new short right turn bay on the east approach	Kings Bay	☒	☑
Queens Road at Great North Road	Extend existing westbound parking restrictions to 100m west of the traffic signals	Kings Bay	☒	☑
Parramatta Road / Great North Road	Adjust lane allocations on north approach to permit double right turn lanes.	Kings Bay	☒	☑

9.3 Concepts and ‘High Level’ Cost Estimates

Preliminary concept drawings were prepared for the key upgrade projects (see **Appendix A**), being:

- Intersection works near Parramatta Road / Knight Street
- New traffic signals at Burwood Road / Burton Street
- Modifications to the Meryla Street pedestrian crossing to facilitate clearways
- Intersection works near Harris Road / Queens Road.

Estimates have also been included for each of the minor works items being recommend in this study. No cost estimates have been prepared for the public and active transport initiatives and they are likely to occur as part of specific development in each precinct.

Indicative cost estimates were prepared for these works based on the Independent Pricing and Regulatory Tribunal (IPART) NSW’s Local Infrastructure Benchmark Costs and previous experience with similar projects. Table 9.2 presents the costs by item.

Table 9.2: Indicative Upgrades Cost Estimates

Location	Upgrade	Quantity	Rate	\$ Total
Parramatta Road / Bridge Road	Line marking (departure lane channelisation)	90m	\$6/m	\$540
	Install peak hour parking restrictions (including coordination)	1	\$5,000*	\$5,000
Parramatta Road / Station Street	(Interim) Install NRT sign for Station Street traffic	1	\$1,000	\$1,000
	Install left-in left-out configuration	1	\$5000*	\$5,000
Parramatta Road / Knight Street	Install new right turn bay into Knight Street at the traffic signals	50	\$4,200	\$210,000
	Install new 6-aspect signal lanterns	2	\$10,000	\$20,000
Underwood Road / Pomeroy Street	Signal phase changes	1	\$5,000*	\$5,000
George Street / Pomeroy Street	Signal phase changes	1	\$5,000*	\$5,000
	Install new 6-aspect signal lanterns	2	\$10,000	\$20,000
Burwood Road	Install peak hour clearways along Burwood Road	1	\$5,000*	\$5,000
Burwood Road / Park Avenue	Signal phase changes	1	\$5,000*	\$5,000
Burwood Road / Meryla Street	(Option) Mid-block pedestrian crossing signalisation	1	\$120,000	\$120,000
Gipps Road / Broughton Street	Signal phase changes	1	\$5,000*	\$5,000
	Install new 6-aspect signal lanterns	4	\$10,000	\$40,000
Burwood Road / Burton Street	New traffic signals	1	\$600,000 ⁺	\$600,000
Loftus Street	Local Area Traffic Management	1	\$50,000	\$50,000
Harris Road / Queens Road	Install peak hour clearways along Harris Road	1	\$5,000*	\$5,000
	Install new short right turn bay	1	\$400,000 ⁺	\$400,000
Queens Road at Great North Road	Install peak hour parking restrictions (including coordination)	1	\$5,000*	\$5,000
Parramatta Road / Great North Road	Adjust lane allocations on north approach to permit double right turn lanes.	1	\$5,000*	\$5,000
Total				\$1,511,540
Total (50% Contingency)				\$2,267,310

* Estimated \$5,000 cost for general Traffic Engineering works

⁺ Includes land acquisition cost estimate

10. CONCLUSIONS AND RECOMMENDATIONS

10.1 Challenges in Fulfilling the Vision

The PRCUTS was published in 2016 with a clear vision for revitalising the Parramatta Road corridor associated with the WestConnex M4 project. PRCUTS envisaged that at least two lanes-worth of traffic would be removed from Parramatta Road, allowing for two of its current six lanes to be re-purposed for exclusive use by public transport. The relocation of some through traffic off Parramatta Road and into the M4 tunnel was also seen as an opportunity to 'Uplift' key locations along the corridor and to shift Parramatta Road towards more people-friendly, place-based and local access roles. These development uplift locations included Homebush (North and South), Burwood-Concord and Kings Bay precincts, which were the focus areas for this Traffic and Transport Study.

Consistent with the PRCUTS vision and towards the start of this project, around mid-2018, the following five principles were established and agreed to guide this study:

- Make the most of WestConnex
- Localise Parramatta Road
- Maximise public transport efficiency
- Improve walking and cycling connectivity
- Manage long-stay parking.

In 2018, the study sought clarification of whether to model Parramatta Road as four or six lanes in the future, informed by future year modelling based on STFM traffic forecast. The study was advised by TfNSW to model Parramatta Road as a six lane traffic corridor. The study was then paused between 2018 and 2021 to allow TfNSW to develop its future year forecasts for consistency across the entire Parramatta Road corridor.

The 'predict and provide' approach adopted when the study recommenced and AIMSUN modelling was advanced, identified excessive congestion of the six lane Parramatta Road corridor by 2036, diminishing the ability to align the subsequent investigations with the strategic principles established in 2018.

Ideally, the two lanes of Parramatta Road should have been 'quarantined' for public transport when the WestConnex M4 East opened to traffic in 2020. This would have allowed a 'vision and validate' approach to be meaningfully pursued when this study recommenced in 2021. Notwithstanding the above advice from TfNSW during the study, it is understood that TfNSW is now (towards the end of this study) undertaking a separate study on long-term public transport options along the corridor, with the outcomes likely to guide the direction of the vision for the corridor. Any conclusions drawn for the current TfNSW work are likely to influence the conclusions drawn in this study.

10.2 Forecast Growth in Population, Employment and Traffic

The TfNSW STFM shows that the study area's population is forecast to increase from around 36,000 in 2016 to over 94,000 in 2036, with the majority of growth around Strathfield and Five Dock. Similarly, the STFM shows employment increasing from around 23,000 jobs in 2016 to 34,000 jobs in 2036. The majority of this growth around Canada Bay and Strathfield.

Compared with significant through traffic growth, local populations and employment growth sees an increase in traffic by up to 18,000 vehicle-trips by 2036 in each of the morning and afternoon 2-hour peak periods. 11,000 more vehicle trips than the 'no Uplift' scenario. In both scenarios the majority of traffic in the study area in 2036 are eternal-to-external trips (i.e. trips that originate outside of the study area and pass through the study area).

10.3 Traffic Modelling Outcomes

The key outcomes from the Benchmark and Uplift future year traffic modelling were:

- The 2036 scenarios with no intervention demonstrated significant levels of congestion in the network fundamentally related to excessive congestion on Parramatta Road which led to extensive queuing into local road networks, long delays and breakdown of traffic flow.
- Long east-west queues along Parramatta Road would result in secondary issues at upstream locations, often with vehicles on side streets to Parramatta Road being unable to discharge into it due to residual queuing within Parramatta Road
- A significant volume of the forecast demand would not be able to enter the network by the end of the simulation period, particularly at key locations like the Australia Avenue roundabout, Parramatta Road to the west, The Crescent near Homebush Station and Burwood Road. This means that it is likely that there would be greater peak spreading, additional traffic diversions around the study area, some trip re-distribution to other areas, some modal shift and some trip suppression. However, the delay thresholds needed for these changes in traveller choice to occur, the level of congestion within the study area would be expected to be much worse than is currently experienced
- The worst traffic issues were observed to be concentrated at the western end of the study area with some near Concord Road, George Street and Underwood Road. This level of congestion in Strathfield is somewhat 'buffered' Parramatta Road congestion at Burwood and Kings Bay further east. In these locations, additional traffic generated by the Uplift areas also creates queues in this area back from Parramatta Road also affecting local east-west roads both north and south of Parramatta Road.

The key outcomes from the Uplift scenario after implementing the proposed Upgrade schemes were:

- Reduced average delay times across the network by around 30% and consistently higher average speeds across modelled area
- A significant reduction in vehicles waiting to enter the network by up to around 40% due to improved usage of the road capacity
- Improved travel times along the Parramatta Road corridor between Bridge Road and Great North Road, with typical improvements of around 10 minutes in the peak direction of travel .

10.4 Improvement Measures Development

The fundamental issues generating 2036 congestion issues cannot be solved in local area networks. That is, there are no reasonable major road projects in or near the precincts which will solve the forecast congestion issues.

Parramatta Road and its congestion in 2036 is the key constraint.

Any traffic capacity upgrades at intersections near to Parramatta Road to relieve capacity pinch points may increase the rate of traffic accessing Parramatta Road without necessarily resulting in a marked improvement in queueing or delays at the subject intersection. Incremental minor upgrades to Parramatta Road would also provide minimal benefits in solving congestion. A more strategic approach to the consideration of Parramatta Road's future congestion and role, beyond the scope and considerations in this study, is needed. This could include investigations like TfNSW's ongoing study into the development of long-term public transport options for the corridor and the potential to limit Parramatta Road congestion to two traffic lanes per direction to support a substantial shift of movements to public transport.

On this basis, a balanced approach to traffic congestion management (rather than mitigation) has been used in this study, focussed on improving local access where possible and with a commensurate emphasis in improving walking, cycling and public transport infrastructure whilst implementing appropriate parking policies.

10.5 Uplift Area Findings

Part of the scope of this study was to identify if the Uplift areas (redevelopment precincts) were being proposed with too much development, or not enough development. The 'predict and provide' analysis clearly shows heavy congestion either without or with the uplift areas.

However, traffic congestion forecasts should not be the primary determinant of the levels of development in these precincts because the models will show that excessive congestion will exist regardless. The excessive congestion results in greater model inconsistency, so the impacts of development traffic may not be captured accurately. Rather, due consideration should be given to public transport accessibility as the primary determinant.

On this basis, and until such time as a rapid bus system or similar is introduced in Parramatta Road, the following development uplift conclusions can be drawn:

- **Homebush North:** Uplift levels should be supportable due to the presence of Concord West Station
- **Homebush South:** Uplift levels should be reconsidered with greater densities towards Knight Street (and the rail station) and reducing levels towards Bridge Road further away from public transport
- **Burwood – Concord:** Distribution of the proposed uplift should be weighted with high densities around Parramatta Road, Burwood Road and the proposed Burwood North Metro Station, with reduced levels towards the southeast and southwest corners of the precinct
- **Kings Bay:** Due to the relatively low level of direct public transport accessibility, this precinct is expected to have the heaviest reliance on private cars of all the precincts investigated. As such, the uplift traffic generation should be balanced by commensurate improvements to public and active transport services presumably identified and committed to through the current TfNSW study for Parramatta Road public transport improvements.

10.6 Action Plan

The consolidated action plan incorporates the road network upgrades, the public transport improvements, the active transport upgrades, the parking policy, TDM and local street network measures within a consolidated action table, by precinct. The actions are summarised in Table 10.1.

Table 10.1: Consolidated Actions Table

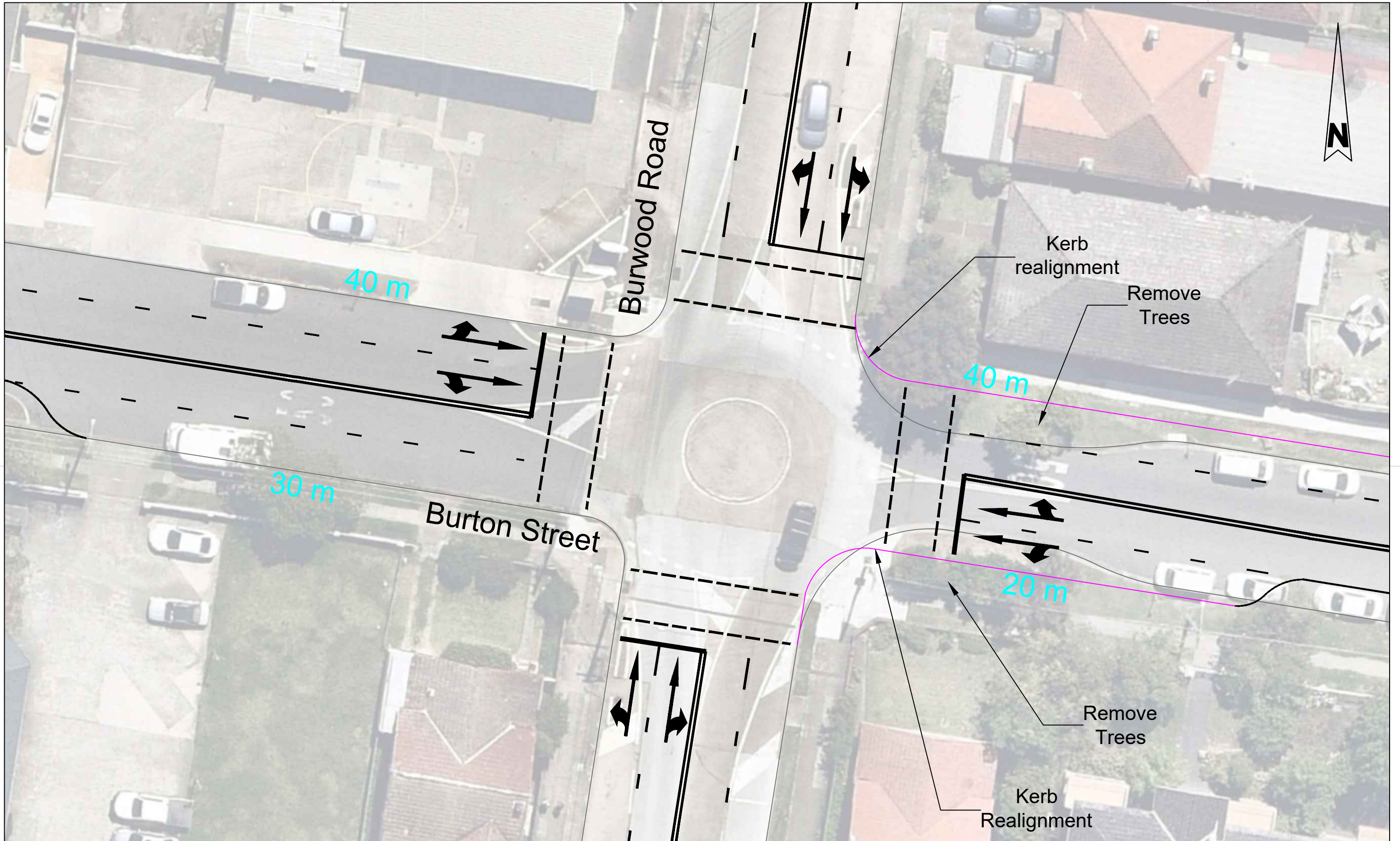
Type/ID	Location	Description	Responsibility	Cost	Timing
Homebush North Precinct					
RN-1	Underwood Road / Pomeroy Street	Implement changes to the signal phase sequence / timing	TfNSW	\$5,000	By 2026
RN-2		'Do Minimum' changes	TfNSW	\$5,000	By 2026
RN-3	George Street / Pomeroy Street	Implement changes to the signal phase sequence / timing	TfNSW	\$5,000	By 2026
PT-1	King Street at Concord West Station	Investigate a new bus terminal / interchange	Canada Bay Council / TfNSW	TBC	TBC
PT-2	From King Street Terminal	Improve bus connectivity to Homebush North via a new bus route on George Street	TfNSW	TBC	TBC
AT-1	Near Station Street, Concord West	Additional pedestrian links through the redevelopment areas for more permeable networks and for better connectivity to public transport	Canada Bay Council	TBC	TBC
AT-2	Future Business Park (currently Westpac) at 1 King Street, Concord West	Include pedestrian links as part of redevelopment for improved pedestrian permeability near the station	Developer / Canada Bay Council	TBC	TBC
TDM1	Homebush North Precinct	Implement 'P2' parking provision rates in Development Control Plan	Canada Bay Council	TBC	TBC
TDM2	Victoria Avenue (W), Concord West	Provide new dedicated car share pod(s) on Victoria Avenue west of the railway line with redevelopment.	Canada Bay Council	TBC	TBC
Homebush South Precinct					
RN-4	Parramatta Road / Bridge Road	Modify the departure lane on the eastern side of the intersection to provide a channelised right turn from Bridge Road	Strathfield Council	Minimal	By 2026
TDM-3		Install peak period clearways on Bridge Road between Loftus Street and Parramatta Road	Strathfield Council	\$5,000	By 2036
RN-5	Parramatta Road / Station Street	Install peak hour No Right Turn restriction from Station Street to Parramatta Road (interim)	TfNSW	\$1,000	By 2026
RN-6		Install left-in left-out configuration change to Parramatta Road / Station Street intersection	TfNSW	\$5,000	By 2036

Type/ID	Location	Description	Responsibility	Cost	Timing
RN-7	Parramatta Road / Knight Street	Install new right turn bay into Knight Street at the traffic signals	TfNSW	\$230,000	By 2036
PT-3	Homebush South Precinct – Western Side	Explore option of new bus stops and bus routes to improve public transport access for the western catchment.	TfNSW	TBC	TBC
TDM-4		Implement 'P3' parking provision rates in Development Control Plan	Strathfield Council	TBC	TBC
TDM-5	Homebush South Precinct – Eastern Side	Implement 'P2' parking provision rates in Development Control Plan	Strathfield Council	TBC	TBC
AT-3	The Crescent	Design and install new cycle route connecting Strathfield Station and the Bay to Bay Cycle and Walkway via The Crescent, Beresford Road, Elva Street and Albert Street	Strathfield Council	TBC	TBC
AT-4	Station Street and Parramatta Road	Design and install new cycle route connecting the existing shared path at Ismay Reserve to Homebush Station via Station Street and Parramatta Road to connect	Strathfield Council	TBC	TBC
AT-5	Parramatta Road at Underwood Road	Design and install a new cycle route connection between Underwood Road and Subway Lane, spanning Parramatta Road.	Strathfield Council / TfNSW	TBC	TBC
TDM-6	Homebush South Precinct	Provide new dedicated car share pod(s) within the Homebush South Precinct, located centrally on key roads like Knight Street or Park Road as redevelopment occurs	Strathfield Council	TBC	TBC
Burwood-Concord Precinct					
TDM-7	Burwood Road	Install peak hour clearways along Burwood Road between Wilga Street and Parramatta Road	Burwood Council / TfNSW	\$5,000	By 2036
RN-9	Burwood Road / Park Avenue / Wilga Street	Implement changes to the signal phase sequence / timing	TfNSW	\$5,000	By 2026
RN-10	Gipps Road / Broughton Street	Implement changes to the signal phase sequence / timing	TfNSW	\$5,000	By 2026
RN-11	Burwood Road / Burton Street	Upgrade the existing roundabout to a new set of traffic signals	Canada Bay Council / TfNSW	\$600,000	By 2026
RN-12	Parramatta Road / Loftus Street	Implement measures to deter rat-running behaviour through Loftus Street	Canada Bay Council	\$50,000	By 2026
AT-6	Comer Street, Rowley Street and Burwood Park	Design and install a new cycle route connecting Grantham Street and Neich Parade along the north side of Burwood Park	Canada Bay Council / TfNSW	TBC	TBC

Type/ID	Location	Description	Responsibility	Cost	Timing
TDM-8	Burwood-Concord Precinct	Implement 'P1' parking provision rates in the Development Control Plan	Burwood Council	TBC	TBC
TDM-9	Burwood-Concord Precinct – Northern side	Provide new dedicated car share pod(s) within the Burwood-Concord Precinct, located towards the northern side of the catchment near Parramatta Road on key roads like Burwood Road.	Burwood Council	TBC	TBC
Kings Bay Precinct					
TDM-10	Harris Road / Queens Road	Install peak hour clearways along Harris Road, including relocation of school pick-up and drop-off zone.	Canada Bay Council / TfNSW	\$5,000	By 2036
RN-13		Install new short right turn bay on the east approach	TfNSW	\$400,000	By 2036
TDM-11	Queens Road at Great North Road	Extend existing westbound parking restrictions to 100m west of the traffic signals	TfNSW	\$5,000	By 2036
RN-14	Parramatta Road / Great North Road	Adjust lane allocations on the northern approach to permit double right turn lanes.	TfNSW	\$5,000	By 2036
PT-4	Queens Road	Explore option of new bus stops and bus routes to improve public transport access for the northern side of the precinct.	TfNSW	TBC	TBC
AT-7	William Street	Design and install a new cycle route connecting the shared path on Parramatta and the planned cycle route on William Street via William Street	Canada Bay Council	TBC	TBC
AT-8	Between Regatta Street and William Street	Improve pedestrian facilities through the future Kings Bay urban village to facilitate better connection between the major movement corridors.	Canada Bay Council	TBC	TBC
AT-10	Through existing lot bounded by Walker Street and Regatta Street	Improve pedestrian facilities through the site to improve pedestrian permeability near the future Kings Bay urban village.	Canada Bay Council	TBC	TBC
AT-11	Harris Road	Improve pedestrian facilities along Harris Road, which is a key future corridor for movement through the precinct.	Canada Bay Council	TBC	TBC
TDM-12	Kings Bay Precinct (south and east sides)	Implement 'P2' parking provision rates in Development Control Plan	Canada Bay Council	TBC	TBC
TDM-13	Kings Bay Precinct (north-west corner)	Implement 'P3' parking provision rates in Development Control Plan	City of Canada Bay	TBC	TBC
TDM-14	Queens Road, west of Harris Road	Provide new dedicated car share pod(s) within the Kings Bay Precinct, located on key roads like Queens Road.	City of Canada Bay	TBC	TBC

Appendix A: Concept Design Drawings





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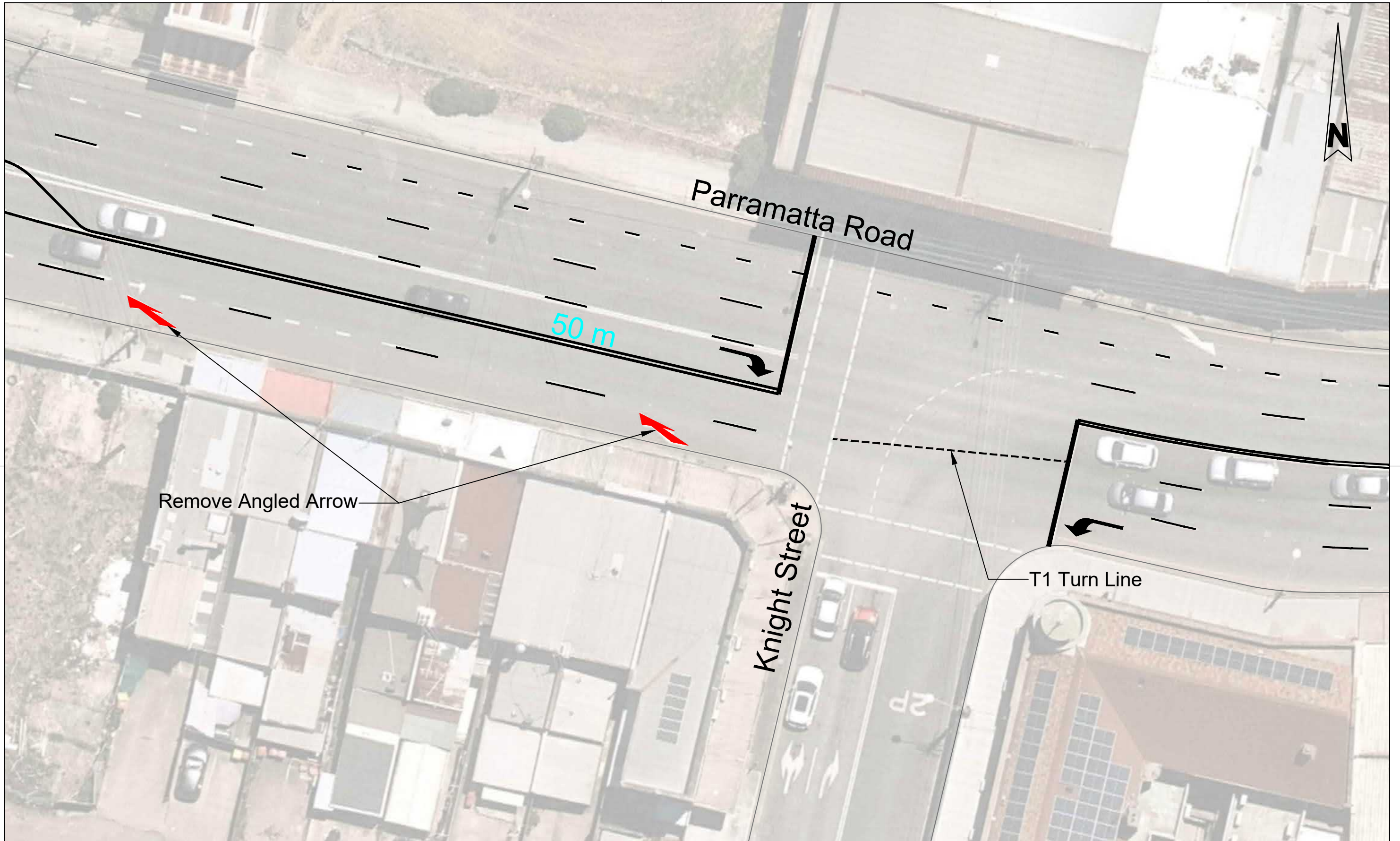
REVISIONS		Drawn	Date
Issue	Revisions/Descriptions		
001	Parramatta Road Corridor - Concept	A.L	18.11.2021

Scale @ A3 1:250

Project
 Parramatta Road Corridor Study

Title
 Burwood Road & Burton Street Intersection
 Signalised Intersection

Design A.L	Drawn A.L	Checked A.G
CONCEPT ONLY		
Date 18.11.2021	Project Number P3179	Issue 001
	Sheet Number 1	



Remove Angled Arrow

Parramatta Road

50 m

Knight Street

T1 Turn Line



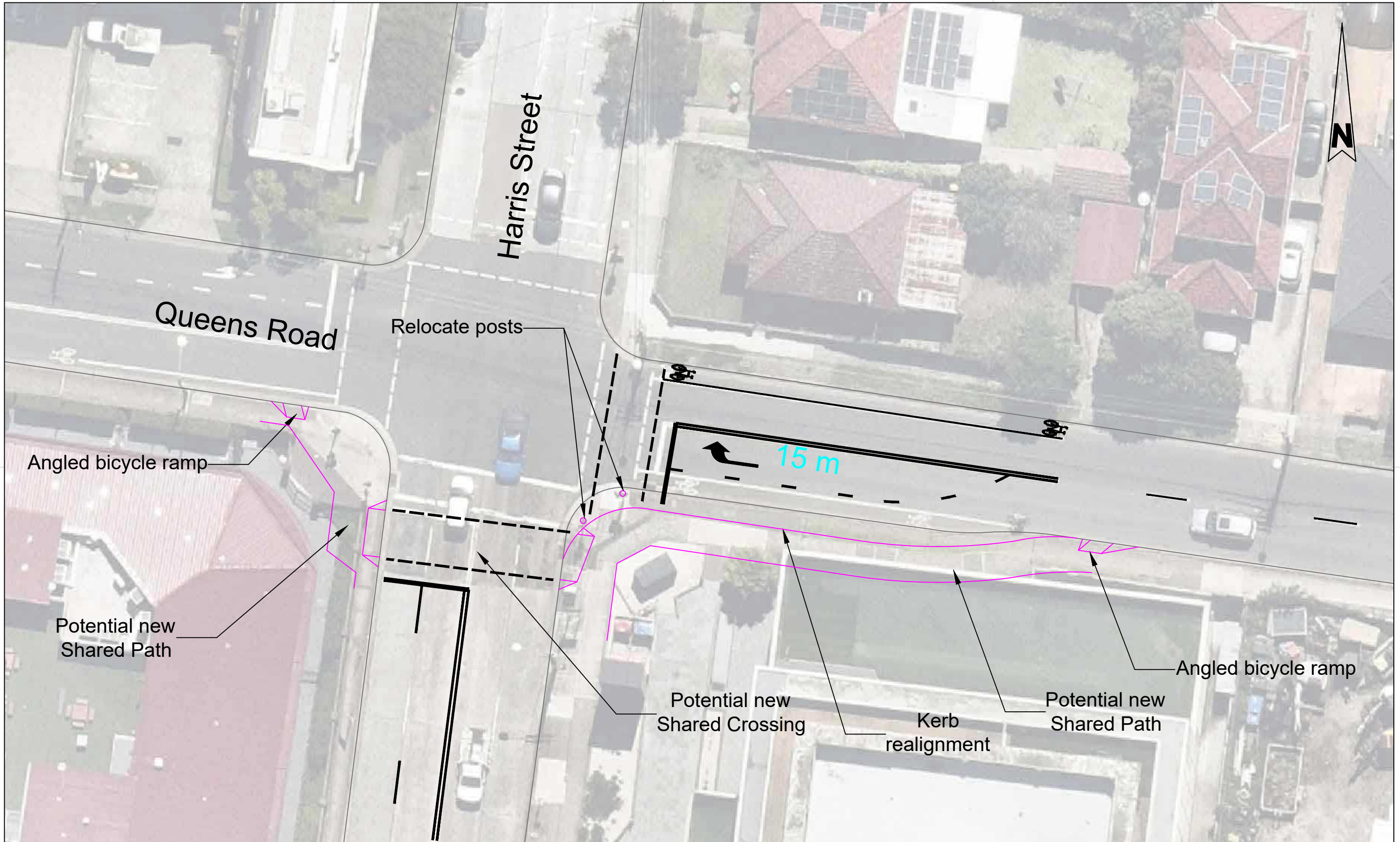
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REVISIONS			
Issue	Revisions/Descriptions	Drawn	Date
001	Parramatta Road Corridor - Concept	A.L	18.11.2021

Scale @ A3 1:250

Project	Parramatta Road Corridor Study	
Title	Parramatta Road & Knight Street Right Turn Bay	

Design	A.L	Drawn	A.L	Checked	A.G	
CONCEPT ONLY					Date	18.11.2021
Project Number	P3179	Sheet Number	2	Issue	001	



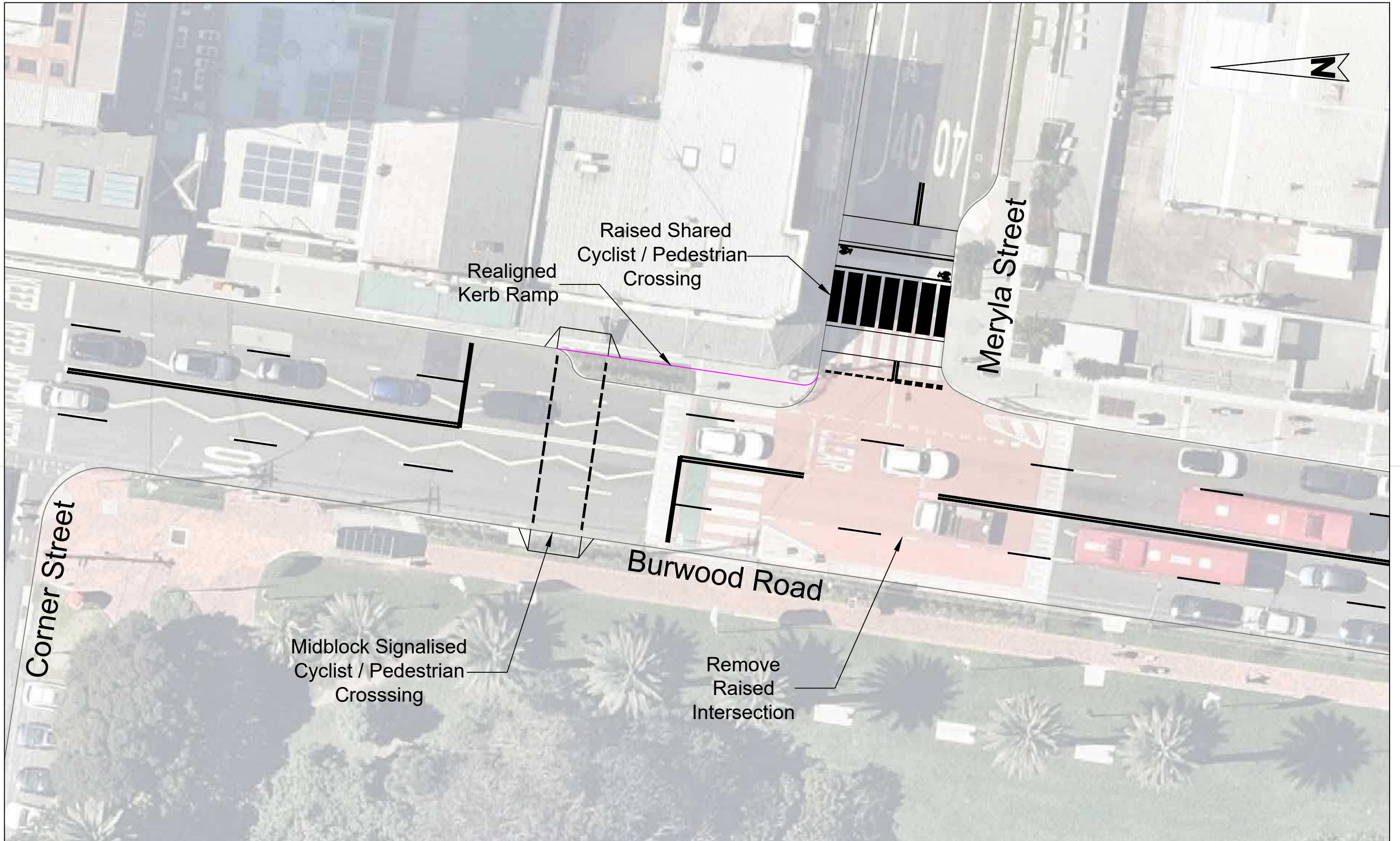
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REVISIONS			
Issue	Revisions/Descriptions	Drawn	Date
001	Parramatta Road Corridor - Concept	A.L	18.11.2021

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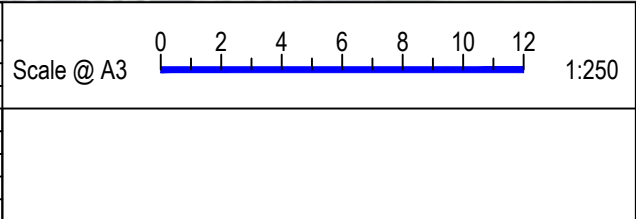
Project	Parramatta Road Corridor Study	
Title	Queens Road & Harris Street Right Turn Bay	

Design	A.L	Drawn	A.L	Checked	A.G
CONCEPT ONLY					
Project Number	P3179	Sheet Number	3	Date	18.11.2021
Issue	001				



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REVISIONS			
Issue	Revisions/Descriptions	Drawn	Date
001	Parramatta Road Corridor - Concept	A.L	18.11.2021



Project	Parramatta Road Corridor Study	
Title	Burwood Road & Meryla Street 4 Lanes Roadway Upgrade	

Design	A.L	Drawn	A.L	Checked	A.G
CONCEPT ONLY					
Project Number	P3179	Sheet Number	4	Date	18.11.2021
Issue					001

Appendix B: Transit Precinct Development Comparison



Parramatta Study Area

Zones by Suburb

Homebush	Canada Bay	Strathfield/Burwood	Burwood Station
719	706	969	913
958	707	970	915
961	720	910	
963	738	911	
717	735	912	
959			
960			

	Bicycle	Bus	Car as driver	Car as passenger	Ferry	Motorbike	Taxi	Train	Tram	Truck	Walked only	Grand Total
Homebush North	10	12	427	27	0	5	0	351	0	5	36	873
Homebush South	16	53	1926	176	0	14	7	1514	3	25	143	3887
Canada Bay	54	516	3380	264	41	48	27	818	6	50	170	5374
Strathfield/Burwood	31	230	1854	191	0	26	4	2087	3	26	273	4726
											Grand Total	13987

Precinct	Bicycle	Bus	Car as driver	Car as passenger	Ferry	Motorbike	Taxi	Train	Tram	Truck	Walked only
Homebush North	1.1%	1.4%	48.9%	3.1%	0.0%	0.6%	0.0%	40.2%	0.0%	0.6%	4.1%
Homebush South	0.4%	1.4%	49.5%	4.5%	0.0%	0.4%	0.2%	39.0%	0.1%	0.6%	3.7%
Canada Bay	1.0%	9.6%	62.9%	4.9%	0.8%	0.9%	0.5%	15.2%	0.1%	0.9%	3.2%
Strathfield/Burwood	0.7%	4.9%	39.2%	4.0%	0.0%	0.6%	0.1%	44.2%	0.1%	0.6%	5.8%
Average	0.7%	5.3%	50.6%	4.5%	0.3%	0.6%	0.3%	32.8%	0.1%	0.7%	4.2%

Precinct	Bicycle	Bus	Car as driver	Car as passenger	Ferry/Tram	Motorbike	Taxi	Train	Truck	Walked only
Homebush	0.7%	1.4%	49.5%	4.5%	0.1%	0.4%	0.2%	39.0%	0.6%	3.7%
Canada Bay	1.0%	9.6%	62.9%	4.9%	0.9%	0.9%	0.5%	15.2%	0.9%	3.2%
Strathfield/Burwood	0.7%	4.9%	39.2%	4.0%	0.1%	0.6%	0.1%	44.2%	0.6%	5.8%
Average	0.8%	5.3%	50.6%	4.5%	0.3%	0.6%	0.3%	32.8%	0.7%	4.2%

Aspirational 2023 Targets

Precinct	Bicycle	Bus	Train	Walked only	Car as driver	Car as passenger
Homebush	1.5%	2.3%	40.0%	4.0%	47.7%	4.5%
Canada Bay	2.0%	20.0%	15.2%	3.5%	54.4%	4.9%
Strathfield/Burwood	1.5%	15.0%	45.0%	6.0%	28.5%	4.0%
Average	1.7%	12.4%	33.4%	4.5%	43.5%	4.5%

Case Study Areas

Zones by Suburb

Top Ryde	Meadowbank	Rhodes	Crows Nest
1571	1591	712	1911
1568	1576	710	1912
1570	1589		1910

	Bicycle	Bus	Car as driver	Car as passenger	Ferry	Motorbike	Taxi	Train	Tram	Truck	Walked only	Grand Total
Top Ryde	12	465	1240	98	4	18	3	142	0	17	107	2188
Meadowbank	4	53	771	89	14	7	6	489	0	7	52	1482
Rhodes	12	28	993	89	0	17	0	977	3	3	130	2282
Crows Nest	22	412	883	63	3	7	18	335	0	0	363	1996
											Grand Total	7758

	Bicycle	Bus	Car as driver	Car as passenger	Ferry	Motorbike	Taxi	Train	Tram	Truck	Walked only	Grand Total
Top Ryde	0.6%	22.1%	58.8%	4.6%	0.2%	0.9%	0.1%	6.7%	0.0%	0.8%	5.1%	100.0%
Meadowbank	0.3%	3.6%	51.7%	6.0%	0.9%	0.5%	0.4%	32.8%	0.0%	0.5%	3.5%	100.0%
Rhodes	0.5%	1.2%	44.1%	4.0%	0.0%	0.8%	0.0%	43.4%	0.1%	0.1%	5.8%	100.0%
Crows Nest	1.2%	21.6%	35.8%	3.3%	0.2%	0.4%	0.9%	17.6%	0.0%	0.0%	19.0%	100.0%
Average	0.6%	12.1%	47.6%	4.5%	0.3%	0.6%	0.4%	25.1%	0.0%	0.4%	8.3%	100.0%