

1. Introduction

1.1 Background

Sustain JV (SJV) has been commissioned by Transport for NSW (TfNSW) to prepare an assessment of vehicle access to Erskineville Road as part of the Wilson Street Cycleway project. The project includes the provision of a new bi-directional cycleway along Wilson Street east of King Street in Newtown, Sydney.

As part of the design of the proposed cycleway, changes to the road function along Wilson Street are required, including removing some time-restricted on-street parking and a loading zone. To maintain access to loading zones for deliveries to nearby retail and food outlets, it has been proposed that a loading zone be established around the corner on Erskineville Road between 10:00 am and 3:30 pm on weekdays.

To provide an increased level of safety for cyclists using the Wilson Street Cycleway, a turn ban has been proposed for vehicles turning left into Erskineville Road (northbound) from Wilson Street (eastbound) (i.e. across the path of the cycleway). Concerns regarding vehicle access routes for delivery vehicles travelling to the new/relocated loading zone on Erskineville Road have been noted.

As part of the ESC project, a Traffic Impact Assessment has been undertaken to identify and assess alternate access routes for delivery and freight vehicles travelling to the loading zone on Erskineville Road. This includes a high-level qualitative assessment of the potential increase in delivery vehicles along suitable access routes and potential impacts on the surrounding road network. Additionally, a review of the proposed left turn ban onto Erskineville Road to identify the benefits to users of the cycleway has also been undertaken.

1.2 Purpose of this report

The purpose of this memorandum is to outline the findings of a qualitative assessment, including the identification of potential traffic impacts of a permanent left turn ban at the intersection of Wilson Street and Erskineville Road (western approach). It includes an estimation of the potential increase in traffic volumes along possible detour routes and which alternate routes delivery and freight vehicles may choose to use.

1.3 Study Area

The study area for the assessment includes both the modified intersection and the surrounding road network along which re-routed vehicles may travel. The study area is shown in Figure 1.

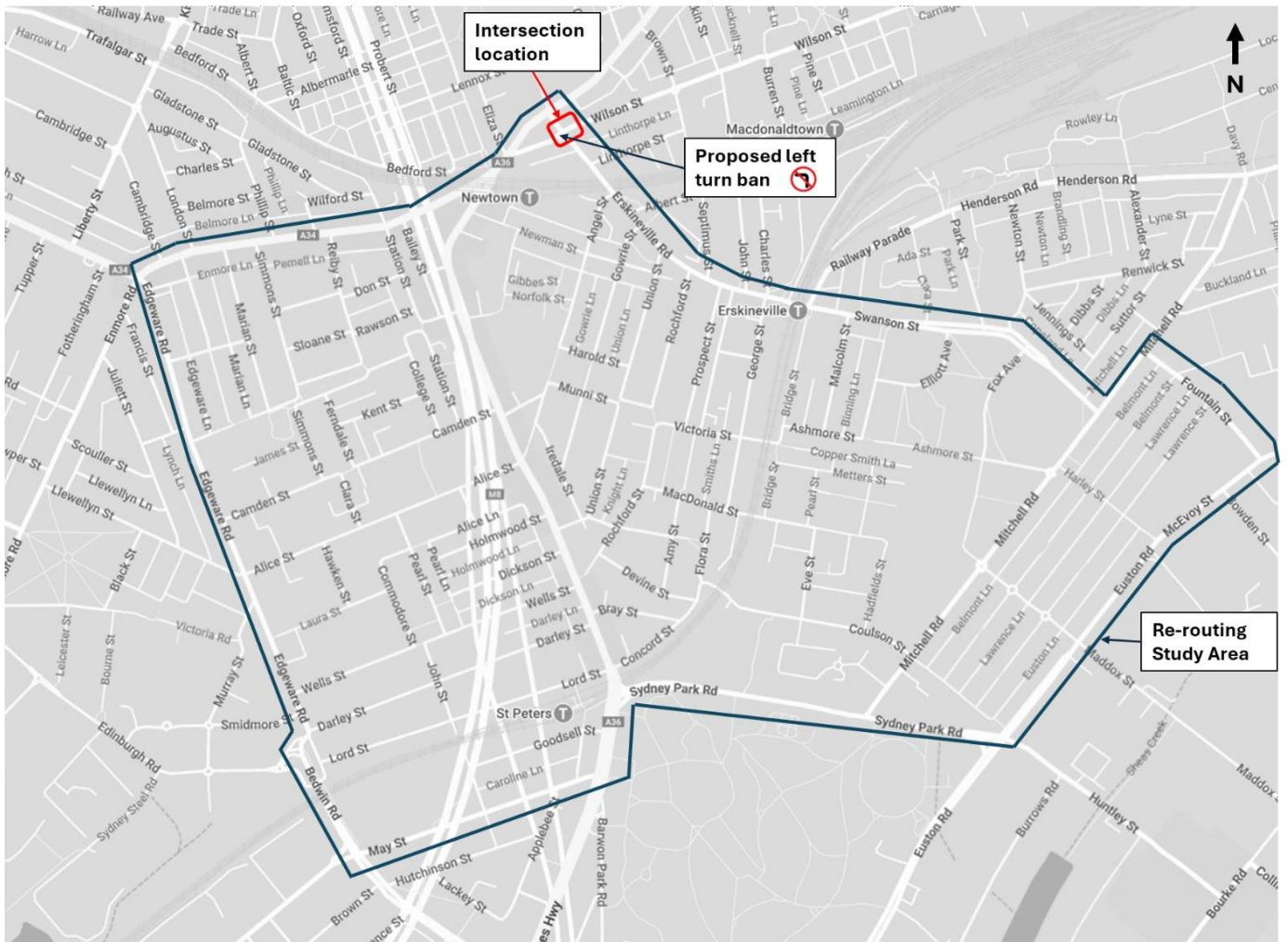


Figure 1 Study Area
Source: Google Maps (modified by SJV)

1.4 Report contents

This report contains an outline of:

- The existing conditions of the road network
- The assessment methodology
- The collected peak hour traffic data (gathered on 12 March 2024) between 6:00 am and 9:00 am, and 4:00 pm and 7:00 pm.
- The re-routing assessment, including potential routes and re-routed volumes
- The potential impacts on the local road network, including potential mitigation measures.

2. Existing road network

2.1 Road safety review

A road safety review was undertaken at the intersection of Wilson Street and Erskineville Road using the following data:

- Recorded crash data between 2019 and 2023 (from the TfNSW Centre for Road Safety) to identify potential safety issues at the intersection.
- 'Near misses' recorded via Compass IoT connected vehicle data as indicators of high G-force occurrences that may not be captured in recorded crash data. These are leading indicators in identifying potential high-risk movements at the intersection.

Two crashes were recorded at Wilson Street / Erskineville Road intersection between 2019 and 2023. Details and analysis of the two crashes showed:

- One crash was recorded as a rear end collision resulting in a minor/other injury. It was recorded on Erskineville Road (south approach).
- The other recorded crash was a non-casualty (towaway) incident involving a vehicle going off-road into an object. It was recorded along Wilson Street (east leg)

Additionally, analysis of Compass IoT near miss data recorded between April 2020 and April 2025 identified the following:

- Three near misses were recorded at the intersection location over the five-year period.
- A near miss due to high steering G-forces and two due to harsh braking were recorded.
- All near misses were recorded along Erskineville Road, with the near miss classified due to high steering G-forces recorded on the left turn onto Wilson Street (signalised slip lane). This was potentially due to a vehicle taking the corner at high speed.
- The two harsh braking near misses were on approach to the intersection from the south. This is potentially due to congestion or trying to avoid a rear end collision.

No potential existing safety concerns were noted at Wilson Street / Erskineville Road due to the low number of incidents that had been recorded, together with an absence of consistent trends.

2.2 Existing road network

The conditions of the existing road network were assessed through a desktop study, with the characteristics of the roads in the study area outlined in Table 1. All roads within the study area were identified as having a three-tonne load limit, besides those summarised in Table 1 and shown in Figure 2.

The conditions were assessed using:

- Aerial/street imagery (Google Maps, Nearmaps, Google Street View)
- TfNSW Cycleway Finder and Road Network Classifications Maps
- National Heavy Vehicle Regulator – National Network Map

Table 1 Characteristics of key roads in the study area

Element	Erskineville Road/Copeland Street/Swanson Street (State Road)	Wilson Street (State Road)	King Street (State Road)	Enmore Road (State Road)
Carriageway	South of Wilson Street • Six to 13 metre-wide carriageway. • One lane in each direction. North of Wilson Street • Six-metre-wide carriageway • Two northbound lanes	East of Erskineville Road: • 6.8 metre-wide carriageway. • One eastbound lane. West of Erskineville Road • 8.3 metre-wide carriageway. • One lane in each direction.	• 13.8 metre-wide carriageway. • Two lanes in each direction.	• 11.6 metre-wide carriageway. • Two lanes in each direction.
Speed limit	• 40 km/h	• 40 km/h	• 40 km/h	• 40 km/h
Parking	• On-street parking is provided in sections along the road. • No on-street parking is provided near the intersection with Wilson Street. • Time-restricted parking is provided in Erskineville local centre.	• On-street parking along the northern kerb	• The kerbside lanes provide time-restricted parking in segments along the corridor. • Sections of no-stopping and no-parking restrictions are enforced.	• The kerbside lanes provide time-restricted parking in segments along the corridor. • Sections of no-stopping and no-parking restrictions are enforced.
Pedestrian facilities	• Footpaths are provided on both sides of the road. • Pedestrian crossing locations are provided along the road.	• Footpaths are provided along both sides of the road. • Pedestrian crossing facilities are provided at intersections.	• Footpaths are provided along both sides of the road. • Signalised pedestrian crossing facilities are provided at signalised intersections.	• Footpaths are provided along both sides of the road. • Signalised pedestrian crossing facilities are provided at signalised intersections.
Bicycle facilities	• No cycling facilities are provided.	• A single-direction bicycle path is provided between Erskineville Road and Burren Street (westbound).	• No cycling facilities are provided.	• No cycling facilities are provided.
Public transport	• No bus facilities are provided. • Provides access to Erskineville Train Station.	• No bus facilities are provided.	• Bus stops are provided along the road.	• Bus stops are provided along the road.
Freight route	• Other state road (TfNSW metropolitan road freight hierarchy).	• Not a freight route (TfNSW metropolitan road freight hierarchy). • No truck restriction to the east of Erskineville Road.	• Tertiary freight route (TfNSW metropolitan road freight hierarchy).	• Tertiary freight route (TfNSW metropolitan road freight hierarchy).

Element	Sydney Park Road (State Road)	Mitchell Road (State Road / Local Road)	Euston Road/McEvoy Street (State Road)	Fountain Street (State Road)
Carriageway	12.2 metre-wide carriageway. - Two-west bound lanes. - One eastbound lane (east of Mitchell Road) and two eastbound lanes (west of Mitchell Road).	11.6 metre-wide carriageway. - Two southbound lanes. - One northbound lane (south of Huntley Street) and two northbound lanes (north of Huntley Street).	21.1 metre-wide carriageway - Generally, two lanes in each direction (three lanes each near the intersection with Sydney Park Road).	13.1 metre-wide carriageway. - Two lanes in each direction.
Speed limit	40 km/h	50 km/h	60 km/h	50 km/h
Parking	- The westbound kerbside lane has on-street parking west of Mitchell Road. - No parking restriction on the westbound kerbside lane east of Mitchell Road. - No parking in the eastbound direction.	- Parking is available along the southbound kerbside lane. - Parking is available along the northbound kerbside lane north of Huntley Street.	- On-street parking is provided in the kerbside lane in each direction. - No parking restrictions are in place in the primary direction of travel during peak periods.	On-street parking is provided in the kerbside lane in each direction.
Pedestrian facilities	- Footpaths are provided along both sides of the road. - Signalised pedestrian crossing facilities are provided at signalised intersections.	- Footpaths are provided on both sides of the road. - Pedestrian crossing locations are provided along the road.	- Footpaths are provided along both sides of the road. - Signalised pedestrian crossing facilities are provided at signalised intersections.	- Footpaths are provided along both sides of the road. - Signalised pedestrian crossing facilities are provided at signalised intersections.
Bicycle facilities	A bi-directional cycle path is provided on the northern kerb (eastbound).	A bi-directional cycle path is provided on the eastern kerb (eastbound) between Sydney Park Road and Huntley Street.	Off-road shared path between Harley Street and Bowden Street.	No cycling facilities are provided.
Public transport	Bus stops are provided along the road.	Bus stops are provided along the road.	Bus stops are provided along the road.	Bus stops are provided along the road.
Freight route	Secondary freight route (TfNSW metropolitan road freight hierarchy).	- Not a freight route (TfNSW metropolitan road freight hierarchy). 3-tonne load limit between 7 pm and 6 am.	Secondary freight route (TfNSW metropolitan road freight hierarchy).	Not a freight route (TfNSW metropolitan road freight hierarchy).

3. Assessment methodology

The assessment will use peak-hour traffic volumes observed in survey data to identify the likely volume of re-routed traffic for both light and heavy vehicles accessing Erskineville Road between Wilson Street and King Street.

The assessment has been undertaken in a qualitative manner to identify and assess suitable alternate access routes for the proposed loading zone on Erskineville Road. This includes an indicative comparison of the alternate access routes to existing operations (without the left turn ban), including travel time and distance.

To assess the travel time and distance of alternative access routes, the following data sources have been used:

- **Compass IoT** – Origin-destination data and travel time information.
- **Google Maps** – Typical traffic data and travel time information.

4. Traffic volumes

Traffic surveys were conducted at the intersection of Wilson Street and Erskineville Road on Tuesday, 12 March 2024, during the periods of:

- 6:00 am – 9:00 am
- 4:00 pm– 7:00 pm

The traffic survey data were used to estimate peak period (three-hour) traffic volumes currently using the left turn movement on the western approach (Wilson Street). The survey data for the total demand on the Wilson Street approach (west approach) and left turn traffic volumes were analysed in preparing this assessment.

The total demand for the Wilson Street approach (west approach) during the survey period is outlined in Table 2, along with a breakdown by vehicle type.

The surveys identified peak hour volumes of up to 40 vehicles using the right turn from Wilson Street during weekday periods (Tuesday) survey dates. The left turn volumes surveyed, including a breakdown by vehicle type and the percentages each represented of the total left turn demand, are outlined in Table 3.

Table 2 Total survey traffic volumes (all movements) – Wilson Street west approach

Peak period	Total	Light	Heavy
AM Total	2,081	1,998 (96%)	83 (3%)
PM Total	2,596	2,556 (98%)	40 (2%)

Table 3 Left turn survey traffic volumes from Wilson Street (three-hour peak period totals)

Survey period	Total	Light	Heavy
AM Total	13	13 (100%)	0 (0%)
PM Total	40	39 (98%)	1 (2%)

Analysis of the surveyed left turn demands compared to the total volumes for Wilson Street identified the following key findings:

- The number of left turning vehicles makes up a small proportion of the daily traffic demand at the intersection. Left turning traffic was surveyed as less than two percent of the total intersection traffic demands during the AM and PM peak periods.
- The left turning traffic was nearly all observed to be light vehicles (greater than 98 percent), with heavy vehicles representing a low proportion of total traffic demand at the intersection during these periods.
- Low/moderate traffic volume currently undertakes the left turn movement from Wilson Street (eastbound) into Erskineville Road (northbound), primarily during the PM survey period.

5. Impact assessment

5.1 Light vehicle alternative access

Light vehicles currently using the left turn from Wilson Street onto Erskineville Road, are assumed to be travelling north through onto King Street. A no-stopping restriction is currently in place along this section of Erskineville Road and limited land use to access. As such, vehicles currently completing this movement are expected to be distributed across the road network depending on their intended destination. Light vehicles are permitted to use all roads within the study area, except for some one-way street restrictions and existing turn bans at some intersections.

It is noted that some light vehicles currently using the left turn movement from Wilson Street may continue to travel westward along King Street and Enmore Road, as Wilson Street may be used for short-term parking or stopping to access nearby land use. These vehicles would be required to travel along an alternate route (shown in Figure 3), continuing along Wilson Street and onto King Street via Brown Street. Table 4 compares the travel times and distances between the existing and alternate egress routes.



Figure 3 Alternate egress routes – light vehicles from the west

Source: Google Maps (modified by SJV)

Table 4 Travel time comparison for light vehicles from the west

Route	Average travel time	Difference from existing travel time	Travel distance
Existing access	1 minute 53 seconds		150 m
Primary alternate access	2 minutes 26 seconds	33 seconds	500 m (additional 350 m)

5.2 Freight vehicle alternative routes

An assessment of alternate freight access routes to the proposed loading zone has been undertaken. Access routes for vehicles travelling from the west (Stanmore Road), south (Princes Highway), and east (King Street) have been considered, with the alternate access routes for each origin direction outlined below.

Delivery vehicles travelling from the west (Stanmore Road)

Freight travelling to the study area from the west is assumed to enter via Stanmore Road. These freight vehicles will likely originate in areas of the Inner West or Western Sydney.

An assessment of the likely alternate routes was undertaken for vehicles travelling from the west, based on minimal impacts to travel time and roads approved for use by vehicles over three tonnes. The suitable and most likely alternate access route identified for these vehicles is shown in Figure 4.

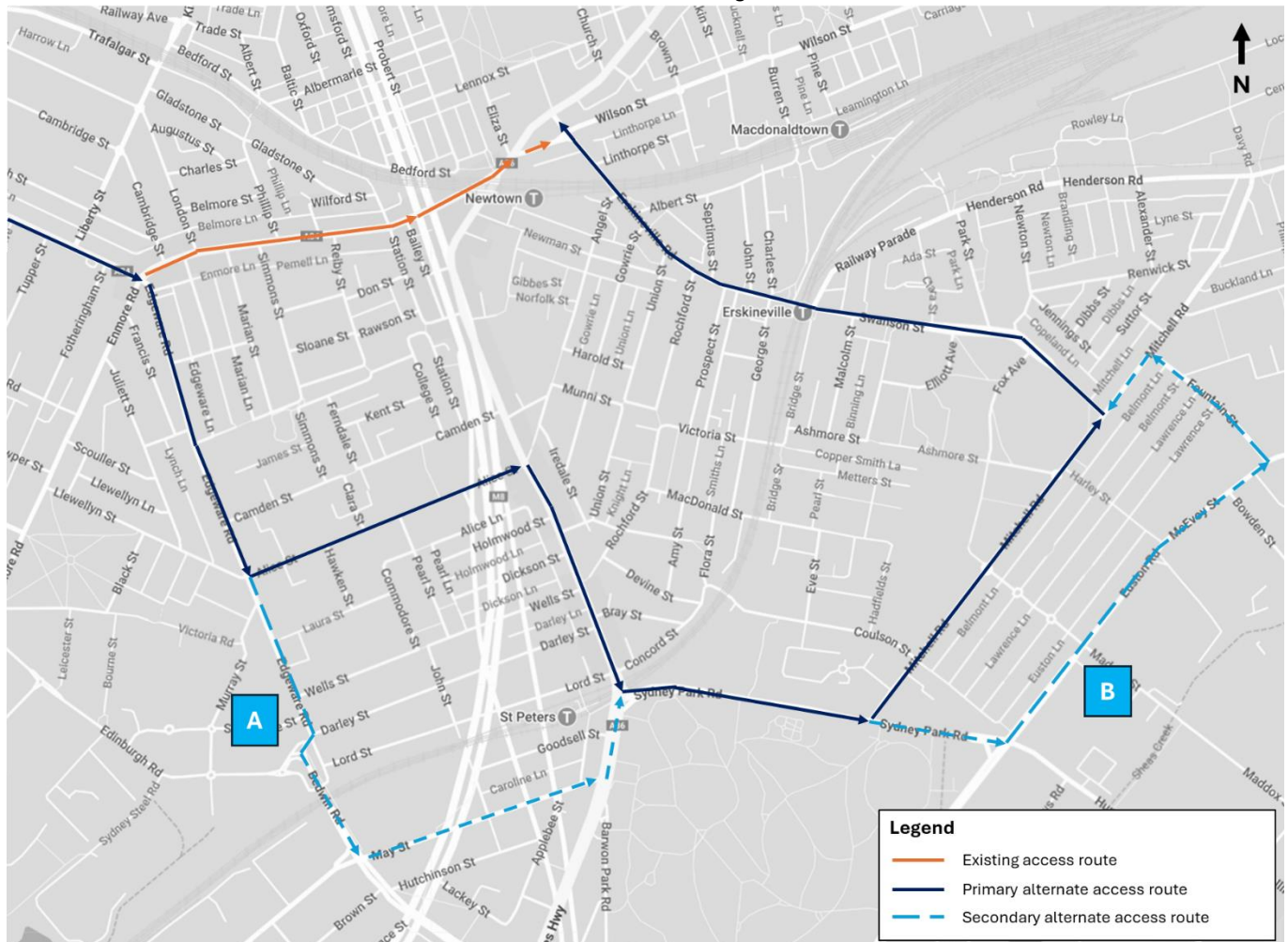


Figure 4 Alternate access routes – freight vehicles from the west

Source: Google Maps (modified by SJV)

A primary alternate access route has been identified along the following roads:

- Edgware Road
- Alice Street
- King Street
- Sydney Park Road
- Mitchell Road
- Erskineville Road (including Copeland Road and Swanson Street)

This route is appropriate for freight vehicles, with three-tonne load limit restrictions applying from 7:00 pm on Mitchell Road to 10:00 pm on Edgware Road and Alice Street. However, the proposed loading zone is not operational during these restrictions, with a No Stopping restriction in place during these times.

Secondary alternate access routes were identified along May Street and Euston Road if drivers miss a turn and/or turning movements are not appropriate for the vehicle size. These are not expected to be likely routes that vehicles would use.

Table 5 compares the average travel times and distances for the existing access route from the west (in Stanmore Road / Enmore Road intersection) to the Loading Zone in Erskineville Road via the primary alternate access route identified. A comparison of the secondary alternate access routes from the west has not been included. However, they are expected to result in minor increases to the primary alternate access travel time and distance.

Table 5 Travel time comparison for freight vehicles from the west

Route	Average travel time	Difference from existing travel time	Travel distance
Existing access	5 minutes 24 seconds	-	950m
Primary alternate access	9 minutes 15 seconds	3 minutes 51 seconds	4.4 km (additional 3.45 km)
Secondary alternate access A (May Street)	13 minutes 12 seconds	7 minutes 48 seconds	4.7 km (additional 3.75 km)
Secondary alternate access B (Euston Road)	12 minutes 26 seconds	7 minutes 2 seconds	5.2 km (additional 3.95 km)

Delivery vehicles travelling from the south (Princes Highway)

Similarly to freight vehicles travelling from the west, it was assumed that some vehicles may travel to the area from the south (Princes Highway). These trips will likely originate in industrial areas such as Wolli Creek or Mascot.

An assessment of the likely alternate routes was undertaken for vehicles travelling from the west, based on minimal impacts to travel time and roads approved for use by vehicles over three tonnes. The suitable and most likely alternate access route identified for these vehicles is shown in Figure 5.

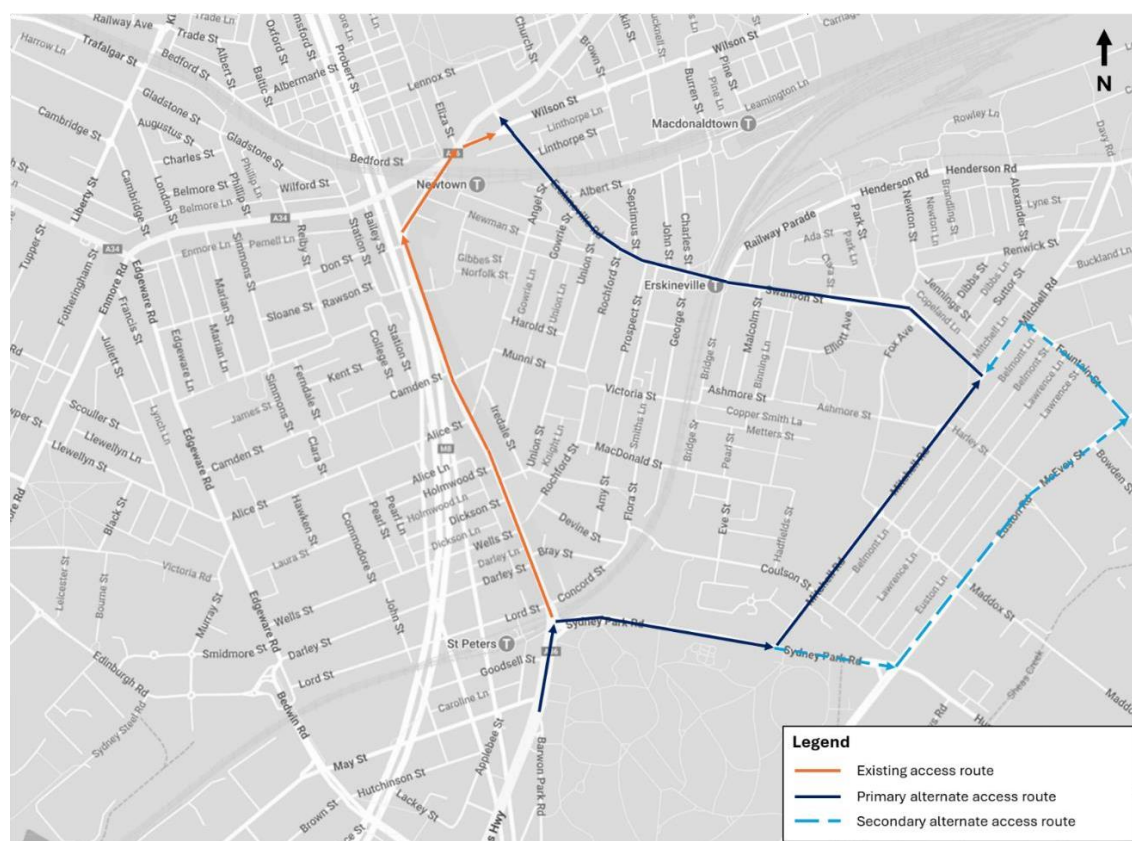


Figure 5 Alternate access routes – freight vehicles from the south

Source: Google Maps (modified by SJV)

A primary alternate access route has been identified along the following roads:

- Sydney Park Road
- Mitchell Road
- Erskineville Road (including Copeland Road and Swanson Street).

This route is appropriate for freight vehicles, with three-tonne load limit restrictions applying from 7:00 pm on Mitchell Road. However, the proposed loading zone is not operational during these restrictions, with a No Stopping restriction in place during these times.

Secondary alternate access routes were identified along Euston Road if drivers miss a turn and/or turning movements are not appropriate for the vehicle size. This is not expected to be a likely route for vehicles to use.

Table 6 compares the average travel times and distances for the existing access route from the west to the primary alternate access route identified. A comparison of the secondary alternate access routes from the west has not been included. However, they are expected to result in minor increases to the primary alternate access travel time.

Table 6 Travel time comparison for freight vehicles from the west

Route	Average travel time	Difference from existing travel time	Travel distance
Existing access	5 minutes 52 seconds	-	1.4 km
Primary alternate access	11 minutes 25 seconds	5 minutes 33 seconds	2.7 km (additional 1.3 km)
Secondary alternate access (Euston Road)	12 minutes 26 seconds	6 minutes 34 seconds	3.4 km (additional 3 km)

Delivery vehicles travelling from the east (King Street)

There is currently a left turn ban for vehicles travelling along King Street into Wilson Street (vehicles travelling in a southwest direction). As such, there is no current access to the existing or relocated loading zone from the east (along King Street), and no impact on access for freight vehicles originating from the west is expected.

5.3 Traffic using alternate access routes

Traffic currently using the left turn movement at Wilson Street onto Erskineville Road is expected to be distributed among the surrounding road network, depending on the vehicle's destination.

Light vehicles using the left turn are expected to be dispersed throughout the surrounding road network, with no restrictions on the roads able to be used. The low number of vehicles currently observed using the left turn are likely to use the state road network in King Street and Enmore Road as an alternate route.

Freight vehicles currently using the left turn movement, which are very low (one vehicle surveyed), are expected to originate from the west (along Stanmore Road) or the south (via the Princes Highway). The observed traffic demand for heavy vehicles using the left turn onto Erskineville Road is low, noting that the existing load zone on Wilson Street operates outside the network peak hours (9:30 am to 6:00 pm).

5.4 Potential impacts

The assessment of the proposed left turn ban at the Wilson Street / Erskineville Road intersection has identified the potential re-routed traffic volumes, from which the following potential impacts of the turn ban have been identified:

- Up to approximately 40 light vehicles are expected to be re-routed through the road network during peak periods (over three hours). Light vehicles can use any roads in the surrounding road network; however, they are likely to predominantly use the state road network (King Street and Enmore Road). This could potentially, but is unlikely to, cause additional congestion and delays on these roads.
- The assessment identified that vehicles currently using the left turn movement onto Erskineville Road may currently be utilising on-street parking along Wilson Street for short-term parking or drop-offs. The proposed changes to Wilson Street as part of the cycleway design include removing on-street parking along Wilson Street in the eastbound direction. As such, there is a potential for the demand for the left turn, and as a result, the volume of re-routed traffic to be reduced and moved to other nearby locations.
- Some light vehicles that currently use the left turn movement onto Erskineville Road may use alternate travel routes to connect to the state road network. This will likely be continued travel along Wilson Street and onto Brown Street. The increased travel time of this alternate route is expected to be minor (less than a minute increase). There is a potential for increased traffic volumes along Wilson Street and Brown Street. However, these volumes are expected to be low/minor.
- Delivery vehicles travelling from the west are expected to be diverted via Edgeware Road and Alice Street onto King Street. Travel to the loading zone would then be via Sydney Park Road, Mitchell Street, and Erskineville Road. An increase in heavy/freight vehicles is expected along these roads; however, the expected volumes are low.
- Delivery vehicles travelling from the south are expected to be diverted via Sydney Park Road, Mitchell Street, and Erskineville Road. An increase in heavy/freight vehicles is expected along these roads; however, the expected volumes are low.
- Secondary alternate access routes were identified along May Street and Euston Road for vehicles that might miss the turn for the primary alternate routes and/or have constraints with turning movements at intersections.
- An increase in travel time for delivery vehicles is expected along the alternate access routes of up to approximately five and a half minutes.
- Due to the longer travel time of alternate access routes, some deliveries would likely use other nearby

loading zones. This higher demand for the other loading zones may result in delays and the use of on-street parking as an alternative, reducing parking availability nearby.

A review of the potential safety impacts of continuing to allow the left turn movement has also been undertaken, with the following potential impacts identified:

- The left turn movement from Wilson Street would involve vehicles travelling across the proposed bi-directional cycleway, creating a conflicting movement with cyclists turning left and going through the intersection, as both vehicle and cyclist movements are permitted within the same signal phase.
- While no safety issues were identified within the crash data or recorded 'near misses', an increase in the volume of cyclists is expected, where safety issues with vulnerable road users could arise.
- Vehicles turning left from Wilson Street (eastbound) into Erskineville Road (northbound) would be forced to wait and give way to any through cyclist traffic movement along the cycleway. With only one approach lane, this would likely cause an increase in delays and congestion at the intersection, especially on the Wilson Street approach, which may cause safety concerns.

6. Potential mitigation measures

Due to potential impacts on the road network following a left turn ban on the western approach of the Wilson Street / Erskineville Road intersection, mitigation measures have been identified for consideration by TfNSW, including:

- Signposting/wayfinding to direct delivery vehicles along the identified alternate access routes. This would help minimise the risk of freight traffic travelling along roads with three-tonne load limit restrictions and the impact on travel time for delivery vehicles.
- Additionally, on using alternative access routes to the new loading zone on Erskineville Road, the availability of other nearby loading zones (shown in Figure 6) should be made known to local business owners. Communication regarding the changed traffic conditions and the relocated loading zone should be undertaken with locations of nearby loading zones on Mary Street, Eliza Street, King Street (in the eastbound direction) and Brennan Lane to be relayed to freight delivery companies as alternative locations. Using alternate loading zones would not require alternate access routes and would have the least impact on delivery vehicles.

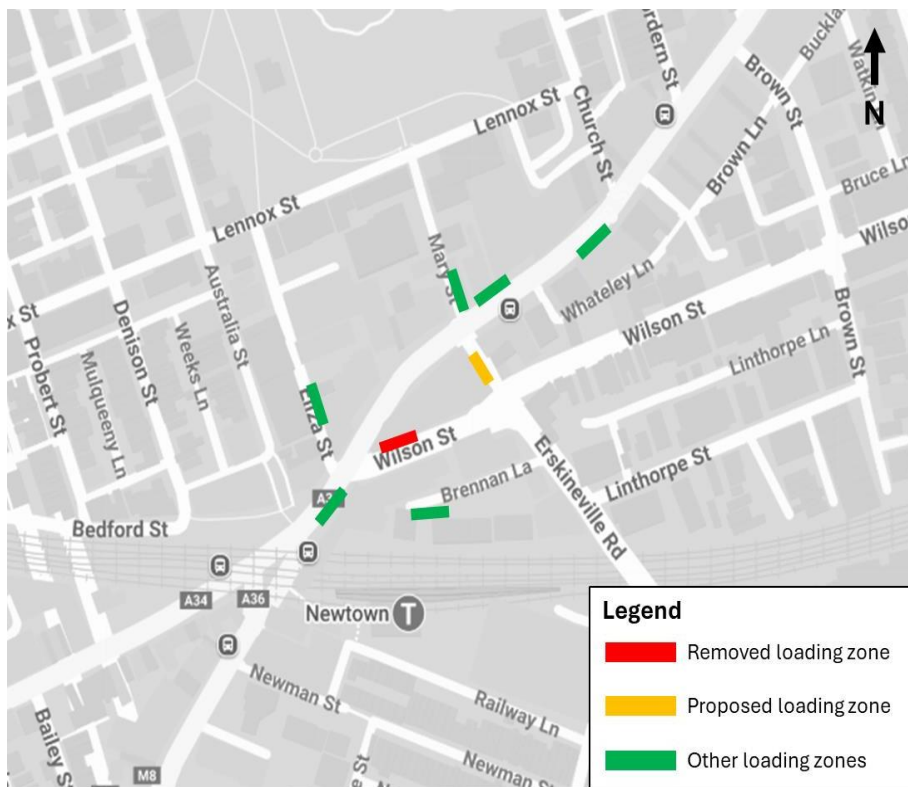


Figure 6 Removed, proposed and other nearby loading zones

Source: Google Maps (modified by GHD)

In considering potential mitigation measures, it is noted that traffic volumes being re-routed are expected to be low/modest and have a minor impact on the surrounding road network. The benefits of the left turn ban to improve safety at the intersection of Wilson Street and Erskineville Road are significant in eliminating potential conflicts between vehicle and cyclist traffic and minimising a potential increase in congestion.

7. Conclusion

The Easing Sydney's Congestion (ESC) Program Office has prepared a qualitative assessment of proposed changes to traffic operations at the intersection of Wilson Street and Erskineville Road. As part of the Wilson Street cycleway project, the assessment sought to identify the potential impacts of a left turn ban from Wilson Street (west approach) onto Erskineville Road. The operation changes also include removing an existing loading zone on Wilson Street, with a new loading zone on Erskineville Road proposed between King Street and Wilson Street. This would, however, be inaccessible via Wilson Street with the proposed left turn ban.

The assessment is based on the estimated volumes of traffic and the likely alternate access routes that would be used by vehicles currently using the left turn movement at Wilson Street along alternate routes within the surrounding road network. Using the estimated re-routed volumes and routes, the potential impacts identified include:

- Minor increase in light vehicle traffic throughout the surrounding road network; however, these trips will likely be diverted along Enmore Road and King Street, which serve as links in the state road network. Minor increases in congestion and delays may be experienced; however, this is unlikely.
- A low increase in delivery/freight vehicle volumes along Edgeware Road, Alice Street, King Street, Sydney Park Road, Mitchell Road and Erskineville Road (including Swanson Street and Copeland Street). The roads also have appropriate road load limits to accommodate the rerouted vehicles.
- A minor increase in travel times and distances for freight vehicles accessing the proposed loading zone, where alternate routes will now be required.

With respect to the northbound left turn from Wilson Street to Erskineville Road, the left turn movement across the proposed cycleway would create a conflict with through or left turning cyclists, as both vehicle and cycling movements would operate within the same signal phase. The proposed left turn ban would improve the safety of through and left turning cyclists along the left turning cycleway. Further, should vehicles be permitted to turn left from Wilson Street into Erskineville Road (northbound), this would likely cause an increase in delays and congestion at the intersection, which may also cause road user safety concerns.

To minimise potential impacts of the proposed left turn ban, mitigations could include additional signage/wayfinding for delivery/freight vehicles (along the identified alternate access routes), communication with local business owners to use other nearby loading zones and monitoring of roads along alternate access routes.