AECOM Australia Pty Ltd
Gadigal Country
Level 21, 420 George Street
Sydney NSW 2000
PO Box Q410
QVB Post Office NSW 1230
Australia
www.aecom.com

+61 1800 868 654 tel

ABN 20 093 846 925

5 June 2024

Frances Mehrtens
Senior Development Manager, Blackwattle Bay Precinct
Infrastructure NSW
Level 27, 201 Kent Street
Sydney, NSW 2000

Dear Frances

Blackwattle Bay State Significant Precinct, Land Use Mix Amendment

1.0 Purpose

The purpose of this letter is to provide Infrastructure NSW with a revised transport assessment, with removal of any statutory land use mix for Area 17 within the Blackwattle Bay Precinct Plan. The intended land use mix would comprise 70% residential floor space and 30% non-residential floor space. An additional 320 dwellings could be delivered on the Government-owned land at Blackwattle Bay (Area 17), increasing the number of new dwellings to 1,523 within the wider Blackwattle Bay precinct, but reducing the overall jobs population by up to 1,372 people.

The revised transport assessment will assess the new impact on trip generation and distribution in the Blackwattle Bay State Significant Precinct (SSP) Study Area.

2.0 Background

AECOM was previously engaged by Infrastructure NSW to prepare the evidence-based Blackwattle Bay Transport Management and Accessibility Plan (TMAP). The Blackwattle Bay TMAP was placed on public exhibition to support the Blackwattle Bay SSP Study in mid-2021. Development yields for the Blackwattle Bay SSP Study Area were refined at the completion of the public exhibition period, and AECOM prepared an Updated Transport Assessment in 2022 as an addendum to the TMAP with revised the trip generation analysis.

Infrastructure NSW seeks to remove any statutory land use mix for the Blackwattle Bay Precinct Plan, with land use amendments as follows:

- 1,523 homes in Blackwattle Bay Precinct
- 4,273 jobs
- 2,796 residents

This letter applies the mode share targets and trip generation rates from the Blackwattle Bay TMAP and Updated Transport Assessment to the new proposed development yields for the Blackwattle Bay SSP Study Area.

3.0 Methodology

AECOM has applied a similar methodology to that used for the Blackwattle Bay TMAP and Updated Transport Assessment. The analysis considers the impact of staging on the 85% walking, cycling and public transport and 15% private vehicle mode share targets for residential trips from the Blackwattle Bay SSP Study Area.

Through stakeholder engagement, it was discussed and agreed that AECOM would focus its reporting on the AM peak period. This is because a sharper peak is experienced in travel demand in the morning than the afternoon. It also satisfied the requirement to consider the impact on education trips to nearby schools, which does not occur in the afternoon peak.

4.0 Revised Precinct Plan

4.1 Revised trip generation

4.1.1 Approach

A detailed four-step methodology was used to undertake the revised trip generation assessment. This approach took the trip generation and mode share work developed by Arup in the new *Sydney Fish Market Environmental Impact Statement* and combined it with existing trip generation and mode share behaviour for Pyrmont-Ultimo. This trip generation assessment includes Journey To Work trips as well as other trip types such as education, recreation and shopping. It covers both the new Sydney Fish Market location (Site 1) and the Blackwattle Bay SSP Study Area (Site 2).

The combined trips were re-allocated based on the preferred scenario which aims to achieve 85% of all trips in the AM peak period (7:00am to 9:00am) by walking, cycling and public transport, and the remaining 15% to be taken by private vehicle. This process is shown in Figure 1.

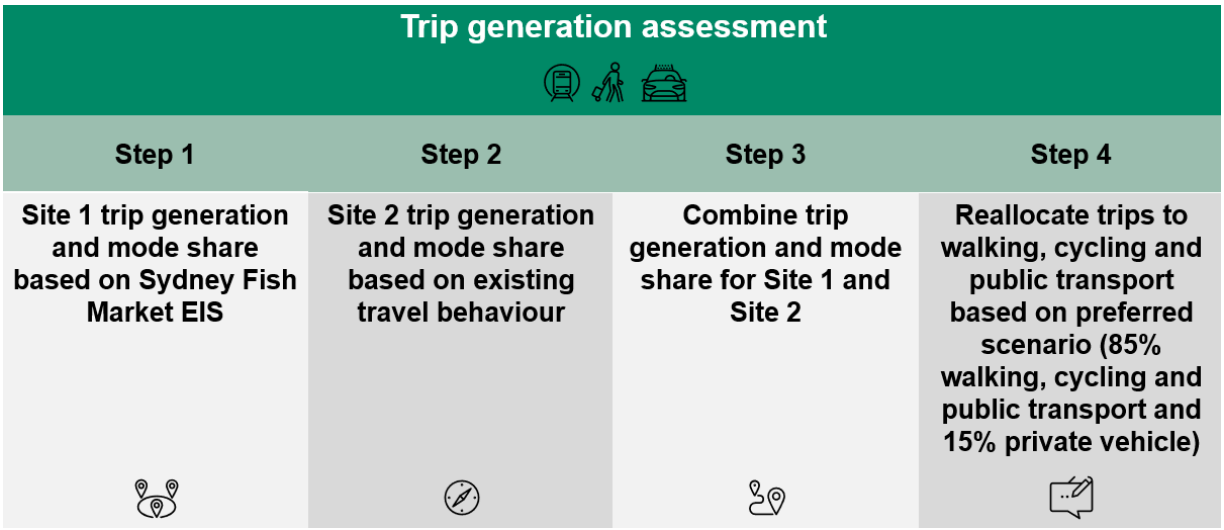

Figure 1 Trip generation assessment approach

4.1.2 Step 1: Site 1 trip generation and mode share

The Traffic Impact Assessment prepared for the new *Sydney Fish Market Environmental Impact Statement* expects a combination of employees, buyers/distributors and visitors will travel to Site 1 in the AM peak period. As shown in Table 1, it is anticipated that 50% of Site 1 trips will be by private vehicle.

Table 1 Site 1 weekday AM peak period mode share

Mode	Trips	Percentage
Walking	685	32%
Light rail	158	7%
Private vehicle	1,061	50%
Bicycle, coach, bus and taxi	211	10%
Total	**2,115**	**100%**

Source: *New Sydney Fish Market Environmental Impact Statement*, Traffic Impact Assessment, Arup, 2019

4.1.3 Step 2: Site 2 trip generation and mode share

Assuming future residents, employees and visitors of Site 2 follow existing travel behaviours of the broader Pyrmont-Ultimo peninsula, it is expected that Site 2 would generate 2,510 public transport trips, 1,800 private vehicle trips and 1,470 walking and cycling trips in the AM peak period. A breakdown of the anticipated trip generation and subsequent mode share for Site 2, as revised in the response to submissions, is shown in Table 2.

Table 2 Site 2 weekday AM peak mode share

Mode	AM peak period demand					
	Resident trips	%	Employee trips	%	Total trips	%
Walking & cycling	1100	45%	370	11%	1470	25%
Public transport	700	29%	1810	54%	2510	43%
Private vehicle	630	26%	1170	35%	1800	31%
Total	**2,430**	**100%**	**3,350**	**100%**	**5780**	**100%**

There are 1.5 planned jobs for every planned resident at Blackwattle Bay. This means the dominant transport task during the morning peak period will be to accommodate people travelling to Blackwattle Bay from other parts of Sydney. A multi-modal transport network which prioritises walking and cycling for shorter trips and metro, light rail and bus for longer trips will support the aspirational sustainable mode share target.

4.1.4 Step 3: Combined Site 1 and Site 2 trips and mode share

Table 3 provides a summary of the combined trips and mode shares for Site 1 and Site 2. The mode share breakdown in this table reflects:

- The anticipated number of trips and mode share for Site 1
- The application of existing 'Journey to Work' travel behaviour for residents and workers in Pyrmont-Ultimo.

The new Sydney Fish Market and Scenario 2 have 7,895 trips combined in the AM peak period.

Table 3 Blackwattle Bay anticipated weekday AM peak period mode share

Scenario		Private vehicle	Active & public Transport	Total
Site 1				
New Sydney Fish Market TIA	Trips	1,061	1,054	2,115
	Mode share	50%	50%	100%
Site 2				
Scenario 2	Trips	1,800	3,980	5,780
	Mode share	31%	69%	100%
New Sydney Fish Market + Scenario 2	**Trips**	**2,861**	**5,034**	**7,895**
	Mode share	**36%**	**64%**	**100%**

4.1.5 Step 4: Reallocate trips based on preferred scenario

The above analysis indicates existing travel behaviours are likely to result in a mode share of 64% active and public transport and 36% private vehicle. Modal strategies have been developed to achieve an 85% active and public transport and 15% private vehicle mode share target for Blackwattle Bay. Table 4 shows the anticipated number of trips by mode using these targets for Blackwattle Bay.

Table 4 Blackwattle Bay anticipated number of trips by mode with 85% by active and public transport and 15% by private vehicle

Blackwattle Bay	Private vehicle	Public transport, walking and cycling	Total
Number of trips	1,185	6,710	7,895
Mode share	15%	85%	100%

The reallocation of trips to walking, cycling and public transport has been broken down further into walking and cycling trips and public transport trips. This reallocation was undertaken using the proportions identified in Table 5, which showed 69% of trips would be taken by a sustainable mode, of which 25% would be taken by walking and cycling, and 43% by public transport. This means of all sustainable transport trips:

- 37% would be undertaken by walking and cycling
- 63% would be undertaken on metro, light rail or bus

Applying these proportions to the 85% target for the Blackwattle Bay SSP Study Area indicates 4,240 trips (or 54%) would be taken on metro, bus or light rail, and 2,470 trips (or 31%) would be undertaken by walking or cycling. This is shown in Table 5.

Table 5 Blackwattle Bay anticipated number of trips by mode

Blackwattle Bay	Private vehicle	Walking and cycling	Public transport	Total
Number of trips	1,185	2,470	4,240	7,895
Mode share	15%	31%	54%	100%

4.2 Revised traffic modelling

The exhibited Precinct Plan was supported by traffic modelling for the morning peak hour (8:00am to 9:00am) which was undertaken for four different scenarios:

- **Scenario 1:** 2017 existing conditions
- **Scenario 2:** 2033 with no development and no transport interventions
- **Scenario 3:** 2033 with development and no transport interventions
- **Scenario 4:** 2033 with development and transport interventions.

The revised Precinct Plan has lower development yields than the previously approved Precinct Plan. As a result, the traffic generation has been updated for Scenario 3 (2033 with development and no transport interventions) and Scenario 4 (2033 with development and transport interventions) to reflect the lower development yields.

Note that in the remainder of this section:

- Inbound traffic distribution refers to car trips to Blackwattle Bay
- Outbound traffic distribution refers to car trips from Blackwattle Bay.
- A 50% factor has been applied to focus the AM peak period trip generation from Section 4.1 on the AM peak hour (8:00am to 9:00am).

4.2.1 Inbound traffic distribution for Scenario 3: with development and no transport interventions

Figure 2 shows the morning peak hour (8:00am to 9:00am) inbound traffic distribution for Scenario 3 under this revised Precinct Plan and the change in number of trips compared to the previous Precinct Plan. In the morning peak hour (8:00am to 9:00am), the highest number of car trips are anticipated to access Blackwattle Bay from the west via the Anzac Bridge (127 movements) followed by the north and east via the Western Distributor (89 movements) and from the south via Wattle Street (70 movements).

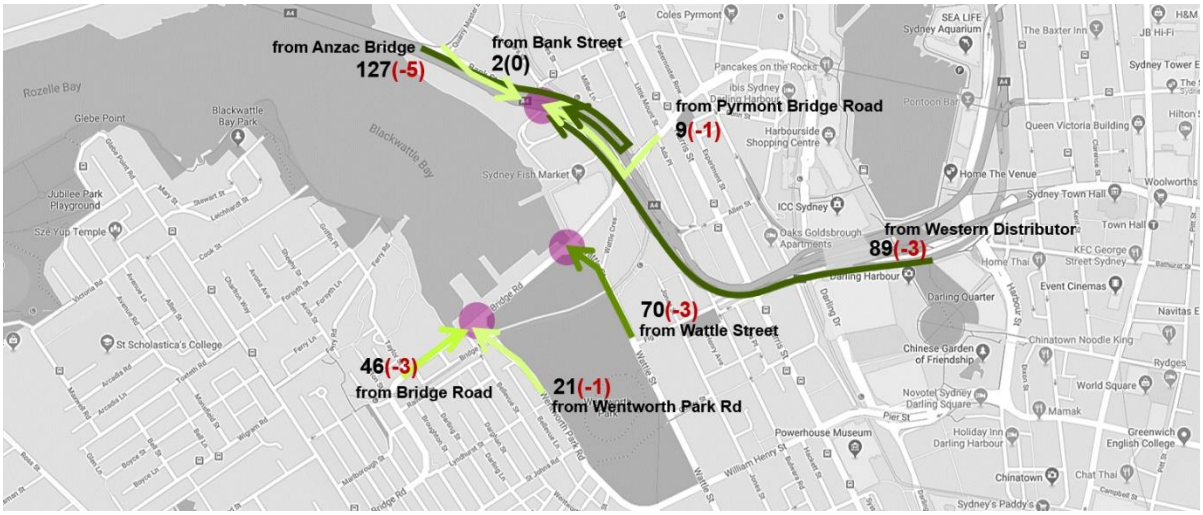

Figure 2: Morning peak hour (8:00am-9:00am) inbound traffic distribution and change in traffic to Blackwattle Bay

Table 6 compares the Scenario 3 inbound trip generation to Blackwattle Bay for the previously revised 2022 Precinct Plan and this assessment. The revised 2022 Precinct Plan generated a total of 380 inbound trips to Blackwattle Bay during the morning peak hour (8:00am to 9:00am). This revised Precinct Plan generates a total of 364 inbound trips during the morning peak hour (8:00am to 9:00am). The revised Precinct Plan generates 16 fewer car trips during the morning peak hour (8:00am to 9:00am) than the exhibited Precinct Plan, a decrease of 4%.

Table 6 Comparison of Scenario 3 inbound trip generation to Blackwattle Bay

To Blackwattle Bay from	Inbound traffic generation for the morning peak hour (8:00am-9:00am)		
	Revised Precinct Plan 2022	Revised Precinct Plan Feb 2024	Difference
Anzac Bridge	132	127	**-5**
Bank Street	2	2	**0**
Bridge Road	49	46	**-3**
Pyrmont Bridge Road	10	9	**-1**
Wattle Street	73	70	**-3**
Wentworth Park Road	22	21	**-1**
Western Distributor	92	89	**-3**
Total	**380**	**364**	**-16**

4.2.2 Outbound traffic distribution for Scenario 3: with development and no transport interventions

Figure 3 shows the morning peak hour (8:00am to 9:00am) outbound traffic distribution for Scenario 3 under this revised Precinct Plan and the change in number of trips compared to the previous Precinct Plan. In the morning peak hour (8:00am to 9:00am), the highest number of car trips are anticipated to egress from Blackwattle Bay to the west via the Anzac Bridge (130 movements) followed by the east via the Western Distributor (103 movements) and to the south via Wattle Street (87 movements).

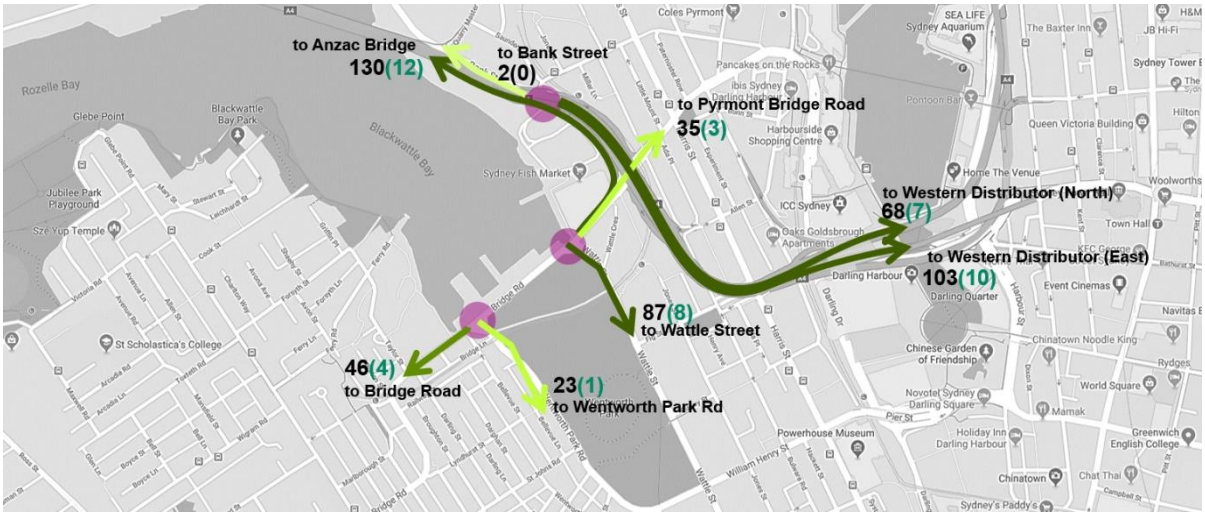

Figure 3: Morning peak hour (8:00am-9:00am) outbound traffic distribution and change in traffic from Blackwattle Bay

Table 7 compares the Scenario 3 outbound trip generation from Blackwattle Bay for the previously revised 2022 Precinct Plan and this assessment. The exhibited Precinct Plan generated a total of 449 outbound trips from Blackwattle Bay during the morning peak hour (8:00am to 9:00am). This revised Precinct Plan generates a total of 494 outbound trips during the morning peak hour (8:00am to 9:00am). The revised Precinct Plan generates 45 more car trips during the morning peak hour (8:00am to 9:00am) than the exhibited Precinct Plan, an increase of 10%.

Table 7 Comparison of Scenario 3 outbound trip generation from Blackwattle Bay for the exhibited and revised Precinct Plans

From Blackwattle Bay to	Outbound traffic generation for the morning peak hour (8:00am-9:00am)		
	Revised Precinct Plan 2022	Revised Precinct Plan Feb 2024	Difference
Anzac Bridge	118	130	12
Bank Street	2	2	0
Bridge Road	42	46	4
Pyrmont Bridge Road	32	35	3
Wattle Street	79	87	8
Wentworth Park Road	22	23	1
Western Distributor (East)	93	103	10
Western Distributor (North)	61	68	7
Total	**449**	**494**	**45**

4.2.3 Inbound traffic distribution for Scenario 4: with development and transport interventions

Figure 4 shows the morning peak hour (8:00am to 9:00am) inbound traffic distribution for Scenario 4 under this revised Precinct Plan and the change in number of trips compared to the previous Precinct Plan. In the morning peak hour (8:00am to 9:00am), the highest number of car trips are anticipated to access Blackwattle Bay from the west via the Anzac Bridge (79 movements) followed by the north and east via the Western Distributor (56 movements) and from the south via Wattle Street (45 movements).

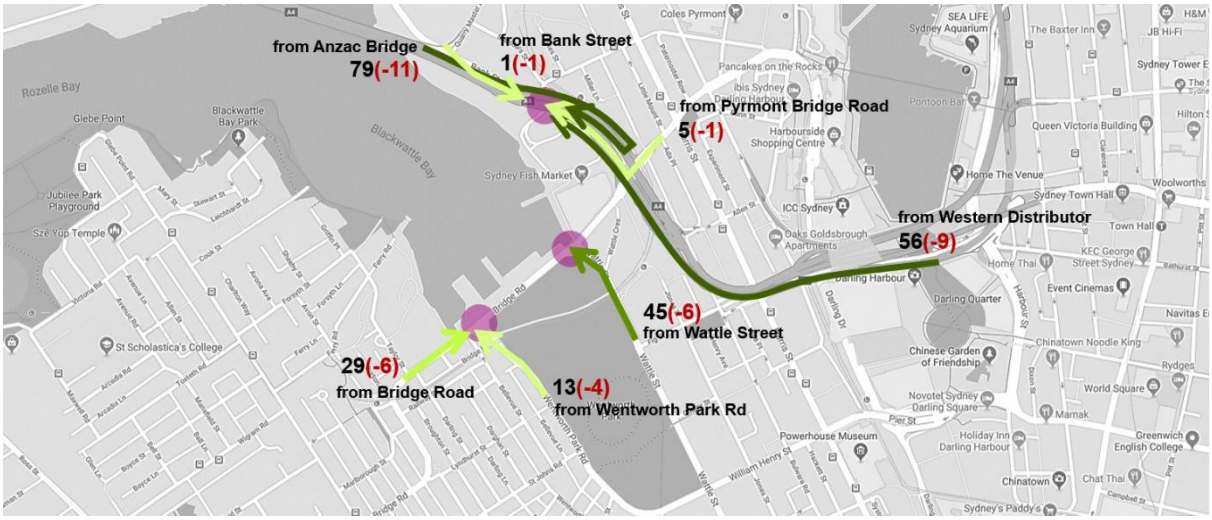

Figure 4: Morning peak hour (8:00am-9:00am) inbound traffic distribution and change in traffic to Blackwattle Bay

Table 8 compares the Scenario 4 inbound trip generation to Blackwattle Bay for the previously revised 2022 Precinct Plan and this assessment. The exhibited Precinct Plan generated a total of 266 inbound trips to Blackwattle Bay during the morning peak hour (8:00am to 9:00am). This revised Precinct Plan generates a total of 228 inbound trips during the morning peak hour (8:00am to 9:00am). The revised Precinct Plan generates 38 fewer car trips during the morning peak hour (8:00am to 9:00am) than the exhibited Precinct Plan, **a decrease of 14%.**

Table 8 Comparison of Scenario 4 inbound trip generation to Blackwattle Bay for the exhibited and revised Precinct Plans

To Blackwattle Bay from	Inbound traffic generation for the morning peak hour (8:00am-9:00am)		
	Revised Precinct Plan 2022	Revised Precinct Plan Feb 2024	Difference
Anzac Bridge	90	79	-11
Bank Street	2	1	-1
Bridge Road	35	29	-6
Pyrmont Bridge Road	6	5	-1
Wattle Street	51	45	-6
Wentworth Park Road	17	13	-4
Western Distributor	65	56	-9
Total	**266**	**228**	**-38**

4.2.4 Outbound traffic distribution for Scenario 4: with development and transport interventions

Figure 5 shows the morning peak hour (8:00am to 9:00am) outbound traffic distribution for Scenario 4 under this revised Precinct Plan and the change in number of trips compared to the previous Precinct Plan. In the morning peak hour (8:00am to 9:00am), the highest number of car trips are anticipated to egress from Blackwattle Bay to the west via the Anzac Bridge (95 movements) followed by the east via the Western Distributor (76 movements) and to the south via Wattle Street (64 movements).

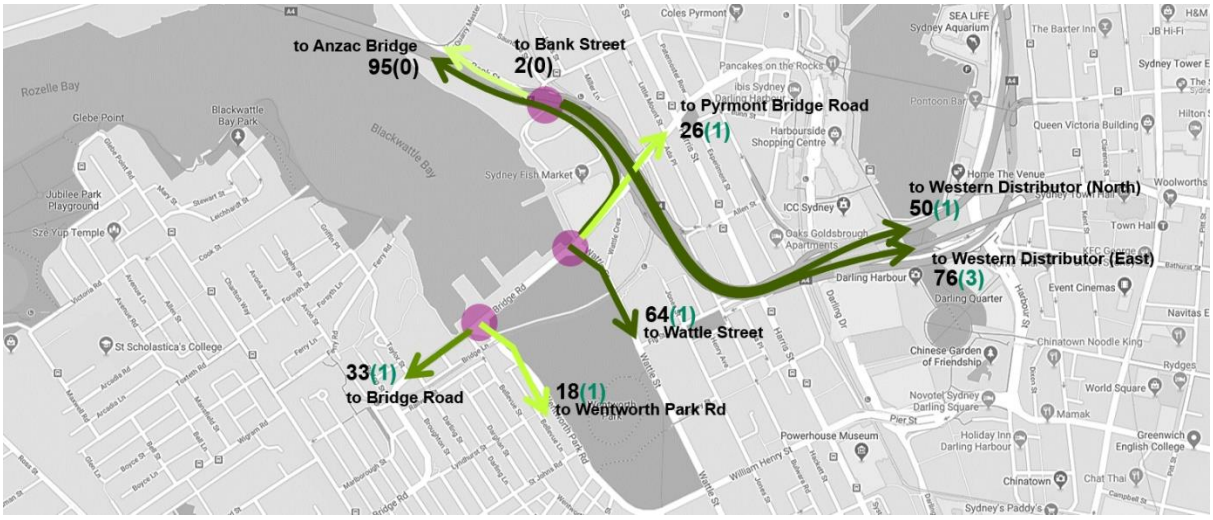

Figure 5: Morning peak hour (8:00am-9:00am) outbound traffic distribution and change in traffic from Blackwattle Bay

Table 9 compares the Scenario 4 outbound trip generation from Blackwattle Bay for the previously revised 2022 Precinct Plan and this assessment. The exhibited Precinct Plan generated a total of 356 outbound trips from Blackwattle Bay during the morning peak hour (8:00am to 9:00am). The revised Precinct Plan generates a total of 364 outbound trips during the morning peak hour (8:00am to 9:00am). The revised Precinct Plan generates 8 more car trips during the morning peak hour (8:00am to 9:00am) than the exhibited Precinct Plan, **an increase of 2%**.

Table 9 Comparison of Scenario 4 outbound trip generation from Blackwattle Bay for the exhibited and revised Precinct Plans

From Blackwattle Bay to	Outbound traffic generation for the morning peak hour (8:00am-9:00am)		
	Revised Precinct Plan 2022	Revised Precinct Plan Feb 2024	Difference
Anzac Bridge	95	95	**0**
Bank Street	2	2	**0**
Bridge Road	32	33	**1**
Pyrmont Bridge Road	25	26	**1**
Wattle Street	63	64	**1**
Wentworth Park Road	17	18	**1**
Western Distributor (East)	73	76	**3**
Western Distributor (North)	49	50	**1**
Total	**356**	**364**	**8**

4.3 Traffic Impacts

4.3.1 Traffic impacts for Scenario 3: with development and no transport interventions

For Scenario 3, with development and no transport interventions, the assessment indicates an overall 4% decrease in inbound traffic in the AM peak period. Compared to conditions in the previous Precinct Plan, this could slightly improve intersection performances on inbound approaches (shown in Figure 2), although the impact is expected to be negligible.

For outbound approaches, depicted in Figure 3, the assessment indicates an overall 10% increase in outbound traffic during the AM peak. This breaks down into an increase of 12 vehicles within the peak hour on the most impacted road, Anzac Bridge, or 2 additional vehicles every 10 minutes compared to the previous assessment. The impact of this would be negligible.

4.3.2 Traffic impacts for Scenario 4: with development and with transport interventions

For Scenario 4, with development and with transport interventions, the assessment indicates an overall 14% decrease in inbound traffic in the AM peak period. This could lead to a marginal improvement in intersection performances on inbound approaches compared to conditions in the previous Precinct Plan.

For outbound approaches, the assessment indicates an overall 2% increase in outbound traffic during the AM peak. This equates to an increase of 8 additional vehicles on the network during the AM peak hour compared to the conditions in the previous Precinct Plan and is considered to have a negligible impact on the road network.

4.3.3 Summary

Overall, in the AM peak period, traffic generated by the revised Precinct Plan is considered to have negligible additional traffic impact on the road network compared to the previous Blackwattle Bay Precinct Plan, for both Scenario 3 and Scenario 4.

Yours faithfully

Zak Roslie
Principal Transport Planner