

Our Ref: 18267

10 August 2018

Dunnet Group  
Suite 5B  
Macquarie Link  
277 Lane Cove Road  
Macquarie Park NSW 2113

**Attention: Bob Dunnet**

Dear Bob,

**RE: 44-48 EPPING ROAD  
PEER REVIEW OF GREEN TRAVEL PLAN**

As requested, please herein The Transport Planning Partnership (TPPP) peer review of the GTA Travel Plan dated 20<sup>th</sup> July 2018.

### **Green Travel Plan**

There are two distinct types of travel plan, these being: -

- To change the travel behaviour at an existing site (i.e. reduction of car use, especially if only used by one person). Such plans would be implemented at large administrative buildings (e.g. hospital government). This would aim to achieve a modal shift when compared against a stated benchmark. This would include monitoring the plan over a period after opening with more measures introduced if stated objectives were not achieved.
- To influence the travel behaviour of a site prior to it being occupied. This can include such measures as locating the site next to a railway station, reducing on-site parking (especially for commercial buildings). Providing information and ensuring the development ties in with the sustainable active travel initiatives outside of the site. This travel plan would aim to achieve a lower car driver mode upon occupation compared with comparable sites. Whilst monitoring and management post occupation might be appropriate if the development is an office building, if it is a residential building there is little scope for a developer to influence travel behaviour post occupation.

The subject site therefore falls into the latter category where the majority of green travel initiatives are provided prior to occupation of the site.

The GTA travel plan suggests the following measures.

- Provide car share pods on-site and promote the availability of car sharing pods for trips that require the use of private vehicles. It is proposed to provide five car share vehicles on-site which will be operated by a private operator.
- Provide free Opal Cards (one per adult residential occupier and full-time tenant staff member) with \$100 credit to initially subsidise public transport and encourage residents and tenants to trial for different trip types from Day 1.
- Provide a welcome pack directly to all new residents and tenants that includes the Travel Access Guide, the free Opal cards, free car share membership and information on the sustainable travel facilities and initiatives.)
- Provide high-quality bicycle parking over and above the relevant requirements. The proposed development requires 199 bicycle spaces to be provided; the majority of which would typically be combined with residential storage cages. A minimum of 200 dedicated, secure bicycle parking spaces would be provided within the basement, with appropriate access arrangements to service residential, commercial, retail and visitor user groups.
- Provide end-of-trip facilities including showers and lockers in conjunction with the basement bicycle storage area such that cyclists and motorbike riders can store clothing and equipment (e.g. helmets) to streamline the use of these modes and reduce the hassle of taking such items backwards between the basement and apartments and/or tenancies.
- Provide public transport information displays and a walking and cycling map, showing users how to get to the nearest facilities (including recreational routes) and summarise journey times to key destinations.
- Provide the minimum car parking requirement as set by the DCP 2013 (a reduction of 20 car parking spaces from the DA submission). This results in a net change in traffic generation from the existing site use of approximately 14 and 11 trips in the AM and PM peak hours respectively.

Although there is no “silver bullet” to achieving modal shift away from private cars (although the sites location next to the railway station is clearly a key factor), each of the proposed measures will achieve a small amount of modal shift such that collectively, the proposals will have an impact.

### Public Transport Capacity

Whilst the travel plan promotes the use of public transport, there is no assessment, as far as we am aware, of existing capacity on the public transport system.

Ken has been asked at a number of recent Planning Panels about the ability of the public transport system to accommodate increases in patronage.

To that end, TTPP has undertaken a detailed assessment of the existing capacities of public transport. This is included at Annexure A.

This analysis shows that there is adequate capacity to accommodate what we believe the update of the public transport will be.

### Conclusion

TTPP believe that the provision of a well-considered travel plan, such as that promoted by GTA, will achieve a much lower car driver mode and associated traffic generation than a comparable site in this location

We trust the above is clear but should you have any queries regarding the above or require further information, please do not hesitate to contact the undersigned on 8437 7800.

Yours sincerely,



**Ken Hollyoak**  
Director

# Annexure A

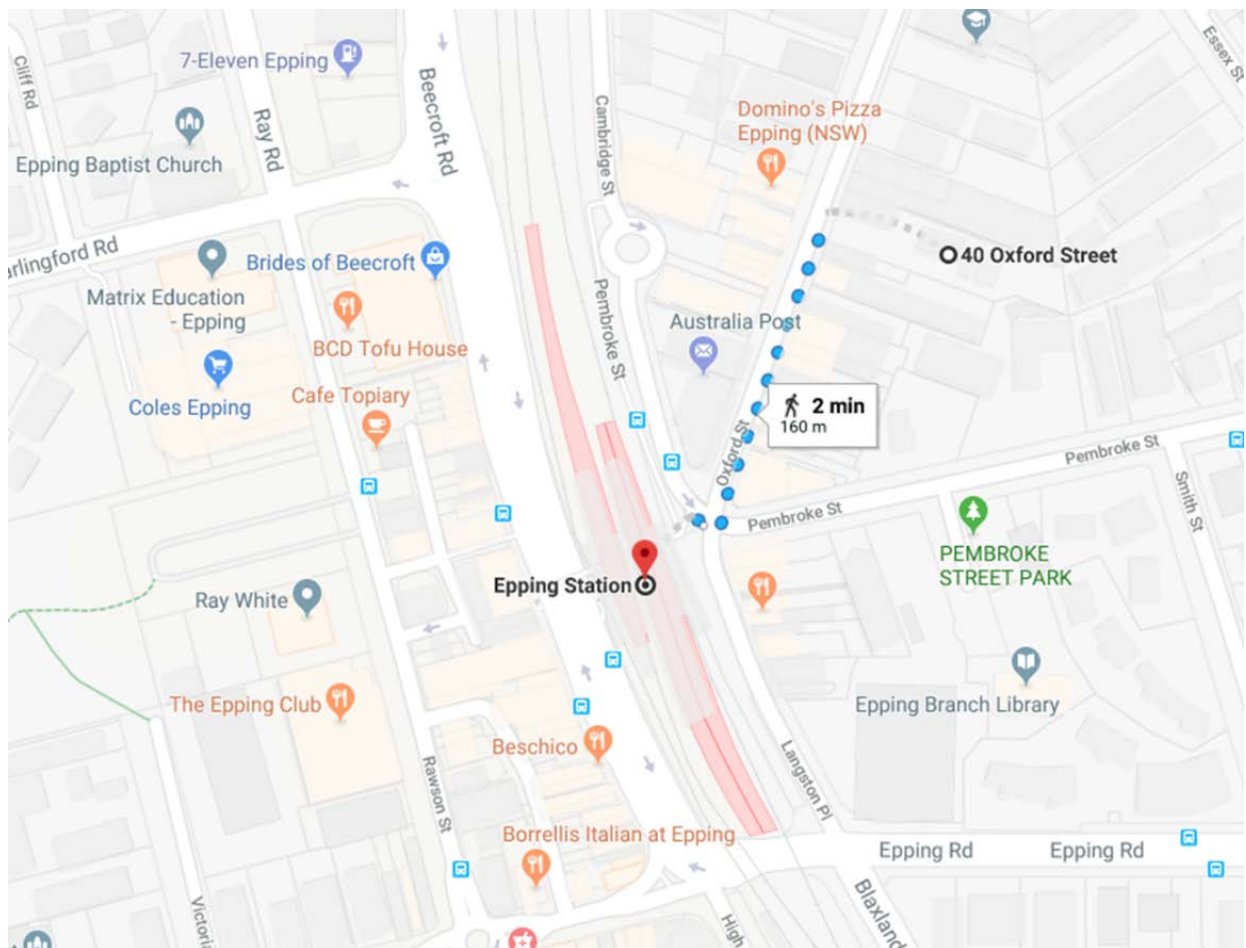
## Public Transport Capacity Analysis

## Rail Services

The subject site is located in close proximity to Epping Railway Station and Epping bus terminus, that being a two-minute walk from the site (as shown in Figure). The Epping Railway Station services the Sydney T1 Northern Line, T1 North Shore & Northern Line and the intercity, Central Coast & Newcastle Line. These facilities provide frequent services to Sydney CBD and other major destinations.

The shortest walking route to the Epping Railway Station to/from the proposed development site is shown in Figure 1.

**Figure 1: Walking Route to Epping Rail Station**



Source: Google Maps Australia, accessed 27/07/18

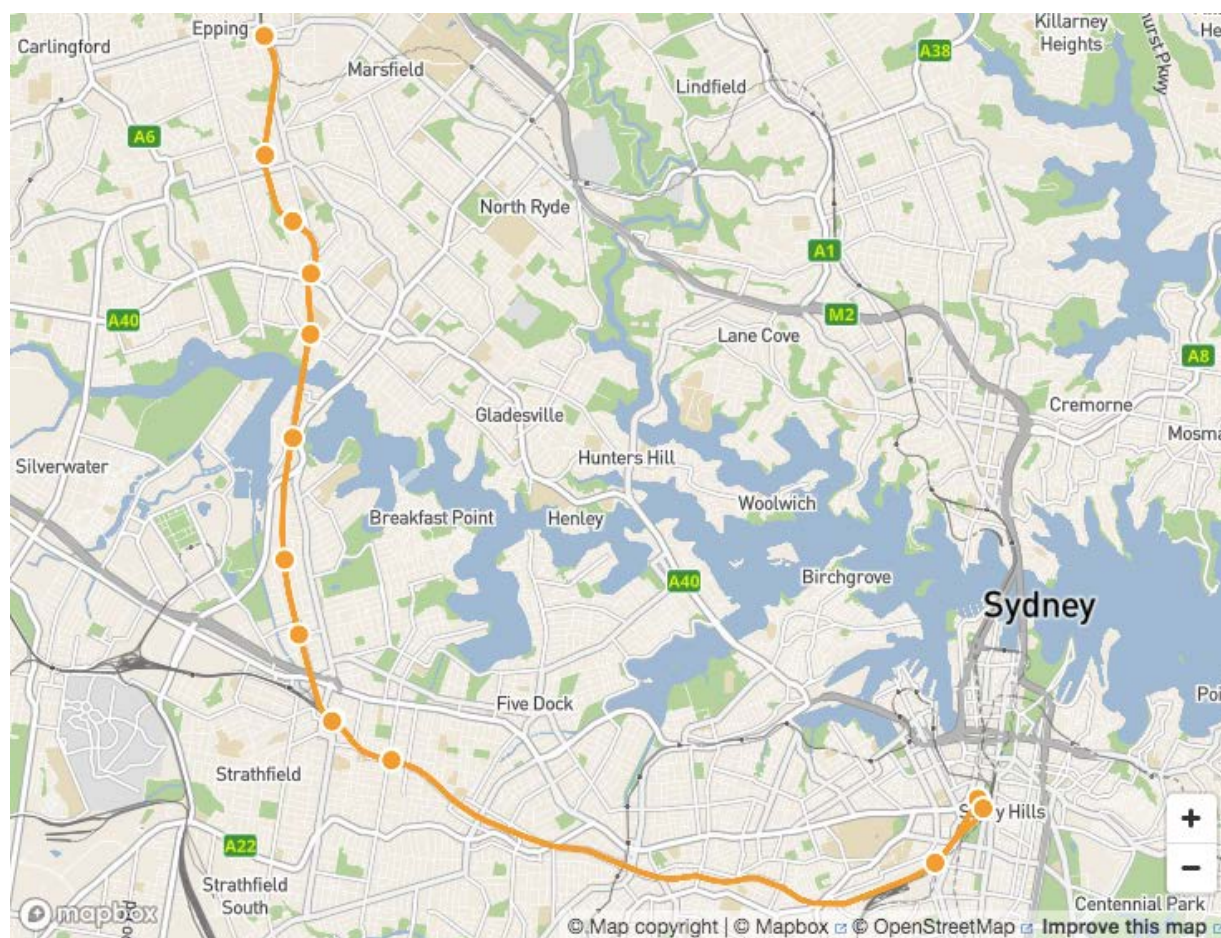
In addition to this, a review of railway services availability at Epping Railway Station is

**Table 1: Train Services at Epping Station**

Route	Route Description	Typical Weekday Frequency During Peak Hour
T1 Northern Line	Hornsby and Epping to City via Strathfield	2-10 minutes
	City to Epping and Epping to Hornsby via Strathfield	4-10 minutes
T1 North Shore & Northern Line	Berowra to City via Gordon, Hornsby to City via Macquarie University	15 minutes
	City to Berowra via Gordon, City to Hornsby via Macquarie University	15 minutes
Central Coast & Newcastle Line	Newcastle to Central via Strathfield or Gordon	Every 15 to 30 minutes
	Central to Newcastle via Strathfield or Gordon	Every 30 minutes

The T1 Northern, T1 North Shore & Northern and Central Coast & Newcastle routes are shown in Figures 2, 3 and 4 respectively.

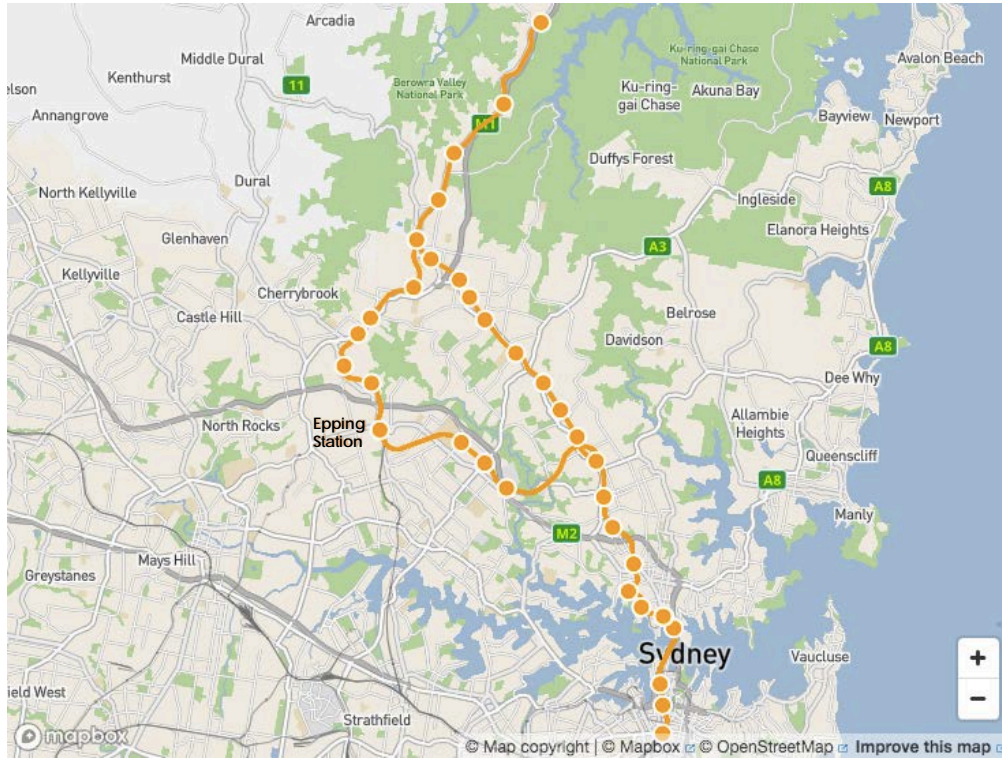
**Figure 2: T1 Northern Route**



Source: TfNSW

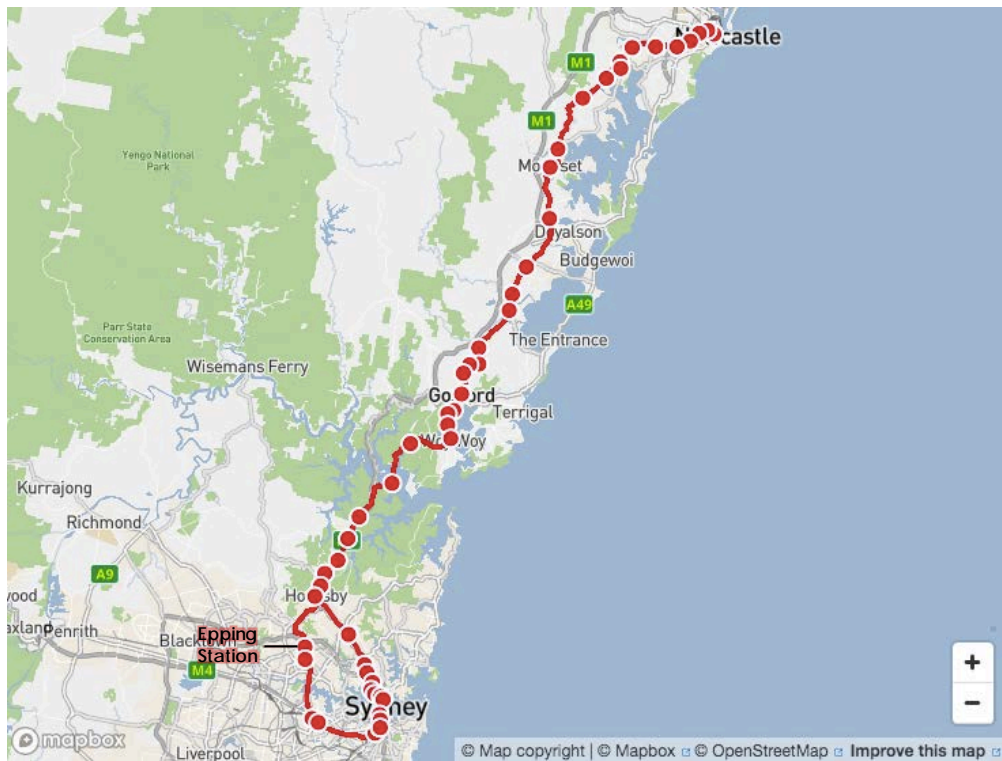


Figure 3: T1 North Shore & Northern Line



Source: TfNSW

Figure 4: Central Coast & Newcastle Route



Source: TfNSW

## Existing Bus Services

The Integrated Public Transport Service Planning Guidelines state that bus services influence the travel mode choices of sites within 400 metres (approximately 5 minutes) of a bus stop. Data collected by TfNSW Transport Performance and Analytics from 2014/15 household travel surveys supports this guidance, however, also suggests that walking trips to a bus stop extend further than the traditional 400m distance to a bus stop, as shown in Table 2.

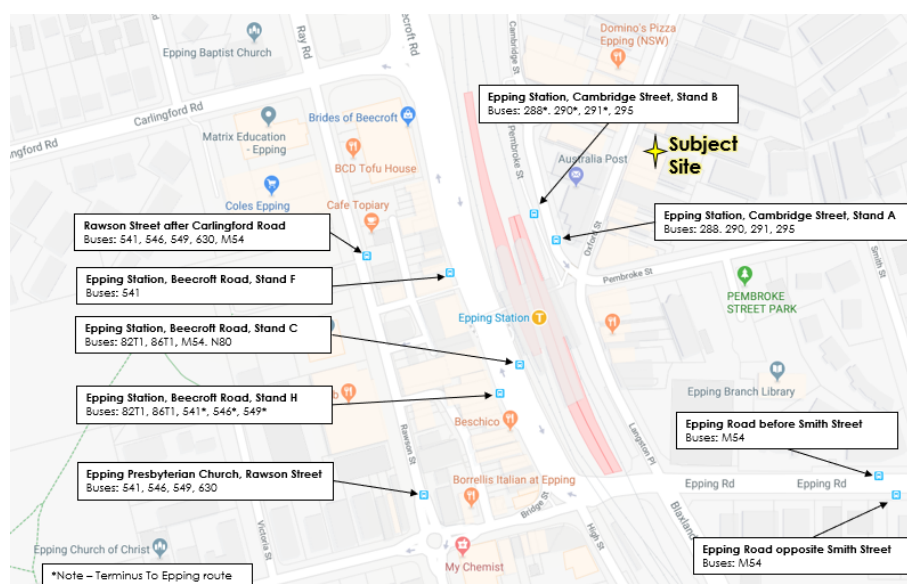
**Table 2: Population of Walkers to a Bus Stop (Weekday Trips)**

Walking Distance	Population	Percentage of Population
Up to 400m	155,948	49%
401m to 800m	91,077	28%
801m and greater	73,632	23%
Total	320,657	100%

Data Source: TfNSW Transport Performance and Analytics Household Travel Surveys 2014/2015

Notably, there are a number of bus stops located within a 400m catchment radius of the site, at the Epping Railway Station and Bus Terminus, which provide good public transport access to a myriad of locations across Sydney. The site location with respect to the existing bus network surrounding the site is shown in Figure 5 with their descriptions and frequencies detailed in Table 3.

**Figure 5: Site Proximity to Existing Bus Facilities**



Basemap source: Google Maps Australia, accessed 27/07/18



**Table 3: Bus Services within Vicinity of Subject Site**

Route No.	Route Connectivity Description	Typical Weekday Frequency During Peak Hour
295	Macquarie Centre & North Epping	10-15 minutes
288, 290	City & Epping	10-15 minutes
291	Epping to McMahon's Point	20-30 minutes
M54	Macquarie Park & Parramatta	15 minutes
546	Epping/North Rocks & Parramatta	15 minutes
541	Eastwood & Epping	45 minutes
549	Epping & Parramatta via Eastwood	30 minutes
630	Blacktown & Macquarie Park via Baulkham Hills and Carlingford	40 minutes

Bus Route 82T1 and 86T1 are train replacement services that are operated on an infrequent basis.

## Rail Patronage

Train patronage surveys collected on Thursday, 23 February 2017 have been obtained to understand the existing rail services, frequencies and capacity of trains servicing the Epping area. A summary of the existing rail services at Epping Station is provided in Table 7.

**Table 7: Summary of Rail Services at Epping Station**

	AM Period		PM Period	
	7am-8am	8am-9am	4pm-5pm	5pm-6pm
From City	10	11	11	11
To City	13	13	14	13

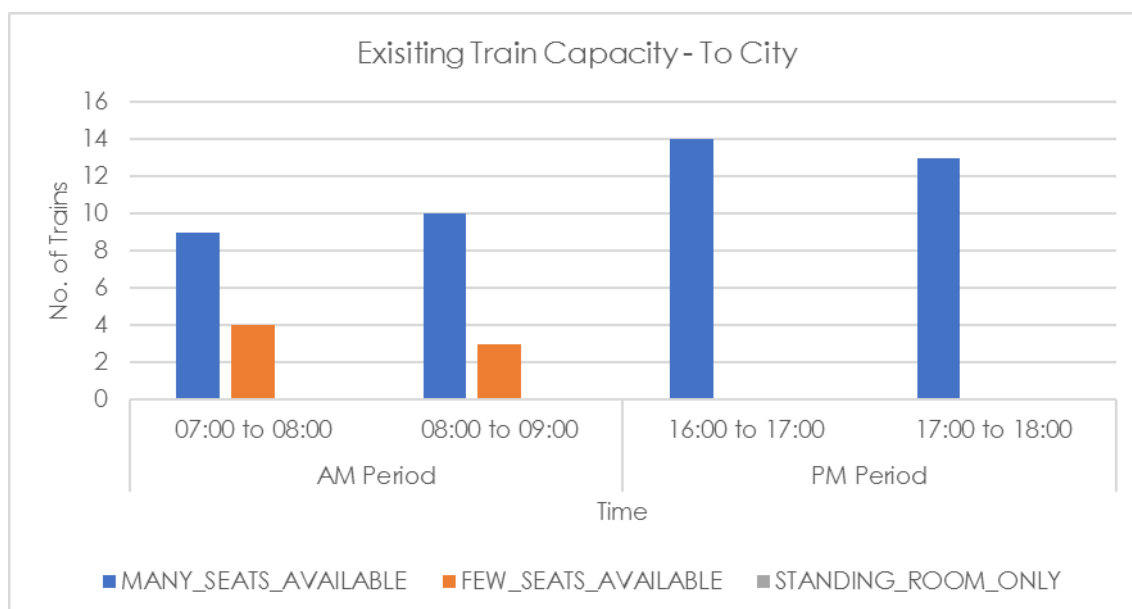
Existing rail services at Epping can currently accommodate up to a total of 896 seated train patrons (people). Based on the train patronage surveys, existing train loads at Epping Station currently operate within capacity, with similar train loads experienced in both the AM and PM Peaks.

The train patronage surveys provide the following rail capacity classifications:

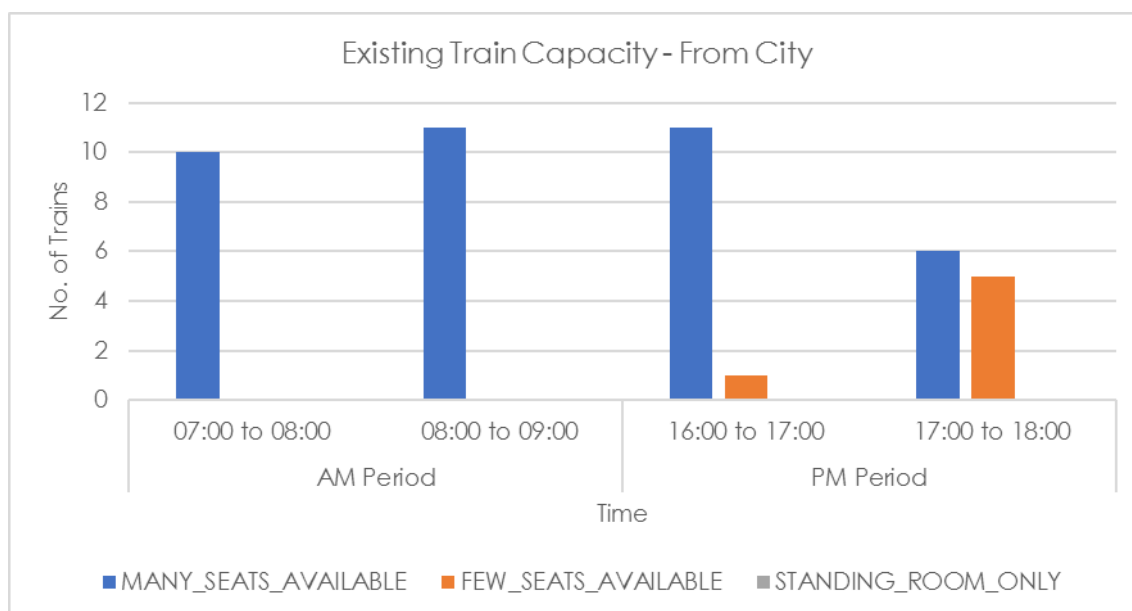
- **MANY\_SEATS\_AVAILABLE**
  - If occupancy on the train is less than 65% of the seating capacity
- **FEW\_SEATS\_AVAILABLE**
  - If occupancy on the bus is more than 65% of the seating capacity
- **STANDING\_ROOM\_ONLY**
  - If occupancy on the bus is more than 105% of the seating capacity of the train

The existing train loadings/capacities at the Epping Station during the AM and PM peak periods are summarised in Figure 9 and 10. The following graphs show how many trains currently operate during the peak periods and their associated train capacity classification (e.g. number of trains operating within or exceeding the seating capacity).

**Figure 9: Existing Peak Train Capacity (Epping Station) - To Central**



**Figure 10: Existing Peak Train Capacity (Epping Station) - From Central**



In this regard, the existing rail facility near the site currently operates within capacity, with spare capacity for any additional train trips generated by the proposed development site (e.g. residents, visitors, staff etc.).

# Bus Patronage

## Epping Station Existing Bus Loads

Bus patronage surveys collected on Thursday, 24 November 2016 (sourced from TfNSW's open data website) have been obtained to understand the existing bus services, frequencies and capacity within the immediate vicinity of the site.

The bus patronage surveys have been derived from the following three main sources:

- PTIPS – Public Transport Information and Prioritisation System
- Opal
- Bus Fleet Capacity

A summary of the existing bus frequencies at the nearest bus stops located at Epping Station is summarised in Table 8.

**Table 8: Summary of Bus Frequencies near the Site**

	AM Period		PM Period	
	7am-8am	8am-9am	4pm-5pm	5pm-6pm
Route 288*				
To City	1	2	2	1
Route 291*				
To McMahons Point	1	1	4	0
Route 295				
To North Epping (loop service)	4	3	3	4
Route 541*				
To Eastwood	1	2	1	2
Route 546*				
To Parramatta	2	2	1	2
Route 549*				
To Parramatta	3	2	1	2

*\*Note: These services terminate at Epping*

Existing bus services can currently accommodate up to 110 bus patrons (people) depending on the bus type, with the following breakdown:

- Seating capacity = 61 people
- Standing capacity = 49 people

Based on the bus patronage surveys, existing bus loads within the immediate vicinity of the site currently operate within capacity, with similar bus loads experienced in both the AM and PM Peaks.

The train patronage surveys provide the following rail capacity classifications:

- **MANY\_SEATS\_AVAILABLE**
  - If occupancy on the bus is less than 50% of the seating capacity (e.g. less than or equal 30 bus patrons)
- **FEW\_SEATS\_AVAILABLE**
  - If occupancy on the bus is more than 50% of the seating capacity (e.g. more than 30 bus patrons)
- **STANDING\_ROOM\_ONLY**
  - If occupancy on the bus is more than the seating capacity of the bus (e.g. more than 61 bus patrons)

With the above in mind, the existing bus loadings/capacities at the selected bus stops at Epping Station, during the AM and PM peak periods are summarised in Figures 11 -15.

The following graphs show how many buses currently operate during the peak periods and their associated bus capacity classification (e.g. number of buses operating within or exceeding the seating capacity).

**Figure 11: Existing Peak Bus Capacities (Bus Stop 212183) – To City**

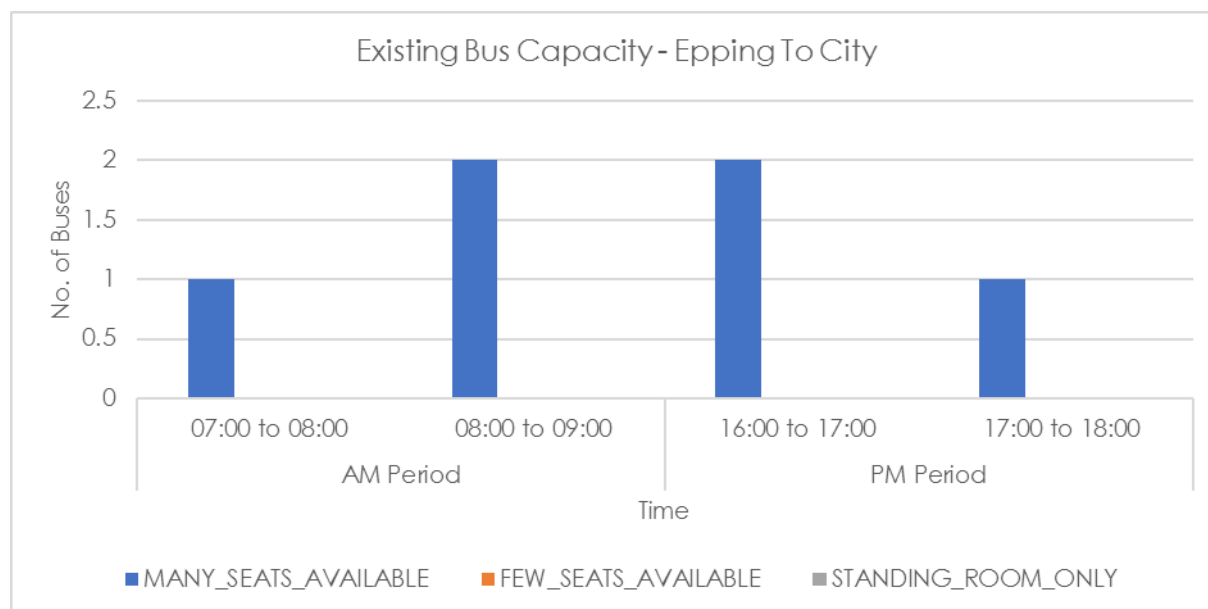




Figure 12: Existing Bus Capacities (Bus Stop 212183) - To McMahons Point

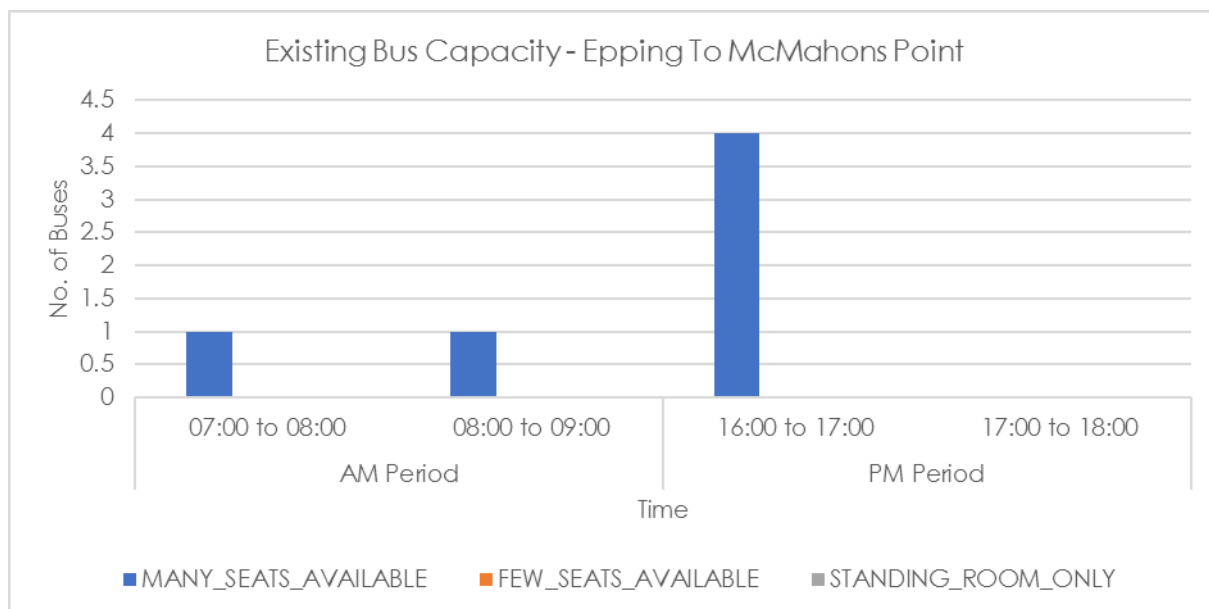
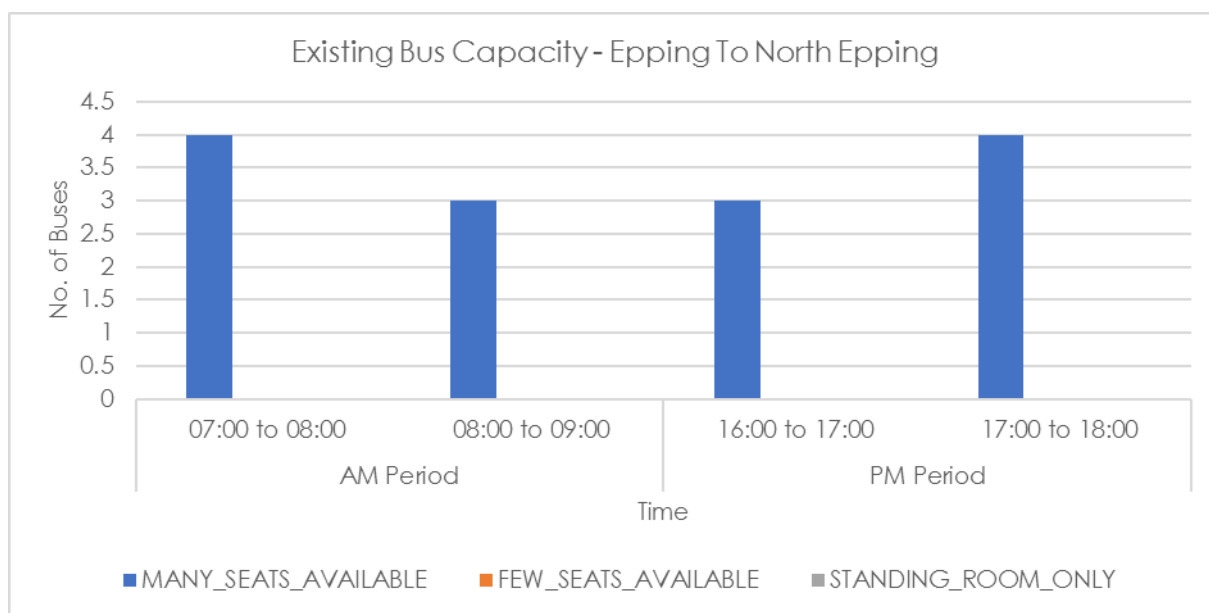
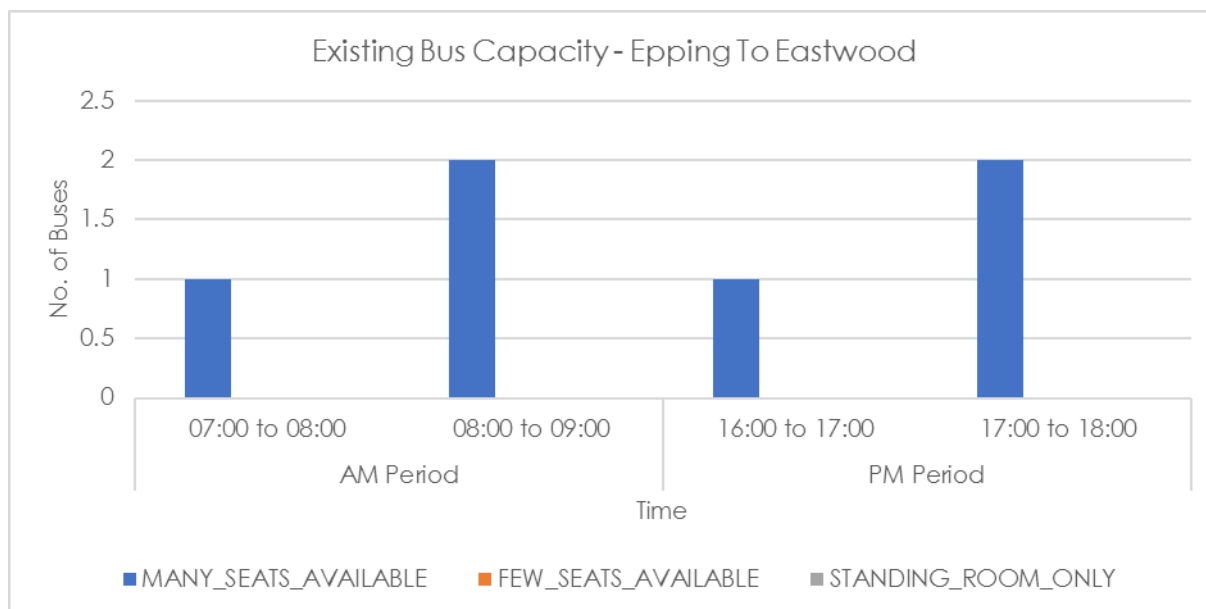


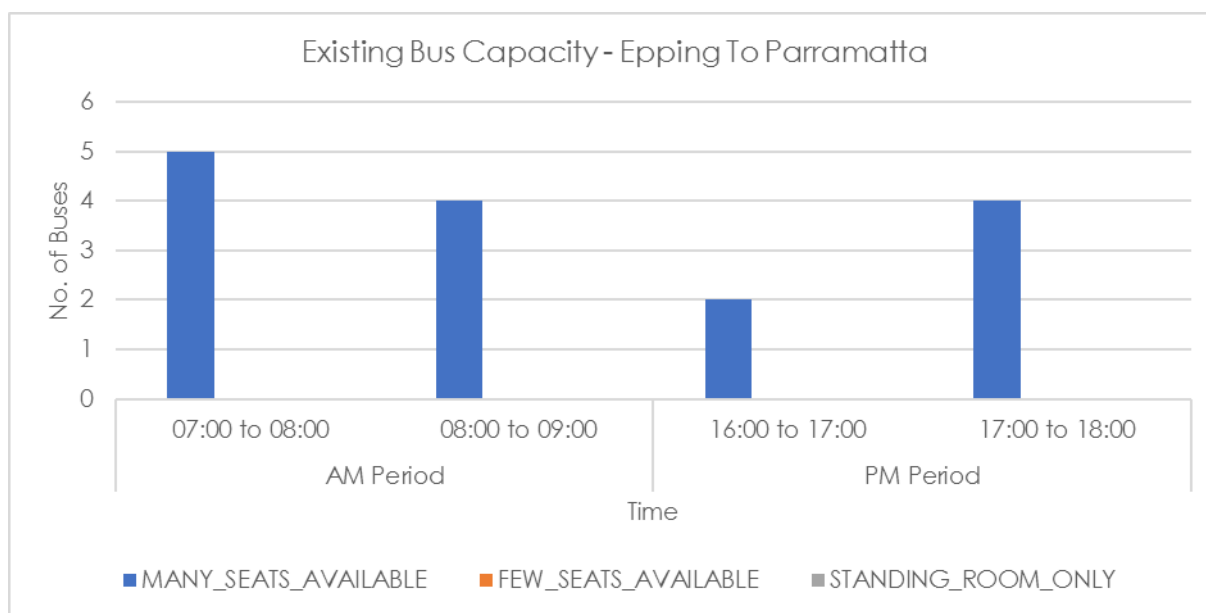
Figure 13: Existing Bus Capacities (Bus Stop 212183) - To North Epping



**Figure 14: Existing Bus Capacities (Bus Stop 212114) - To Eastwood**



**Figure 15: Existing Bus Capacities (Bus Stop 212140) - To Parramatta**



It is noted that all surveyed buses had many seats available. As such, the existing bus facilities within the immediate vicinity of the site currently operate within capacity, with spare capacity for any additional bus trips generated by the proposed development site (e.g. residents, visitors, staff etc.).