Proposed Mixed Use Development

# 44-48 Oxford Street, Epping

**TRAFFIC AND PARKING ASSESSMENT REPORT**

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Ref 17328

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# 1. INTRODUCTION

This report has been prepared to accompany a Development Application to Council for a mixed use development proposal to be located at 44-48 Oxford Street, Epping (Figures 1 and 2).

The site lies within the Epping Town Centre Core and is situated approximately 200m north-east of the pedestrian entrance to Epping Railway Station.

The proposed development involves the demolition of the existing commercial buildings on the site to facilitate the construction of a new mixed use residential/retail/commercial development. Off-street parking is to be provided in a new multi-level basement car parking area in accordance with Council's requirements.

The purpose of this report is to assess the traffic and parking implications of the development proposal and to that end this report:

- describes the site and provides details of the development proposal
- reviews the road network and public transport services in the vicinity of the site
- estimates the traffic generation potential of the development proposal
- assesses the traffic implications of the development proposal in terms of road network capacity
- reviews the geometric design features of the proposed car parking and loading facilities for compliance with the relevant codes and standards
- assesses the adequacy and suitability of the quantum of off-street car parking and loading provided on the site.

# 2. PROPOSED DEVELOPMENT

**Site**

The subject site is located on the eastern side of Oxford Street, midway between Essex Street and Pembroke Street, and is situated approximately 200m walking distance north-east of Epping Railway Station. The site has a street frontage approximately 40m in length to Oxford Street and occupies an area of 3,877m$^2$.

The subject site is currently occupied by a number of commercial buildings with an estimated cumulative floor area of approximately 2,300m$^2$.

Off-street car parking is provided for over two levels, including a basement level. Vehicular access to the site is provided via a single driveway located in the centre of the Oxford Street site frontage.

**Epping Town Centre Urban Activation Precinct**

The NSW Department of Planning & Infrastructure prepared the *Structure Plan 2013* document outlining a vision for the precinct including preferred land uses, built form and public domain strategy. Key features of the *Structure Plan* are:

- the potential for 3,000-4,000 new dwellings over a 20 year period with most being provided in the town centre core

- built form in the core to be 2-4 level podiums at the lower levels for retail/commercial, with taller residential built form up to a total of 22 storeys above

More recently, Council prepared the *Epping Town Centre – Public Domain Guidelines (December 2015)* document which builds on the *Structure Plan 2013* document and further outlines various requirements for the precinct including preferred land uses, built form and public domain strategy. Additional key features of the *Guidelines* are:

- improved public domain, pedestrian and cycle connections through the centre

- road and intersection upgrades

Plan extracts from the *Epping Town Centre – Public Domain Guidelines (December 2015)* are reproduced in Appendix A which show potential new pedestrian crossings to the north and south of the site in Oxford Street which align with potential new pedestrian through links between Oxford Street and Cambridge Street, along with other proposed infrastructure upgrades.

**Proposed Development**

The proposed development involves the demolition of the existing commercial buildings on the site to facilitate the construction of a new mixed use residential/retail/commercial development.

A total of 178 residential apartments are proposed in the new building as follows:

| | |
|---|---|
| Studio apartments: | 21 |
| 1 bedroom apartments: | 71 |
| 2 bedroom apartments: | 65 |
| 3 bedroom apartments: | 21 |
| **TOTAL APARTMENTS:** | **178** |

Three retail components are also proposed on the ground floor level, with a cumulative floor area of 592m$^2$.

A commercial component is also proposed on Level 1, fronting Mark Street, with a floor area of 1,013m$^2$.

Off-street parking is proposed for a total of 223 cars, comprising 168 residential spaces, 18 visitor spaces and 37 retail/commercial spaces, in a new multi-level basement car parking area. Basement level 1 will be dedicated to retail/commercial parking whilst the lower basement levels will be securely separated and dedicated to residential and visitor parking. Vehicular access to the car parking facilities is to be provided via a new entry/exit driveway located at the southern end of the Oxford Street site frontage.

Loading/servicing for the proposed development is expected to be undertaken by a variety of commercial vehicles up to and including 12.5m long heavy rigid trucks. A loading bay is to be located on basement level 1, adjacent to the garbage rooms. Vehicular access to the loading bay is to be provided via the abovementioned proposed site access driveway in Oxford Street.

Plans of the proposed development have been prepared by *Nettleton Tribe* and are reproduced in the following pages.

# 3. TRAFFIC ASSESSMENT

**Road Hierarchy**

The road hierarchy allocated to the road network in the vicinity of the site by the Roads and Maritime Services is illustrated on Figure 3.

Epping Road and Beecroft Road are classified by the RMS as *State Roads* and provide key road links in the area. Beecroft Road also provides access to the M2 Motorway which connects to the Sydney CBD. These roads typically carry two traffic lanes in each direction in the vicinity of the site. Kerbside parking is prohibited along both sides of the roads, in the vicinity of the site.

Blaxland Road is also classified by the RMS as a *State Road* and also forms part of the key north-south road link in the area, linking Epping and Eastwood. It typically carries two traffic lanes in each direction in the vicinity of the site, with turning bays provided at key locations.

Oxford Street is a local, unclassified road which is primarily used to provide vehicular and pedestrian access to frontage properties. Time-restricted kerbside parking is generally permitted along both sides of the road.

**Existing Traffic Controls**

The existing traffic controls which apply to the road network in the vicinity of the site are illustrated on Figure 4. Key features of those traffic controls are:

- a 50 km/h SPEED LIMIT which applies to Oxford Street and all other local roads in the area
- a 40 km/h SCHOOL SPEED ZONE which applies to Oxford Street in the vicinity of the site, including directly outside the site frontage
- TRAFFIC SIGNALS at the intersection of Oxford Street/Cambridge Street/Pembroke Street/Langston Place

- a SIGNALISED PEDESTRIAN CROSSING in Oxford Street, located directly outside the site frontage

- a ROUNDABOUT at the intersection of Oxford Street/Essex Street/ Chester Street.

**Existing Public Transport Services**

There are currently in the order of nine bus routes travelling within approximately 400m walking distance of the site including the high-frequency intra-regional *Metrobus M54*. The *M54* service operates between Macquarie Park and Parramatta via Carlingford seven days per week, with weekday services every 15 minutes (every 10 minutes during the morning and afternoon peak) and weekend services every 20 minutes.

Epping Railway Station is situated on the T1 Northern Line, operating between Hornsby and the City, and is located approximately 200m walking distance south-west of the site. Train services operate out of Epping Railway Station every 5-15 minutes during peak and off-peak periods. The station is also soon to be serviced by the new Sydney Metro Northwest which will provide services between Cudgegong Road and Epping via Kellyville, Norwest and Castle Hill.

As mentioned in the foregoing, the site lies with the Epping Town Centre Core which includes a wide range of essential shops and services such as a supermarket, fruit market, butchery, bakery, seafood shop, bottle shop, post office, pharmacy, optometrist, newsagency, hair dresser and beautician.

The site is therefore considered to be highly accessible to essential services and public transport options and an ideal location for high density living.

**Projected Traffic Generation**

The traffic implications of development proposals primarily concern the effects of the *additional* traffic flows generated as a result of a development and its impact on the operational performance of the adjacent road network during the weekday commuter peak periods.

An indication of the traffic generation potential of the development proposal is provided by reference to the Roads and Maritime Services' publication *Guide to Traffic Generating Developments, Section 3 – Land Use Traffic Generation (October 2002)* and the updated traffic generation rates in the recently published RMS *Technical Direction* (TDT 2013/04a) document.

The TDT 2013/04a document specifies that it replaces those sections of the RMS *Guidelines* indicated, and must be followed when RMS is undertaken trip generation and/or parking demand assessments.

The RMS *Guidelines* and the updated TDT 2013/04a are based on extensive surveys of a wide range of land uses and nominate the following traffic generation rates which are applicable to the development proposal:

**Office Blocks**

AM: 1.6 peak hour vehicle trips per 100m$^2$ GFA

PM: 1.2 peak hour vehicle trips per 100m$^2$ GFA

**High Density Residential Flat Dwellings**

AM: 0.19 peak hour vehicle trips per unit

PM: 0.15 peak hour vehicle trips per unit

The RMS *Guidelines* also make the following observation in respect of high density residential flat buildings:

**Definition**

A *high density residential flat building* refers to a building containing 20 or more dwellings. This does not include aged or disabled persons housing. *High density residential flat buildings* are usually more than 5 levels, have basement level car parking and are located in close proximity to public transport services. The building may contain a component of commercial use.

**Factors**

The above rates include visitors, staff, service/delivery and on-street movements such as taxis and pick-up/set-down activities.

Neither the RMS *Guidelines* nor the TDT 2013/04a nominate a traffic generation rate for small, local shops, referring only to major regional shopping centres incorporating supermarkets and department stores. For the purpose of this assessment therefore, the abovementioned traffic generation rates nominated in the RMS's TDT 2013/04a for *office blocks* has been adopted in respect of the small retail component of the development proposal.

Application of the above traffic generation rates to the various components of the development proposal yields a traffic generation potential of approximately 60 vehicle trips per hour (vph) during the AM commuter peak period and 46 vph during the PM commuter peak period, as set out below:

**Projected Future Traffic Generation Potential**

| | **AM** | **PM** |
|---|---|---|
| Residential (178 apartments): | 33.8 vph | 26.7 vph |
| Retail (592m$^2$): | 9.5 vph | 7.1 vph |
| Commercial (1,013m$^2$): | 16.2 vph | 12.2 vph |
| **TOTAL TRAFFIC GENERATION POTENTIAL:** | **59.5 vph** | **46.0 vph** |

That projected future level of traffic generation potential should however, be offset or *discounted* by the volume of traffic which could reasonably be expected to be generated by the existing uses of the site, in order to determine the *nett increase* in traffic generation potential expected to occur as a consequence of the development proposal.

Application of the above traffic generation rates nominated in the TDT 2013/04a to the existing commercial buildings on the site (~2,300m$^2$) yields a traffic generation potential of approximately 37 vph during the AM commuter peak period and approximately 28 vph during the PM commuter peak period.

Accordingly, it is likely that the proposed development will result in a *nett increase* in the traffic generation potential the site of approximately 23 vph during the AM commuter peak period and approximately 19 vph during the PM commuter peak period as set out below:

**Projected Nett Increase in Peak Hour Traffic Generation Potential of the site as a consequence of the development proposal**

| | AM | PM |
|---|---|---|
| Projected Future Traffic Generation Potential: | 59.5 vph | 46.0 vph |
| Less Existing Traffic Generation Potential: | -36.8 vph | 27.6 vph |
| **NETT INCREASE IN TRAFFIC GENERATION POTENTIAL:** | **22.7 vph** | **18.6 vph** |

It is pertinent to note that the projected future traffic generation potential of the retail component of the development proposal will *include* a number of "linked trips" or "passing trade". Linked trips occur when a person visits the site but also visits another premises nearby on the same trip whilst not moving their car, thereby not generating an additional vehicle trip. Passing trade occurs when a person might visit the proposed retail shops on the site on their way home from work. That person is already travelling on the nearby road network, thereby not generating an additional vehicle trip.

Furthermore, a portion of the customers using the proposed retail shops will be drawn from residents living within the apartments above and surrounding apartment developments (of a comparable density), thereby further reducing the traffic activity.

In any event, that projected increase in traffic activity as a consequence of the development proposal is consistent with the zoning objectives of the area, and will clearly not have any unacceptable traffic implications in terms of road network capacity.

# 4. PARKING IMPLICATIONS

## Existing Kerbside Parking Restrictions

The existing kerbside parking restrictions which apply to the road network in the vicinity of the site are illustrated on Figure 5 and comprise:

- NO STOPPING restrictions in Oxford Street in the vicinity of the signalised pedestrian crossing, including along the northern portion of the site frontage

- generally 1 HOUR PARKING restrictions along the eastern side of Oxford Street including the remainder of the site frontage

- generally ½ HOUR PARKING restrictions along the western side of Oxford Street

- BUS ZONES located on both sides of Oxford Street, just north of the site.

## Off-Street Parking Provisions

The off-street parking requirements applicable to the development proposal are specified in the *Hornsby Development Control Plan 2013 – Section 1C.2.1 Transport and Parking* document in the following terms:

**Medium and High Density Dwellings (Epping Town Centre Core)**

| | |
|---|---|
| Studio apartments: | 0.5 spaces per dwelling |
| 1 bedroom apartments: | 0.75 spaces per dwelling |
| 2 bedroom apartments: | 1 space per dwelling |
| 3 bedroom apartments: | 1.5 spaces per dwelling |
| Visitors: | 1 space per 10 dwellings |

**Shops (Epping Town Centre Core)**

1 space per 60m$^2$ GLFA (min) and 1 space per 30m$^2$ GLFA (max)

**Office Premises (Epping Town Centre Core)**

1 space per 70m$^2$ GLFA (min) and 1 space per 50m$^2$ GLFA (max)

Application of the above parking requirements to the various components outlined in the development proposal yields an off-street parking requirement of between 203 parking spaces and 218 parking spaces as set out below:

| | |
|---|---|
| Residential (178 apartments): | 160.3 spaces |
| Visitors: | 17.8 spaces |
| Retail (592m²): | 9.9 spaces (min) and 19.7 spaces (max) |
| Commercial (1,013m²): | 14.5 spaces (min) and 20.3 spaces (max) |
| **TOTAL:** | **202.5 spaces (min) and 218.1 spaces (max)** |

The proposed development makes provision for a total of 223 off-street parking spaces, comprising 168 residential spaces, 18 visitor spaces and 37 retail/commercial spaces, thereby satisfying the *HDCP 2013* parking requirements.

The geometric design layout of the proposed car parking facilities has been designed to comply with the relevant requirements specified in the Standards Australia publication *Parking Facilities Part 1 - Off-Street Car Parking AS2890.1 - 2004* in respect of parking bay dimensions, ramp gradients and aisle widths.

**Motorcycle Parking Provisions**

The bicycle parking requirements applicable to the development proposal are also specified in the *Hornsby Development Control Plan 2013 – Section 1C.2.1 Transport and Parking* document in the following terms:

| **Motorcycle Parking (Epping Town Centre Core)** | |
|---|---|
| On site car parking with more than 25 parking spaces | 4 spaces |

Application of the above motorcycle parking requirements to the development proposal yields an off-street motorcycle parking requirement of 4 motorcycle parking spaces.

The proposed development makes provision for a total of 12 motorcycle spaces, thereby complying with Council's requirements.

## Bicycle Parking Provisions

The *minimum* bicycle parking requirements applicable to the development proposal are also specified in the *Hornsby Development Control Plan 2013 – Section 1C.2.1 Transport and Parking* document in the following terms:

| **Bicycle Parking (Epping Town Centre Core)** | |
|---|---|
| Residents: | 1 space per dwelling (minimum) |
| Visitors: | 1 space per 10 dwellings (minimum) |

Application of the above bicycle parking requirements to the development proposal yields an off-street bicycle parking requirement of 196 bicycle parking spaces as set out below:

| | |
|---|---|
| Residents (178 apartments): | 178.0 spaces |
| Visitors: | 17.8 spaces (minimum) |
| **TOTAL PARKING REQUIRED:** | **195.8 spaces (minimum)** |

The proposed development makes provision for a total of 207 bicycle spaces, thereby complying with Council's requirements.

## Loading/Servicing Provisions

Waste collection and servicing for the proposed development is expected to be undertaken using a variety of commercial vehicles up to and including 12.5m long HRV trucks. A large loading area is to be located on basement level 1, at the far western end. The manoeuvring and circulation areas have been designed to accommodate the swept turning path requirements of these heavy rigid trucks, allowing them to enter and exit the site in a forward direction at all times as reproduced in the following pages.

The geometric design layout of the proposed loading facilities have been designed to comply with the relevant requirements specified in the Standards Australia publication *Parking Facilities Part 2 - Off-Street Commercial Vehicle Facilities AS2890.2* in respect of loading area dimensions, overhead clearance and service area requirements for HRV trucks.

In summary, the proposed parking and loading facilities are generally consistent with the *HDCP 2013* as well as the Australian Standards and it is therefore concluded that the proposed development will not have any unacceptable parking or loading implications.