

TRANSPORT FOR NSW

CANLEY VALE STATION

TRAFFIC, TRANSPORT AND ACCESS IMPACT ASSESSMENT

FEBRUARY 2018



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Traffic, Transport and Access Impact Assessment

Transport for NSW

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GLOSSARY

BCA	Building Code Australia
BRS	Business Requirements Specification
CBD	Central Business District
CCTV	Closed Circuit Television
DDA	Disability Discrimination Act
DSAPT	Disability Standards for Accessible Public Transport
HTS	Household Travel Survey
JTW	Journey to Work
Km/h	Kilometres per hour
LGA	Local Government Area
LoS	Level of Service
RMS	Roads and Maritime Services
TAP	Transport Access Program
TfNSW	Transport for NSW
TTAI	Traffic, Transport and Access Impact Assessment
VT	Vertical Transport

1 INTRODUCTION

Transport for NSW (TfNSW) has commissioned WSP to undertake a Traffic, Transport and Access Impact Assessment (TTAI) for the proposed Canley Vale Station Transport Access Program (TAP3) upgrades. This report has been prepared for the Concept Design stage of the project and assesses the existing traffic and transport situation, the proposed upgrades to Canley Vale Station, the impacts to road and rail users during construction and operation, and the measures to ameliorate any impacts. More specifically, the following issues have been covered in this report:

- a review of the existing traffic, public transport, parking, pedestrian and cyclist conditions within the study area
- station access issues relating to the proposed upgrades during construction
- suggested improvements and mitigation measures that might be implemented to ameliorate the traffic and road safety related impacts created by the proposed upgrades.

1.1 BACKGROUND

Canley Vale Station is being upgraded as part of the TfNSW's Transport Access Program 3 Program (TAP3). The aim of the TAP3 is to provide better experience for public transport customers by delivering accessible, modern, secure and integrated transport infrastructure where it is most needed.

The program objectives are to provide:

- improved customer experience
- accessibility improvements for current and future customers
- safety and security improvements
- improve efficiency of service through increased travel options
- grow patronage on public transport.

1.2 STUDY AREA

Canley Vale is a suburb in the South-West of Sydney within the City of Fairfield Local Government Area (LGA) and is located approximately 30 km west of the Sydney CBD. Canley Vale Station is currently served by the Inner West and South Line and has two side platforms which are accessed via a footbridge, stairs, and ramps which provide local connections from First Avenue to the East and Railway Parade to the West. Figure 1.1 on the following page shows the location of the study area for this assessment which is outlined in yellow.



Figure 1.1 Canley Vale Station study area

1.3 SITE INSPECTION

A site inspection was carried out by the WSP study team on Monday 15th January 2018 between 10.00 am and 11.00 am in fine and dry weather conditions. The purpose of the site inspection was to get an understanding of existing railway station operation, conditions, facilities and access.

1.4 DOCUMENT REVIEW

The following documents were reviewed as part of this study:

- Canley Vale Station Precinct Easy Access Upgrade Business Requirements Specification (BRS) Version 1 (25/09/2014), Transport for NSW
- *Compendium of Sydney Rail Travel Statistics (November 2012)*, Bureau of Transport Statistics NSW

- Bureau of Transport Statistics website for Travel Zone and LGA Profile information
 - Sydney Buses and Sydney Trains websites for timetable and service information.
-

1.5 REPORT STRUCTURE

This report has the following structure:

- Chapter 2 describes the existing traffic and transport situation
- Chapter 3 discussed the proposed Canley Vale Station upgrades
- Chapter 4 details the Project impacts during construction
- Chapter 5 details the Project impacts during operation
- Chapter 6 proposes mitigation measures to ameliorate any Project related issues
- Chapter 7 provides a conclusion to the study.

2 EXISTING CONDITIONS

This section describes the existing station patronage, modal splits, journey to work data for the study area catchment, pedestrian access, public transport services, adjacent road network conditions and on-street parking provision.

2.1 STATION PATRONAGE

The 2013 *Compendium of Sydney Rail Travel Statistics* (BTS NSW) was reviewed to determine the typical weekday patronage at Canley Vale Station. Table 2.1 shows the weekday entry and exit volumes for the station, which ranks 94th in the metropolitan rail network.

Table 2.1 Canley Vale Station 2013 weekday entries and exits (Source: BTS TfNSW 2018)

TIME PERIOD	IN	OUT
0200 to 0600	40	20
0600 to 0930	1370	190
0930 to 1500	650	490
1500 to 1830	320	1260
1830 to 0200	50	460
24 hours	2430	2430

Pedestrian surveys undertaken in 2015 indicate that the busiest hour during a weekday AM peak occurs between 7:30 am and 8:30 am.

2.2 MODAL SPLITS

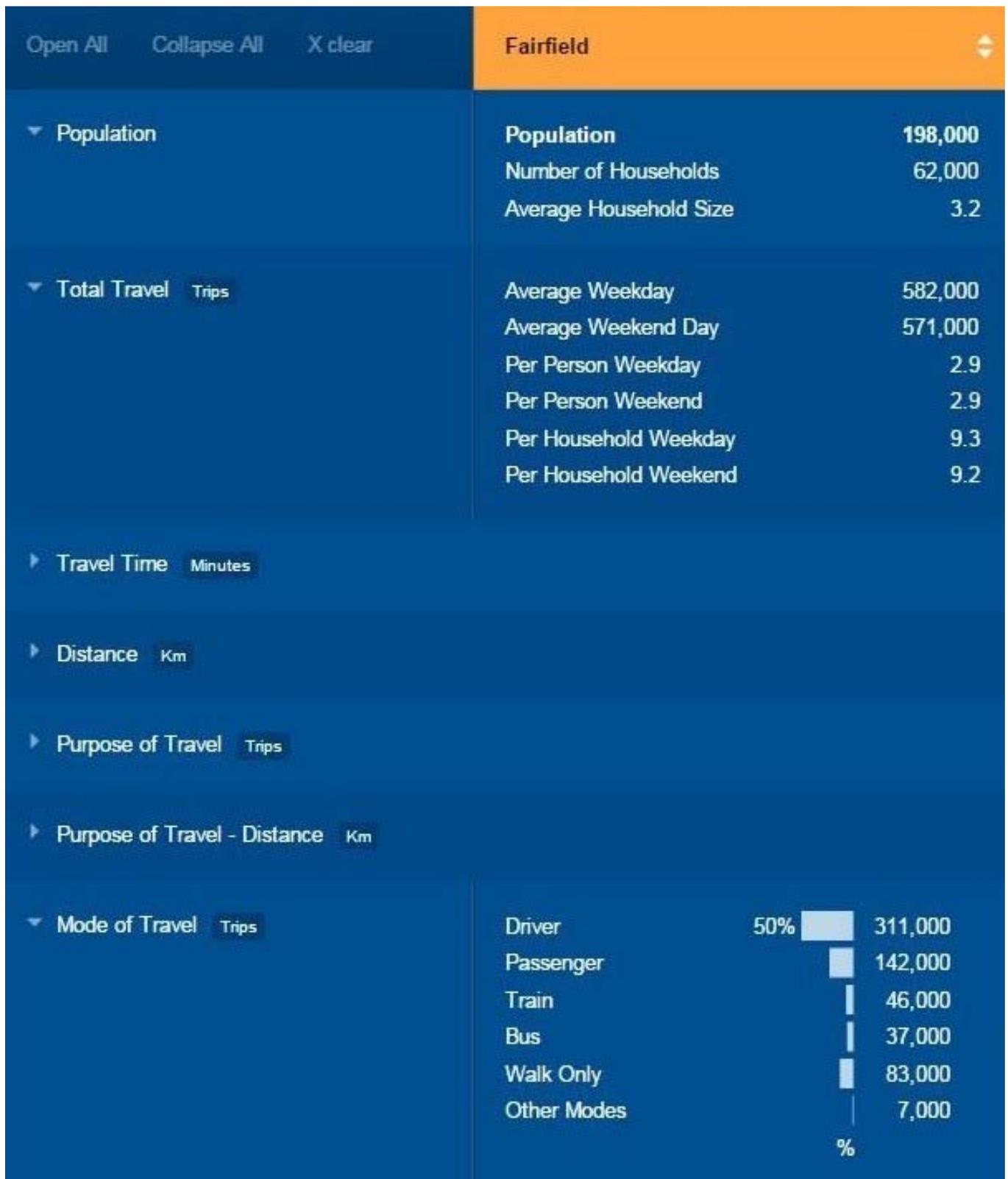
Canley Vale is a suburban station with the majority of its users departing in the AM peak and arriving in the PM peak, as evidenced by the data in Table 2.1 above.

The majority of access to and from the station is expected to be by walking. Having said this, there is ample on-street parking provided in close proximity, kiss-and-ride facilities and bicycle storage facilities for users of the station.

There are also local school bus services which travel on adjacent roads with stops at the station.

2.3 JOURNEY TO WORK AND MODE OF TRAVEL

A review of Household Travel Survey (HTS) data for the whole of Fairfield LGA and Journey to Work (JTW) data for the two travel zones, 3442 and 3443 adjacent to Canley Vale Station was undertaken. The HTS data is based upon 2012/2013 surveys and the JTW data set based upon 2011 surveys have been sourced from the NSW Bureau of Transport Statistics website. Figure 2.1 presents the population and mode of travel for the whole Fairfield LGA. Figure 2.2 shows the number of people who reside in travel zones, the mode choice for travel and their destination by LGA. Figure 2.3 shows the number of people who commute to travel zones, the mode choice for travel and their origin by LGA.



Source: BTS (NSW)

Figure 2.1 Household Travel Survey data for the Fairfield LGA

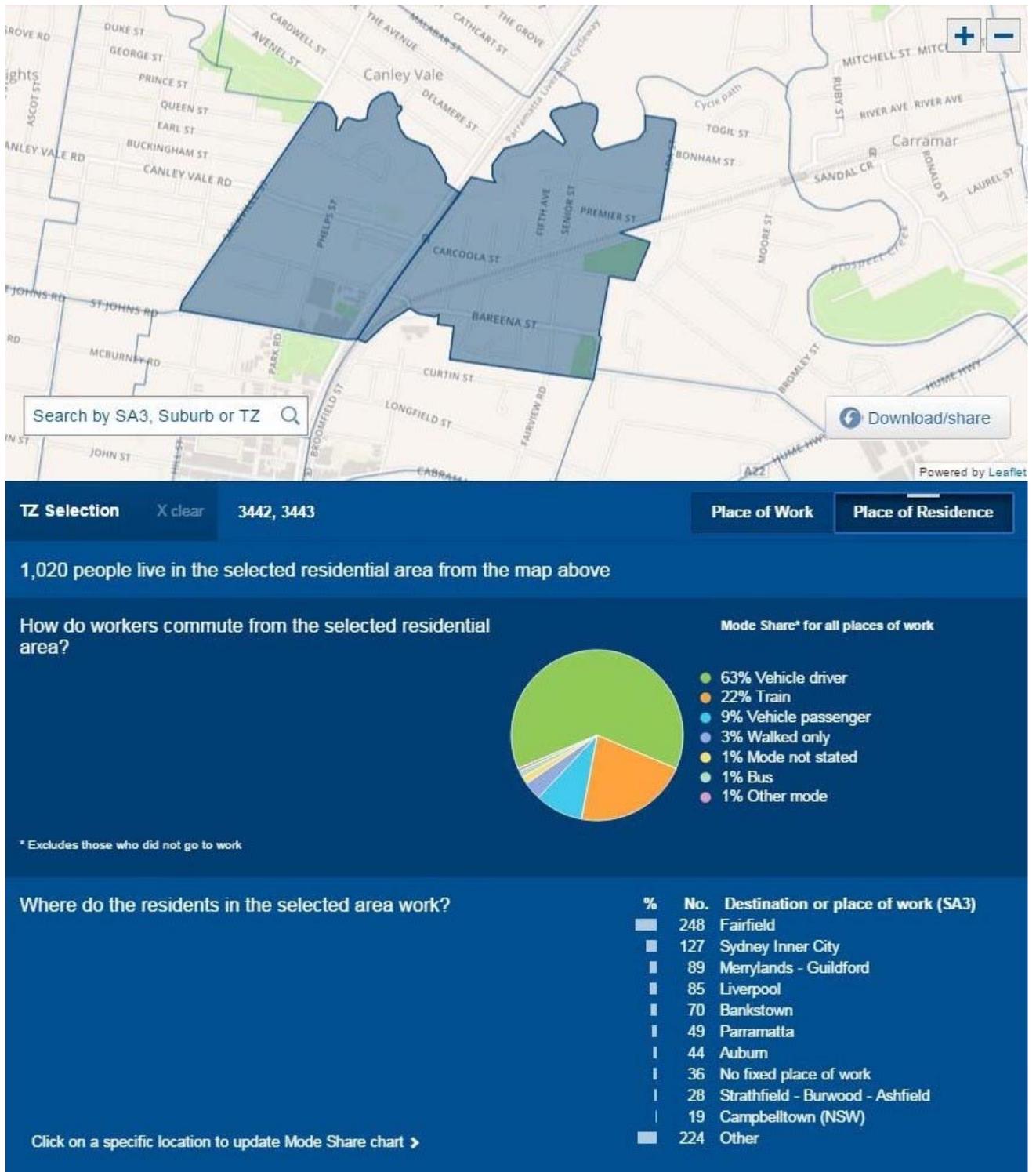


Figure 2.2 Journey to Work data for residents from travel zone 3442 and 3443 adjacent to Canley Vale Station

Figure 2.2 above shows that residents who reside in adjacent travel zones, 72% travel by car and 22% by train. Key destinations include the Fairfield and Sydney LGA's.

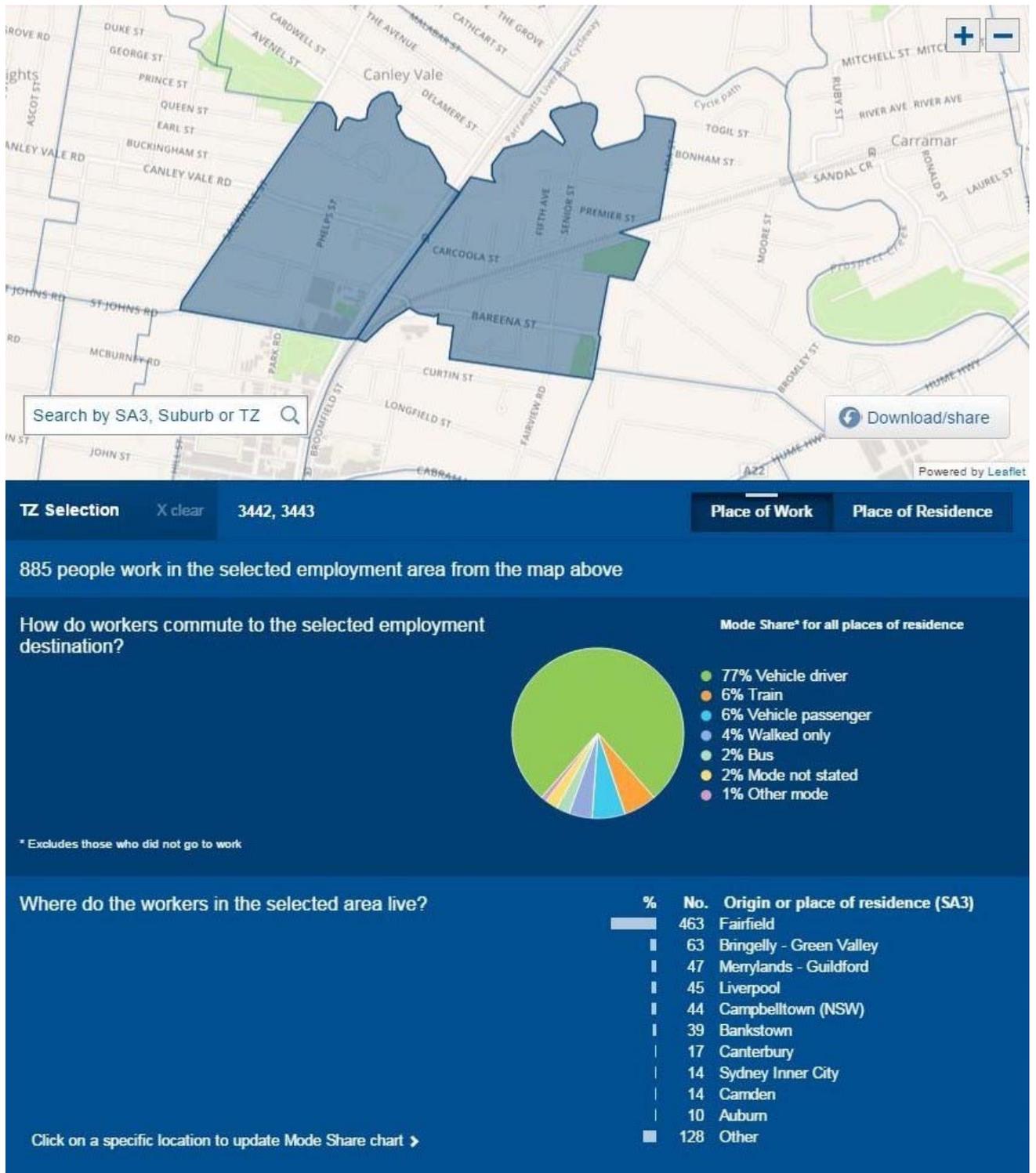


Figure 2.3 Journey to Work data for workers to travel zones 3442 and 3443 adjacent to Canley Vale Station

Figure 2.3 above shows how workers commute to adjacent travel zones, including 83% by car and 6% by train. The majority of workers commute from Fairfield LGA.

2.4 ROAD NETWORK

Canley Vale Station is surrounded by Railway Parade and Canley Vale Road to the west and First Avenue and Carcoola Street to the east.

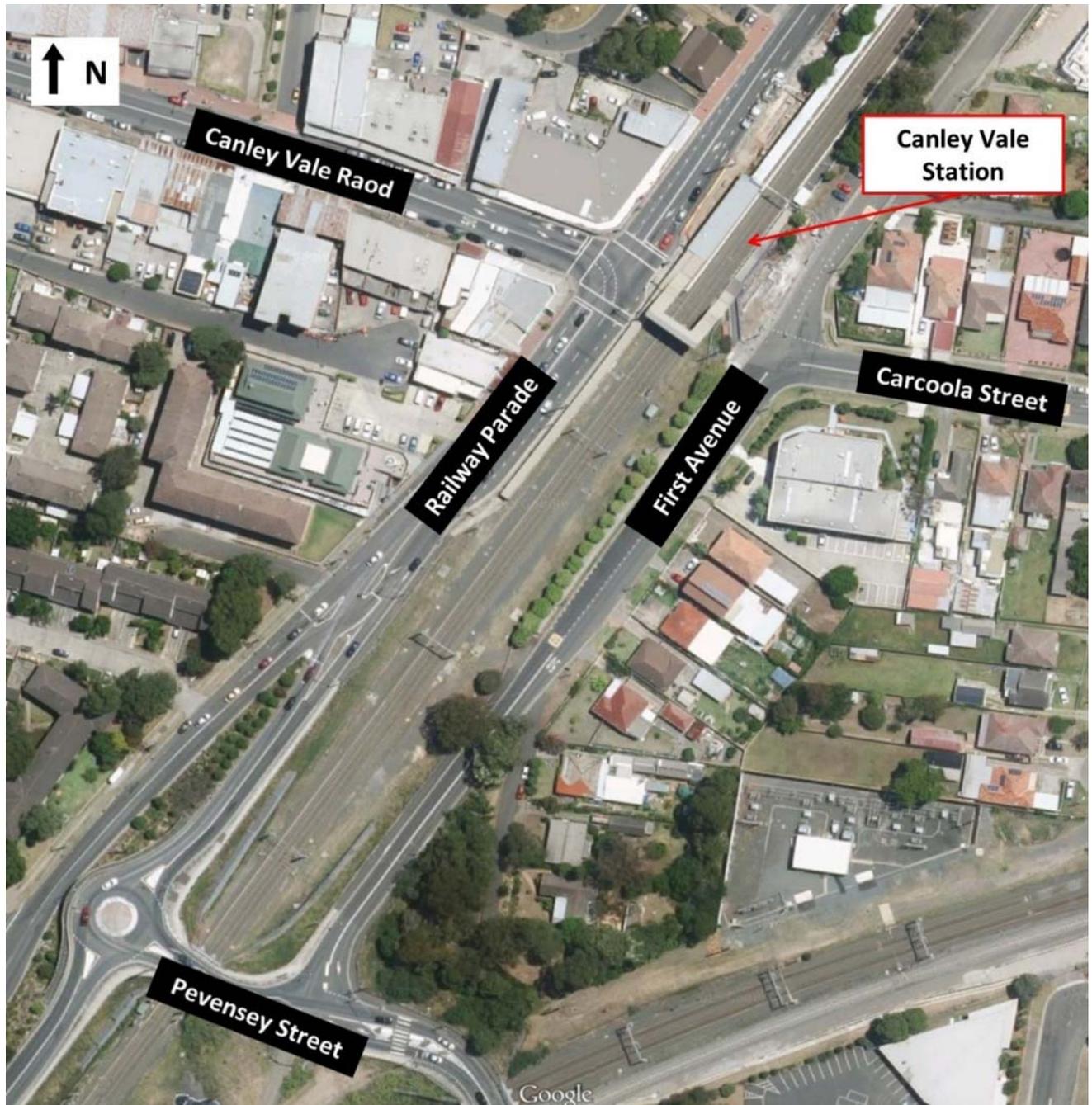


Figure 2.4 Road network adjacent to Canley Vale station (Source: Google Maps)

Railway Parade is a Regional road with a mixture of single and dual lane configuration in either direction adjacent to the railway station with a signalised intersection with Canley Vale Road. It has a posted speed limit of 50 km/h.

Canley Vale Road is a Regional road which is two-lane two-way with on-street parking lanes on both sides of the road. It is the main street through the local Canley Vale Town Centre and has a posted speed limit of 50 km/h. A 40 km/h school zone is located towards Sackville Street.

First Avenue is a Local road which is two-lane two-way with commuter car parking provided on both sides of the road. It has a posted speed limit of 50 km/h with a 40 km/h school zone during school pick-up and drop-off periods. First Avenue is left out only at Pevensy Street.

Carcoola Street is a Local road which is two-lane two-way with on-street parking on both sides of the road. It has a posted speed limit of 50 km/h. A 40 km/h school zone is located towards First Avenue.

Pevensy Street (Bareena Street) is Regional road that connects Railway Parade and Bareena Street and crosses the railway line via overbridge. It has a posted speed limit of 50 km/h.

2.5 PARKING FACILITIES

A total of 85 commuter car park spaces are available within the vicinity of the Station, comprising 51 car spaces located on First Avenue. A new commuter car park has been constructed and is located on the northern side of Fornasier Lane approximately 150 m from Canley Vale station. The new multi-level car park comprising 184 car spaces in a split level arrangement. A total of 87 car spaces will be allocated to Council which will all be subject to a time restriction to be determined and applied by Council. The remaining 97 parking spaces will be dedicated for use by commuters.

2.6 PUBLIC TRANSPORT

2.6.1 RAIL

Canley Vale Station is the 94th busiest railway station on the Sydney Trains network by passenger volumes. Canley Vale Station has two platforms. Platforms 1 and 2 are both side platforms. Platform 1 is located on the western side for inbound (to City and Blacktown) services. Platform 2 is located on the eastern side for outbound (from City and Blacktown) services. Train frequencies are provided in Table 2.2.

Table 2.2 Train services at Canley Vale Station

RAIL LINE	SERVICES	FREQUENCY OF SERVICES IN THE WEEKDAY AM 1HR PEAK	FREQUENCY OF SERVICES IN THE WEEKDAY PM 1HR PEAK
T2 Inner West & Leppington Line	Glenfield to City	8	6
	City to Glenfield	6	10
T5 Cumberland	Leppington to Richmond	2	2
	Richmond to Leppington	2	2

2.6.2 BUS

There are three bus stops located at or adjacent to the station including:

- one on the eastern side of Railway Parade, south of Canley Vale Road
- one on the western side of Railway Parade, north of Canley Vale Road
- one on the southern side of Canley Vale Road, approximately 80m west of Railway Parade.

The bus service currently operates by Transit Systems include the 817 bus route along Railway Parade and Canley Vale Road. The existing bus service provided at these stops is shown in Table 2.3.

Table 2.3 Bus services in close proximity of Canley Vale Station (Source: Transport Transit Systems)

ROUTE	SERVICES	FREQUENCY OF SERVICES IN THE WEEKDAY AM 1 HR PEAK	FREQUENCY OF SERVICES IN THE WEEKDAY PM 1 HR PEAK
817	Cabramatta to Fairfield	3	4
	Fairfield to Cabramatta	2	2

The N50 bus route is a limited service, which operates only at night and connects Liverpool with the Sydney CBD. This service operates at an hourly frequency in both directions and is accessible via the bus stop located on Railway Parade.

The following three school bus services also operate to the station during the weekday afternoon peak period, but there is no service during the AM peak period:

- bus route 9502 from Fairvale High School
- bus route 9548 from Patrician Brothers College
- bus route 9557 from Mary Mackillop College.

2.7 TAXI FACILITIES

Canley Vale station is serviced by a taxi zone which is combined with the bus zone located on the eastern side of Railway Parade, south of Canley Vale Road and accommodates approximately 2 taxis.

2.8 KISS-AND-RIDE FACILITIES

Canley Vale Station has a designated kiss-and-ride facility located on First Avenue, south of the station entrance. There is currently no formal kiss-and-ride facility on the western side of the station, but it was observed that the bus zone on the eastern side of Railway Parade was being used as an informal pick and drop off area.

2.9 CYCLIST FACILITIES

Bike racks exist on First Avenue adjacent to the station entrances. Bike racks also exist on Railway Parade on northern end of station near ramp entry, but usage is low. Instead, passengers store their bicycle along the fence line adjacent to the concrete footpath access on Railway Parade.

2.10 PEDESTRIAN FACILITIES

Concrete footpaths connect to all station access points. Station access points join with the pedestrian footbridge connecting to station platforms.

2.10.1 PEDESTRIAN ACCESS POINTS

Station stairs and ramp accesses are provided on both sides of the station, providing a connection from Railway Parade and First Avenue to platforms and the pedestrian footbridge.

2.10.2 PEDESTRIAN SURVEYS

Pedestrian surveys were undertaken at the station entrances and to/from platforms on previously on the 7th May 2015 during the AM and PM peaks between 6.00 am and 10.00 am and between 3.00 pm and 7.00 pm. Peak pedestrian

volumes during the weekday AM occur between 7.30 am and 8.30 am and in the PM between 3:45 pm and 4:45 pm as shown in **Error! Reference source not found.**

In the AM peak hour a total of 682 pedestrians enter the station; 503 (74%) from Railway Parade and 179 (26%) from First Avenue. A total of 130 pedestrians exit the station; 72 (55%) to Railway Parade and 58 (45%) to First Avenue. In the PM peak hour a total of 175 pedestrians enter the station; 134 (77%) from Railway Parade and 41 (23%) from First Avenue. A total of 413 pedestrians exit the station; 256 (62%) to Railway Parade and 157 (38%) to First Avenue.

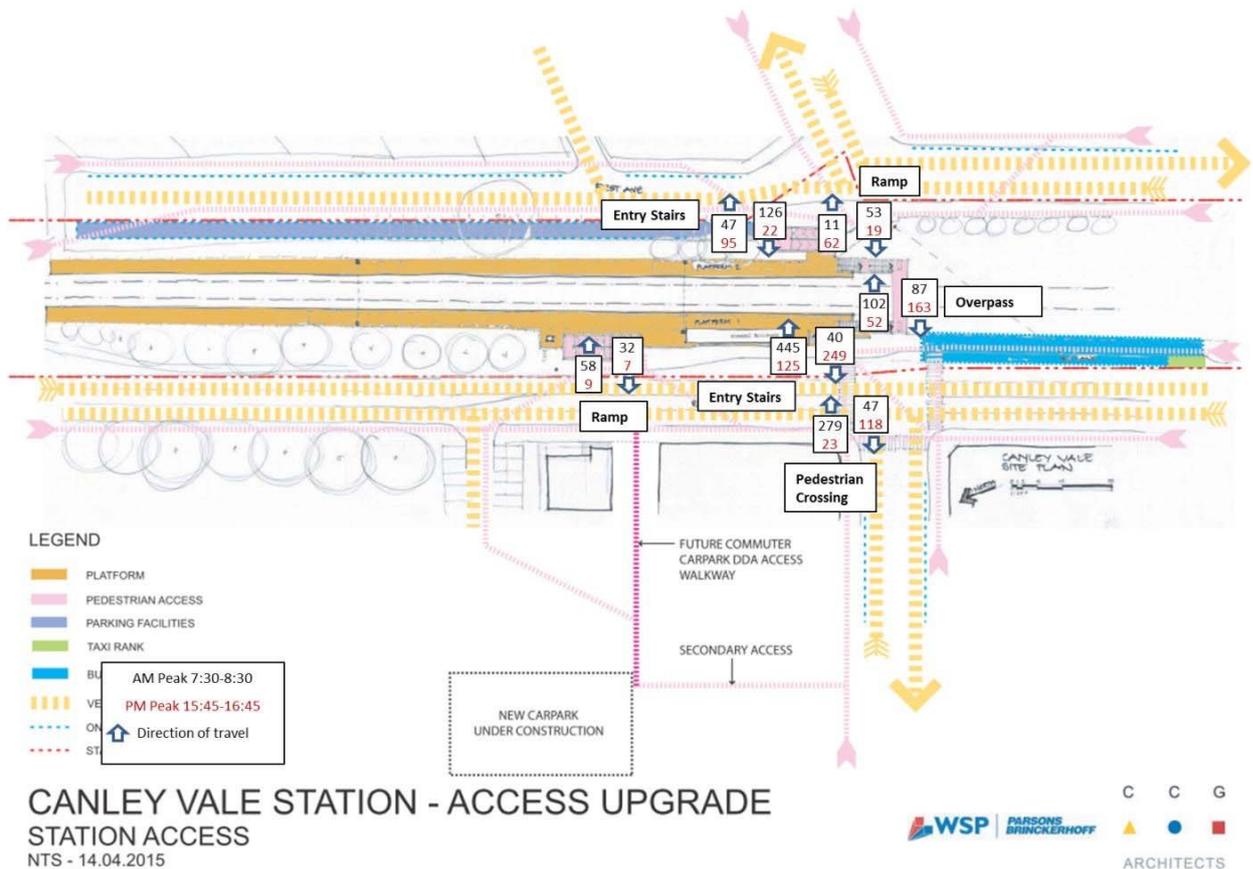


Figure 2.5 2015 Weekday AM and PM peak hour pedestrian volumes – Canley Vale Station

2.11 LAND USES

The following land uses are in close proximity of the station and include:

- Canley Vale Town Centre primarily located on Canley Vale Road and Railway Parade
- Cabra-Vale Diggers Club.

2.12 CRASH HISTORY

A review of crash data provided by Roads and Maritime Services (RMS) for the latest 5 year period (January 2009 to December 2013) indicates the following (refer to Appendix A):

- Three crashes within the study area of Canley Vale Road
 - Two located 10m west of Railway Parade involving an injury
 - One located 50m west of Railway Parade

- 20 crashes within the study area of Railway Parade
 - Seven located at the intersection of Railway Parade and Canley Vale Road involving two injuries
 - Six located 5 to 10m north of Canley Vale Road involving two injuries
 - Two located 10 to 30m south of Canley Vale Road
 - Five located at the intersection of Railway Parade and Westacott Lane involving two injuries
- No crashes were reported within the study area on First Avenue.

Figure 2.6 details the crash location patterns on Railway Parade and Canley Value Road in the vicinity of the Canley Vale station.

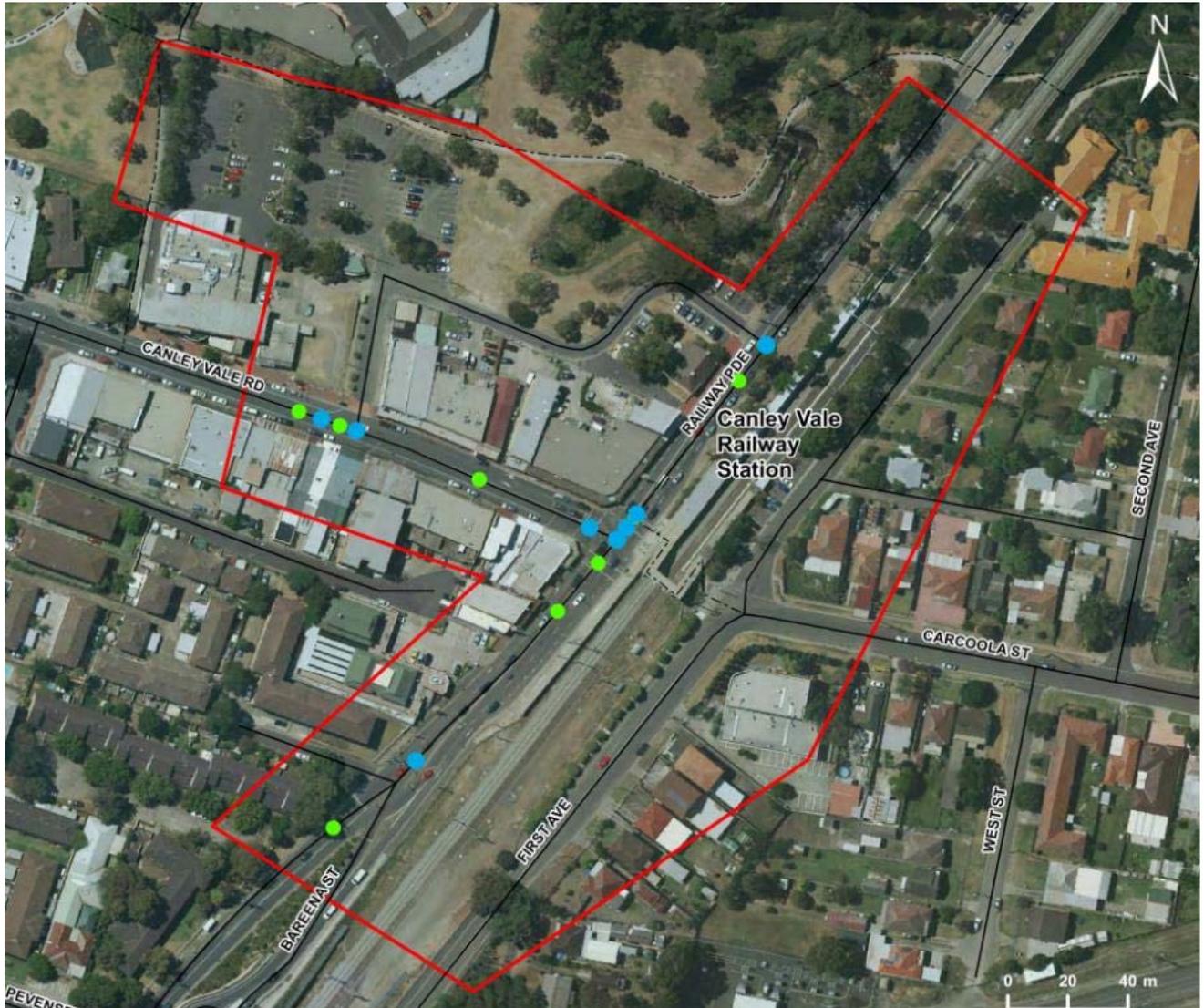


Figure 2.6 Crash location within a nominated precinct adjacent to Canley Vale Station

3 PROPOSED RAILWAY STATION UPGRADES

The Canley Vale Station Precinct Easy Access is part of the TAP3 program, an initiative to provide a better experience for public transport customers by delivering accessible, modern, secure and integrated transport infrastructure.

3.1 PROJECT SCOPE AND OBJECTIVE

The TAP has been developed to provide increased accessibility to public transport at rail interchanges. This includes targeting compliance with the Disability Standards for Accessible Public Transport. In general, these benefits will be provided by installing infrastructure such as lifts, ramps, tactile indicator tiles, accessible toilets and hand rails.

The objective of the upgrade is to ensure the most appropriate solution for the easy access upgrade is progressed to the detailed design stage.

3.2 OPTIONS ASSESSED

The following option was assessed as the preferred option in 2015. This was later updated in 2018 by de-scoping specific items within the previous scope.

PREFERRED OPTION – 2015

Table 3.1 Option 1: Minimum

Description	Advantages	Disadvantages
New lifts attached to existing footbridge including weather protection over lift entries.	<ul style="list-style-type: none"> ■ Accessible link from Station entry precincts to both platforms; ■ Provide weather protection at the points of entry; and ■ Maintain use of existing footbridge during construction 	<ul style="list-style-type: none"> ■ On the Railway Parade side, temporary access will be required during the demolition and replacement of the entry stairs; ■ Impact to patrons during construction; ■ Existing footbridge may require collision protection; ■ Lifts may impacts on existing services and may require diversion, relocation and/or new cabling; ■ Lift queuing area on Railway Parade may impact pedestrian flows from bus stop to station entry. ■ Does not achieve LoS C queuing on platforms and stairs.
New Station office on Platform 1.	<ul style="list-style-type: none"> ■ DDA compliant ticket/information window; ■ FAT and ambulant toilets for public use; and ■ Ambulant toilet for staff. 	<ul style="list-style-type: none"> ■ Temporary station office will be required during construction of the new station office;; ■ Ticket vending Machine will need to be relocated during construction phase.

Description	Advantages	Disadvantages
New dedicated DDA car parking and kiss & ride on Railway Parade. New dedicated DDA car parking and upgraded kiss & ride on First Ave.	<ul style="list-style-type: none"> Compliant with TAP & EA objectives; Provide weather protection for commuters waiting for pick-up. 	
New Family Access Public Toilet on Platform 2 at footbridge level	<ul style="list-style-type: none"> Compliant with DDA 	<ul style="list-style-type: none"> No access to existing public toilet during construction phase. A temporary public toilet will be required during construction phase.
Upgrade existing stairs nosing, and pavement at bottom landings for BCA compliant	<ul style="list-style-type: none"> Compliant stairs 	<ul style="list-style-type: none"> Construction will impact on station operation
New covered bike racks	<ul style="list-style-type: none"> Compliant with TAP & EA objectives 	
New signage to indicate location of EHP on platform	<ul style="list-style-type: none"> Clarity of location 	
Upgrade of existing pedestrian ramps on both sides of the station.	<ul style="list-style-type: none"> Accessibility compliant with better station entry presentation. 	<ul style="list-style-type: none"> Station operations may be affected during construction.
Re-construction of the entrance stairs on both sides of the station with tactile ground surface indicators	<ul style="list-style-type: none"> Compliant stairs 	<ul style="list-style-type: none"> Construction will impact on station operation

3.3 REFINED OPTION

REFINED OPTION – 2018

Table 3.2 Refined Option

Description	Advantages	Disadvantages
New lifts attached to existing footbridge including weather protection over lift entries.	<ul style="list-style-type: none"> Accessible link from Station entry precincts to both platforms; Provide weather protection at the points of entry; and Maintain use of existing footbridge during construction 	<ul style="list-style-type: none"> On the Railway Parade side, temporary access will be required during the demolition and replacement of the entry stairs; Impact to patrons during construction; Existing footbridge may require collision protection; Lifts may impacts on existing services and may require diversion, relocation and/or new cabling; Lift queuing area on Railway Parade may impact pedestrian flows from bus stop to station entry. Does not achieve LoS C queuing on platforms and stairs.
New dedicated DDA car parking and upgraded kiss & ride on First Ave.	<ul style="list-style-type: none"> Compliant with TAP & EA objectives; 	

Description	Advantages	Disadvantages
New Family Access Public Toilet on Platform 2 at footbridge level	<ul style="list-style-type: none"> Compliant with DDA 	<ul style="list-style-type: none"> No access to existing public toilet during construction phase. A temporary public toilet will be required during construction phase.
New signage to indicate location of EHP on platform	<ul style="list-style-type: none"> Clarity of location 	
Upgrade of existing pedestrian ramps on both sides of the station.	<ul style="list-style-type: none"> Accessibility compliant with better station entry presentation. 	<ul style="list-style-type: none"> Station operations may be affected during construction.
Re-construction of the entrance stairs on both sides of the station with tactile ground surface indicators	<ul style="list-style-type: none"> Compliant stairs 	<ul style="list-style-type: none"> Construction will impact on station operation

3.4 PRECINCT UPGRADES

The following upgrades are proposed to the station precinct under the Refined Option.

3.4.1.1 ACCESSIBLE PARKING

One accessible on-street parking space is proposed on the western side of First Avenue, north of the Caroola Street. No accessible parking spaces will be provided on Railway Parade.

3.4.1.2 KISS-AND-RIDE

One new shared kiss-and-ride will be provided on First Avenue.

3.4.1.3 PEDESTRIAN FACILITIES

Two new lifts will be installed providing access to and from Platform 1 and 2, and Railway Parade. Lift L1 will be positioned on the western side of the station providing, providing access between Railway Parade street level, platform 1 level and footbridge. Lift L2 will be positioned on the eastern side of the station, providing access between platform 2 and footbridge.

4 CONSTRUCTION IMPACT ASSESSMENT

This section describes the impacts to rail and road users during construction.

4.1 CONSTRUCTION PROPOSAL

The construction methodology for the proposed station upgrades is described below.

4.1.1 SCOPE

The scope of works for the refined concept design option is outlined as follows:

- maintaining use of accessible routes to platforms 1 and 2 and the introduction of accessible routes between platforms 1 and 2 through the introduction of 2 new lifts attached to the existing footbridge
- improved interchange facilities including Kiss-and-Rides and DDA compliant parking
- a family accessible toilet, and ambulant male and female toilets
- new extended stairs and entrance at the eastern station entry adjacent to existing ramp
- improved and more prominent station entries, wayfinding and signage.

4.1.2 HOURS OF WORK

Standard work hours are Monday to Friday 7.00 am to 6.00 pm and Saturday 8.00 am to 1.00 pm. The works would require some works to occur outside the standard working hours. Approval from TfNSW for any out of hour's works would be required and the affected community would be advised. Works that will impact station and rail operations or potentially block station access with no alternative route will be confined to rail possession periods.

Works in and around the danger zone will be undertaken in track and power possessions. The temporary works and permanent works likely to be undertaken in a track or power possession include:

- erection of temporary pedestrian walkways and temporary directional signage
- erection of protection barriers, formwork, and scaffolding
- craneage of construction plant, lift structures, including pile cages, reinforcement, and concrete
- craneage of lift car, machinery, and roofing support structures
- craneage of canopy structures, bridge fencing and ancillary works, and
- switching over of essential and non-essential systems to new power distribution systems.

Some out of possession night works may be carried out as either preparatory work prior to possessions or as cut in works during station building removal and construction works to avoid disruptions to passengers.

4.1.3 SITE COMPOUNDS

Sufficient space is available for the site compound and material storage on both the eastern and western sides of the track. A site compound will be constructed on the eastern side of the track and will include sufficient site accommodation for all site staff, facilities for inductions and site meetings, and storage of material and plant or equipment. A footpath crossing will need to be installed from Railway Parade for the western side of track area to be used. Potential site compound and storage areas are shown in Figure 4.1.

The site compound will provide sufficient parking only for essential site vehicles and trade vehicles as required.

The majority of staff on the site will be expected to use public transport to the site or park on street.



Figure 4.1 Proposed compound and material storage areas

4.1.4 WORK ZONES

Necessary permits will be submitted to Council should on-street work zones be required adjacent to the site compounds for the project. Permits for crane operation at the Railway Parade and Canley Vale Road intersection will also be required.

4.1.5 SITE ACCESS

Access to the site compound will be manned with traffic management in place to control the entry exit of staff, ensure the public do not gain access to the site and manage the interface of site vehicles, public vehicles and pedestrians on Railway Parade and First Avenue.

A pedestrian management plan will be required to manage instances wherever there is a likelihood of an interface with the public and construction activities or movement of material.

4.1.6 DELIVERIES

All routine deliveries to site will be to the site compound located on Railway Parade / First Avenue and will be during off peak traffic hours (or coordinated within a specific window that minimises the impact on local traffic).

Large deliveries of structural elements for erection in possessions will be subject to a specific planning exercise. These shall be fully documented and the necessary permits applied for in advance where full or partial road closures are required. This shall include the planning of delivery routes for any oversize fabricated structural elements to site.

All deliveries to site by heavy vehicles will be subject to traffic management controls in accordance with planning approvals and the approved Roads and Maritime Services (RMS) Traffic Management Plan.

The Traffic Management Plan (TMP) will be prepared by the subcontractor to seek approval from the RMS and other relevant stakeholders for the traffic management measures to be implemented during the construction period. The TMP will describe the construction activities and their timing, their potential impacts on the road network and on the general community, information and advisory signage and specific measures to ameliorate any impacts.

4.1.7 STATION ACCESS

During construction of the new stairs, the existing ramps on both side of the station will be used as temporary access for train passengers and pedestrian who use the footbridge to cross the railway track. It is not expected to cause major disruptions to pedestrian flows.

4.1.8 PLANT AND ACCESS REQUIREMENTS

Table 4.1 below lists the plant and equipment to be utilised and their proposed access locations.

Table 4.1 Plant and access

PLANT/EQUIPMENT TYPE	ACCESS
Excavator	Mobilisation to site during normal working hours and remain in the hoarding until completion of the excavation (Railway Parade and First Avenue)
Mini Excavator	Mobilisation and demobilisation to platforms in non-traffic hours (Railway Parade and First Avenue)
Piling Rig	Mobilisation to site during normal working hours (Railway Parade and First Avenue)
Mini Piling Rig	Mobilisation and demobilisation to platforms in non-traffic hours (Railway Parade and First Avenue)
Grundomat Piling Head	Mobilisation and demobilisation to platforms in non-traffic hours (Railway Parade and First Avenue)
Compressor	Mobilisation and demobilisation to the hoarding from site compound as required

PLANT/EQUIPMENT TYPE	ACCESS
Mini Dumper	Mobilisation and demobilisation to platforms in non-traffic hours (Railway Parade and First Avenue)
Articulated Dumpy Truck	Mobilisation and demobilisation to platforms in non-traffic hours (Railway Parade and First Avenue)
Super Sucker	Mobilisation and demobilisation to platforms in non-traffic hours (Railway Parade and First Avenue)
Concrete Pump	Mobilisation and demobilisation to Railway Parade and First Avenue during non-traffic hours and or possessions
Concrete boom pump	Mobilisation and demobilisation to Railway Parade and First Avenue during non-traffic hours and or possessions
Crane	Access via Railway Parade and First Avenue to crane pad as and when required.

Based on the plant and equipment required to undertake the works, less than ten heavy vehicle movements are anticipated in a peak hour. This minimal increase in traffic during peak periods is expected to have minimal impact to road and intersection operation and performance.

Slow manoeuvring of trucks in and out of the project site on Railway Parade and First Avenue would impact on the traffic lane. However the number of truck movements would be low and the associated impact would be negligible. All heavy vehicles to be parked and loading/unloading will be performed within the site compounds at all times. Therefore, there would be no significant impact on the external local road networks.

4.1.9 PROPOSED HAULAGE ROUTES

The proposed haulage routes to and from the construction site at Canley Vale station include (refer to Figure 4.2):

TO THE SITE (FROM CUMBERLAND HIGHWAY)

- Cumberland Highway
- left or right onto Canley Vale Road
- right onto Railway Parade (for western side access)
- left onto Pevensy Street
- left onto First Avenue (for eastern side access).

Or

- Cumberland Highway
- right onto Cabramatta Road West
- left onto Cabramatta Road East
- right onto Broomfield Street
- left onto Pevensy Street
- right onto First Avenue (for eastern side access).

TO THE SITE (FROM HUME HIGHWAY)

- Hume Highway

- left onto Cabramatta Road East
- right onto Cabramatta Road East, heading to Broomfield Street
- right onto Broomfield Street
- left onto Pevensey Street
- right onto First Avenue (for eastern side access).

Or

- Hume Highway
- left or right onto Orange Grove Road
- left or right onto Canley Vale Road
- right onto Railway Parade (for western side access)
- left onto Pevensey Street
- left onto First Avenue (for eastern side access).

FROM THE SITE (TO CUMBERLAND HIGHWAY)

- First Avenue (from eastern side access)
- right onto Pevensey Street
- right onto Railway Parade (from western side access)
- left onto Canley Vale Road
- left or right onto Cumberland Highway

or

- First Avenue (from eastern side access)
- left onto Pevensey Street
- right onto Broomfield Street
- right onto Cabramatta Road East
- left or right onto Cumberland Highway.

FROM THE SITE (TO HUME HIGHWAY)

- First Avenue (from eastern side access)
- left onto Pevensey Street
- right onto Broomfield Street
- left onto Cabramatta Road East
- left or right onto Hume Highway

or

- Railway Parade (from western side access)
- right onto Railway Parade
- left onto Canley Vale Road

- left onto Cumberland Highway
- left or right onto Hume Highway.

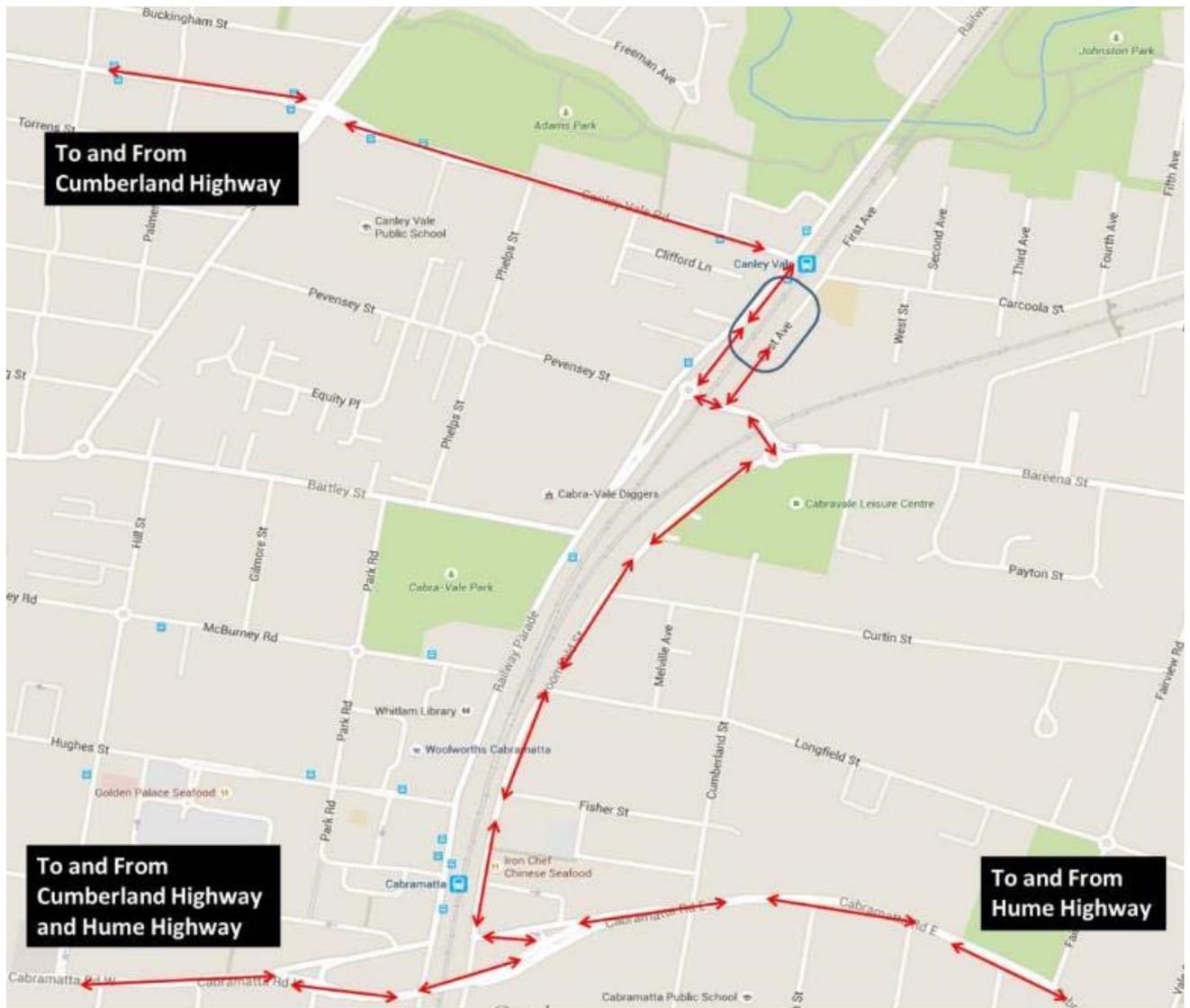


Figure 4.2 Proposed haulage routes to and from Canley Vale Station

4.2 IMPACT ASSESSMENT

The following impacts are anticipated during the construction phase of the project.

4.2.1 TRAFFIC

Given the minimal traffic generated during construction, including both staff trips and construction vehicle/plant trips, the surrounding road network and intersections would comfortably sustain project related vehicle trips and continue to perform within capacity.

The transportation of minor construction material to site will largely be transported to and from site during non-traffic hours.

4.2.2 *PARKING*

Parking for construction vehicles and plant would be off-street in a dedicated site compound area. Construction staff vehicles would be parked with the site compound as well as on-street. Adequate unrestricted parking is available on surrounding streets to accommodate staff vehicles. Given the project is located adjacent to the station, increased staff trips by rail is expected. Carpooling should be also encouraged for site workers to reduce the potential parking conflict and the impact on the local road network.

In order to ensure sufficient parking for possessions it is expected that the project will secure / designate sufficient parking locally for all staff for the duration of the possession and that traffic management will be implemented to manage this.

4.2.3 *PUBLIC TRANSPORT*

No impacts are anticipated to existing bus or rail services and operation.

4.2.4 *PEDESTRIANS*

Passenger amenity and operation of the railway shall not be impacted. The works shall be phased so as to maintain all current public access points to the station during the construction works.

It is expected that all works will be undertaken within existing possessions and that hoardings or scaffold structures will be erected to allow works to take place during normal traffic hours in the majority of cases.

Where hoardings are being accessed on a regular basis during traffic hours, the entry to hoardings will be controlled and where materials are being transported through the station this will be undertaken outside peak traffic hours to ensure the potential for interaction with the public is managed.

A pedestrian management plan will be required to manage instances wherever there is a likelihood of an interface with the public and construction activities or movement of material.

Out of hours security patrols will be maintained for the duration of the project.

4.2.5 *CYCLISTS*

The cycle racks on the eastern side of the station will be temporarily relocated during construction.

4.2.6 *CUMULATIVE IMPACTS*

No cumulative project or development impacts are foreseen during the construction stage of the project.

5 OPERATIONAL IMPACT ASSESSMENT

Once the project has been constructed/commissioned there would be no impact to traffic, parking, cycling or public transport operations in the study area. The main operational impact would be to pedestrian movements to/from and within the station itself as a result of the upgrades.

5.1 CHANGES TO STATION OPERAITON

5.1.1 PATRONAGE

The TfNSW *Business Requirements Specification* for this project specifies the predicted patronage growth over a 20 year period. The patronage is detailed in Table 5.1.

Table 5.1 Future predicted patronage at Canley Vale Station (Source: TfNSW)

YEAR	AM PEAK ENTRIES			AM PEAK EXITS		
	2016	2021	2036	2016	2021	2036
Trips	1,686	1,712	1,952	278	286	415

The figures to be used for station design utilise estimated future patronage figures +15% which are shown in Table 5.2.

Table 5.2 Future predicted patronage at Canley Vale Station (with 15% increase) (Source: TfNSW)

YEAR	AM PEAK TOTAL ENTRY/EXIT			24 HOUR TOTAL ENTRY/EXIT
	2016	2021	2036	2036
Trips	2,259	2,298	2,722	8,601

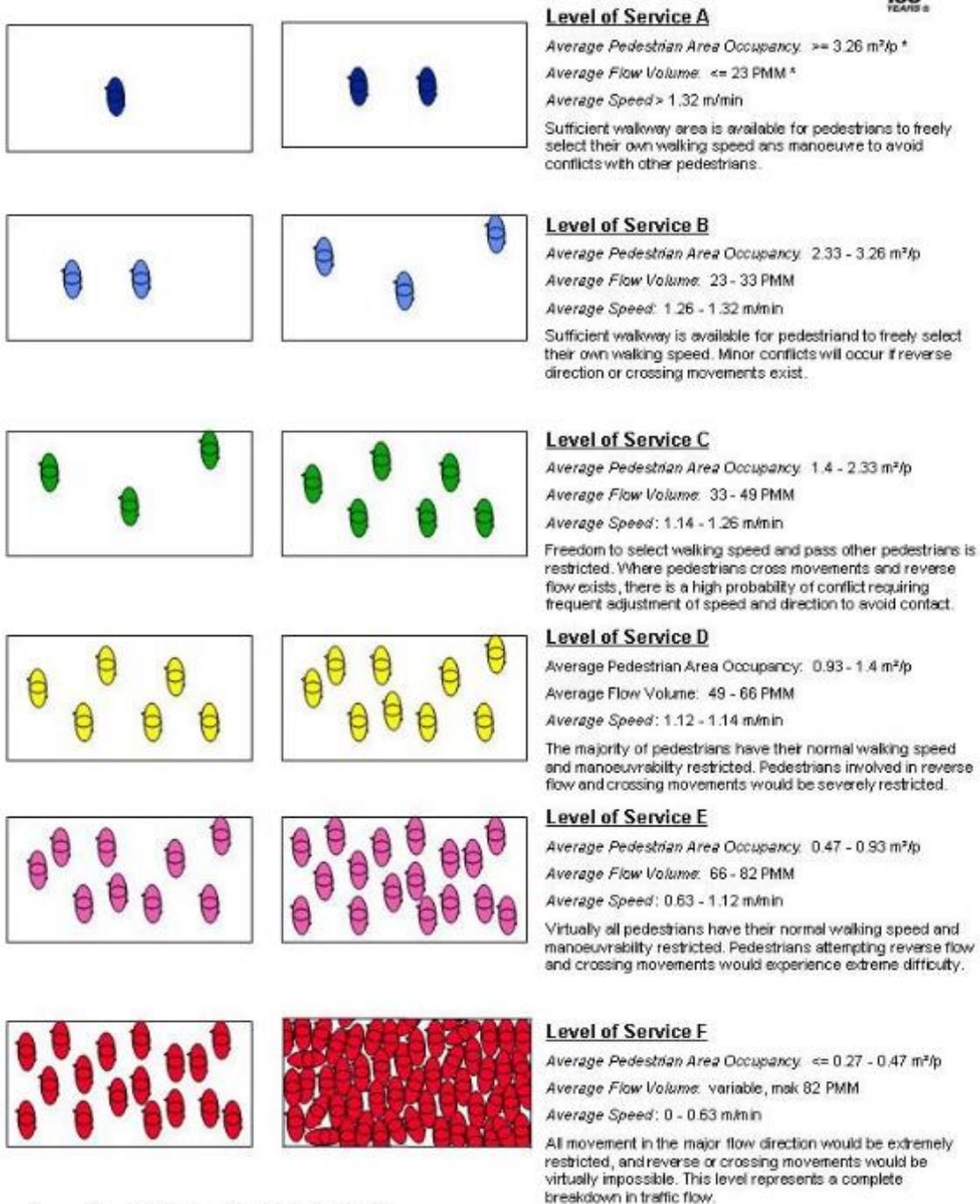
5.2 PEDESTRIAN ANALYSIS

Pedestrian analyses utilising the provided 2036 demand forecast plus 15% contingency were undertaken by creating a spreadsheet model to simulate the arrival and flow of passengers through the station. Results of the modelling provide the expected Fruin Level of Service (LoS) for the key pedestrian elements and the size and impact on movement of any forecast queues.

5.2.1 FRUIN LEVEL OF SERVICE

The operation of pedestrian infrastructure is typically described in terms of Level of Service (LoS). In this analysis we have adopted various Fruin definitions for LoS. For passageways we have adopted the Fruin LoS definitions shown in Figure 5.1. For stairs we have adopted the Fruin LoS definitions shown in Figure 5.2.

Key to Transport Interchange Levels of Service



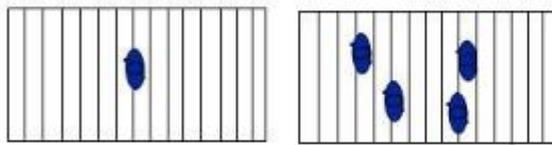
Source: Planning & Design, John J Fruin, Ph.D. 1971.

* m^2/p - Square metres of walkway area per pedestrian

* PMM - Pedestrians per metre width of walkway, per minute

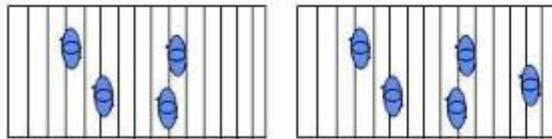
Figure 5.1 Fruin interchange Level of Service (LoS) definitions

Key to Stairway Levels of Service



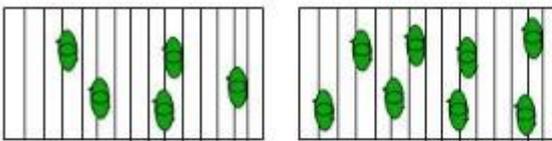
Stairway Level of Service A

Average Flow Volume: 16.4 PMM^{*}
Average Speed: 38.1 m/min or more
Average Pedestrian Area Occupancy: 1.9 m²/p
 Unrestricted choice of speed; relatively free to pass; no serious difficulties with reverse traffic movements; flow is approximately 30% of maximum capacity.



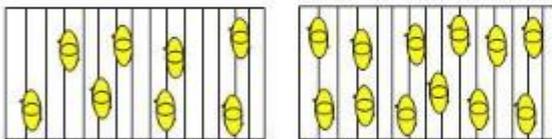
Stairway Level of Service B

Average Flow Volume: 23 PMM
Average Speed: 36.6 m/min
Average Pedestrian Area Occupancy: 1.4 m²/p
 Restricted choice of speed; passing encounters interference; reverse flows create occasional conflicts; flow is approximately 34% of maximum capacity.



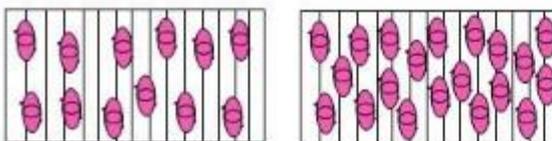
Stairway Level of Service C

Average Flow Volume: 25-32.8 PMM
Average Speed: 35 m/min
Average Pedestrian Area Occupancy: 0.9 - 1.4 m²/p
 Speeds are partially restricted; passing is restricted; reverse flows are partially restricted; flow is approximately 50% of maximum capacity.



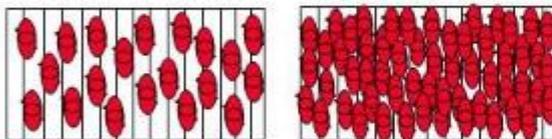
Stairway Level of Service D

Average Flow Volume: 32.8-43 PMM
Average Speed: 35 m/min
Average Pedestrian Area Occupancy: 0.65 - 0.93 m²/p
 Speeds are restricted; passing is virtually impossible; reverse flows are severely restricted; flow is approximately 50-65% of maximum capacity.



Stairway Level of Service E

Average Flow Volume: 42.7 - 55.8 PMM
Average Speed: 26 m/min
Average Pedestrian Area Occupancy: 0.4 m²/p
 Speeds are severely restricted; passing is impossible; reverse traffic flows are severely restricted; intermittent stoppages of traffic flow are likely to occur; flow is approximately 65-85% of maximum capacity.



Stairway Level of Service F

Average Flow Volume: 55.8 PMM or greater
Average Speed: 0-26 m/min
Average Pedestrian Area Occupancy: < 0.4 m²/p
 Speed is severely restricted; flow is subject to complete breakdown with many stoppages; passing as well as reverse flows are impossible.

Source: Planning Design & Maintenance of Pedestrian Facilities; Goodell-Grivas- 1989.

* m²/p - Square metres of walkway area per pedestrian
 *PMM - Pedestrians per metre width of stairway, per minute

Figure 5.2 Fruin stairway Level of Service (LoS) definitions

5.2.2 CAPACITIES AND FACTORS

The capacities in Table 5.3 were adopted in the spreadsheet models. The capacities are representative of capacities commonly observed at stations which are largely uni-directional.

Table 5.3 Pedestrian infrastructure capacity (Source: Palnning & Design, John J Fruin PH. D 1971)

	CAPACITY
Stairs	43 people per metre per minute (stair LoS D)
Edge Effect for bridges	0.6 m removed from total width to allow for corridor edge effects
Bridge Capacity	70 people per metre per minute (transit interchange LoS E) for mostly uni directional flow

5.2.3 MODELLING ASSUMPTIONS

Pedestrian analysis was based on the data from the 2015 weekday AM pedestrian surveys.

The spreadsheet modelling was based on the following assumptions:

- six trains per hour during AM and PM peak periods
- trains arriving simultaneously on Platform 1 and 2
- the 2036 pedestrian distribution through the station would be the same as that observed in 2015
- existing staircase and footbridge effective widths (measured between handrails)
- AM arrival uses a 15 minute profile at the station with a peak of peak factor of 1.2
- PM demand represents 84% of the AM demand
- alighting passengers arrive at the single set of stairs with the following profile based on observations at other Sydney platforms served by a single access point:
 - 42% arrive within 0–15 seconds of train door opening
 - 32% arrive within 15–30 seconds of train door opening
 - 8% arrive within 30–45 seconds of train door opening
 - the reminder arrive over the following 60 seconds
- pedestrian distribution through the station has a similar pattern to that observed in 2015.

5.2.4 PEDESTRIAN ANALYSIS RESULTS

A spreadsheet assessment of pedestrian levels of service (LoS) during a peak one hour period in both the weekday AM and PM was undertaken and the resultant Fruin LoS determined. The peak pedestrian loading at the station occurs in the PM period when the hourly passenger demand alights on the platform from a limited number of services. It is this PM peak hour demand which represents the key challenge for the pedestrian infrastructure.

The results suggest that there is very little congestion expected in the AM peak hour with no queues forming at any set of stairs and that all infrastructures operates at LoS B or better.

During the PM peak the stairs from Platform 2 to the overhead concourse go to LoS F (stairs) with a queue of 33 people, a maximum delay experienced by an individual of 24 seconds and queues lasting for a minute. There is adequate space on the platform to hold the 33 person queue.

The limited stair capacity then filters demand onto the footbridge and subsequent infrastructure, with the footbridge going into LoS C (interchange) and the stairs from Platform 1 to the concourse and to Railway Parade both going into LoS E (stairs) with no queues.

Figure 5.3 and Figure 5.4 present the levels of service on platform staircases and on the pedestrian footbridge during the AM and PM peaks.

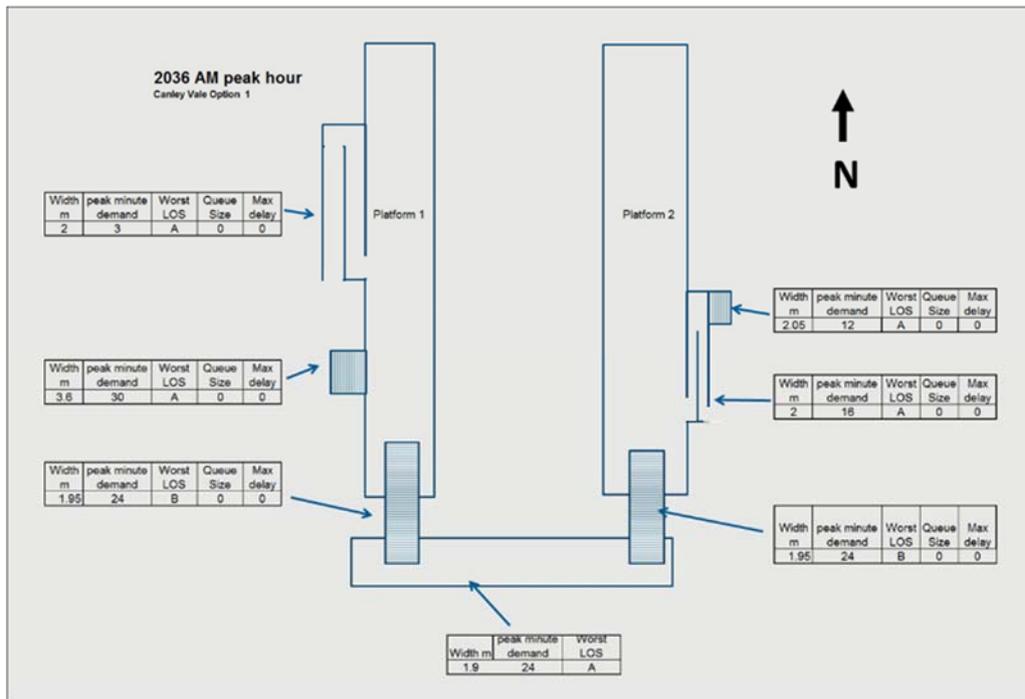


Figure 5.3 2036 Weekday AM peak hour pedestrian Level of Service (LoS) – Canley Vale Station

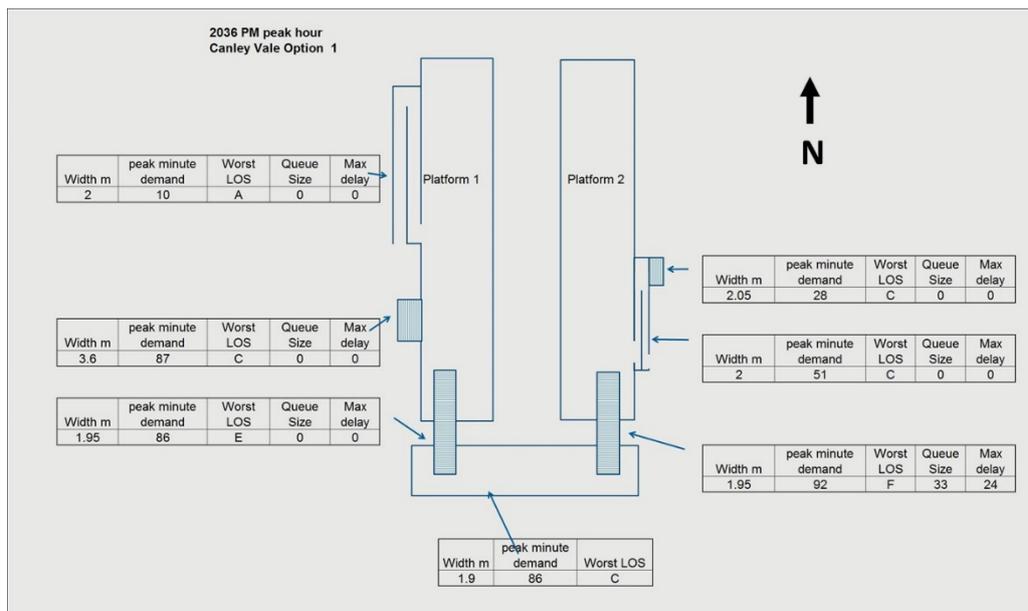


Figure 5.4 2036 Weekday PM peak hour pedestrian Level of Service (LoS) – Canley Vale Station

5.2.5 LIFT ASSESSMENT

The proposed location of the lifts allow for adequate space for waiting passengers without interfering with movement on the bridge or platforms. The station currently has no lift access and so this improvement represents a step change in accessibility greatly improving the ability of patrons with mobility impairment to access the rail system. Some such patrons with pushchairs or heavy shopping are probably using the stairs at the moment and tolerate the difficulty of using the stairs. Others such those in wheelchairs are unable to access the station at all. There are a range of patrons who may therefore opt to use the lifts, but there are likely to be only a limited number of patrons who can *only* use the lift. Lift capacity is therefore unlikely to be an issue.

5.2.6 PEDESTRIAN AMENITY

The provision of lifts, increased platform canopy coverage and the other improvements to the fabric of Canley Vale station will significantly improve the pedestrian amenity of the station and widen the range of patrons who are able to easily access the rail network.

6 MITIGATION MEASURES

The following mitigation measures are proposed to remove or ameliorate any project related impacts:

6.1 CONSTRUCTION

The following mitigation measures are proposed during the construction stage:

- Pedestrian management plan
- Traffic management plan

These plans will be prepared by the subcontractor are to inform, control and guide road users to protect the safety of all construction personnel and the public and to identify and define the requirements and procedures for the safe and efficient management of traffic and pedestrians during the construction stage.

6.2 OPERATION

It is recommended that monitoring and surveillance of pedestrian movement and safety due to station upgrades be undertaken over a three month period post-completion. In particular the impact of the lift operation on station performance and operations needs to be closely reviewed during AM and PM peak periods to ensure that the upgrades are operating as expected.

7 CONCLUSION

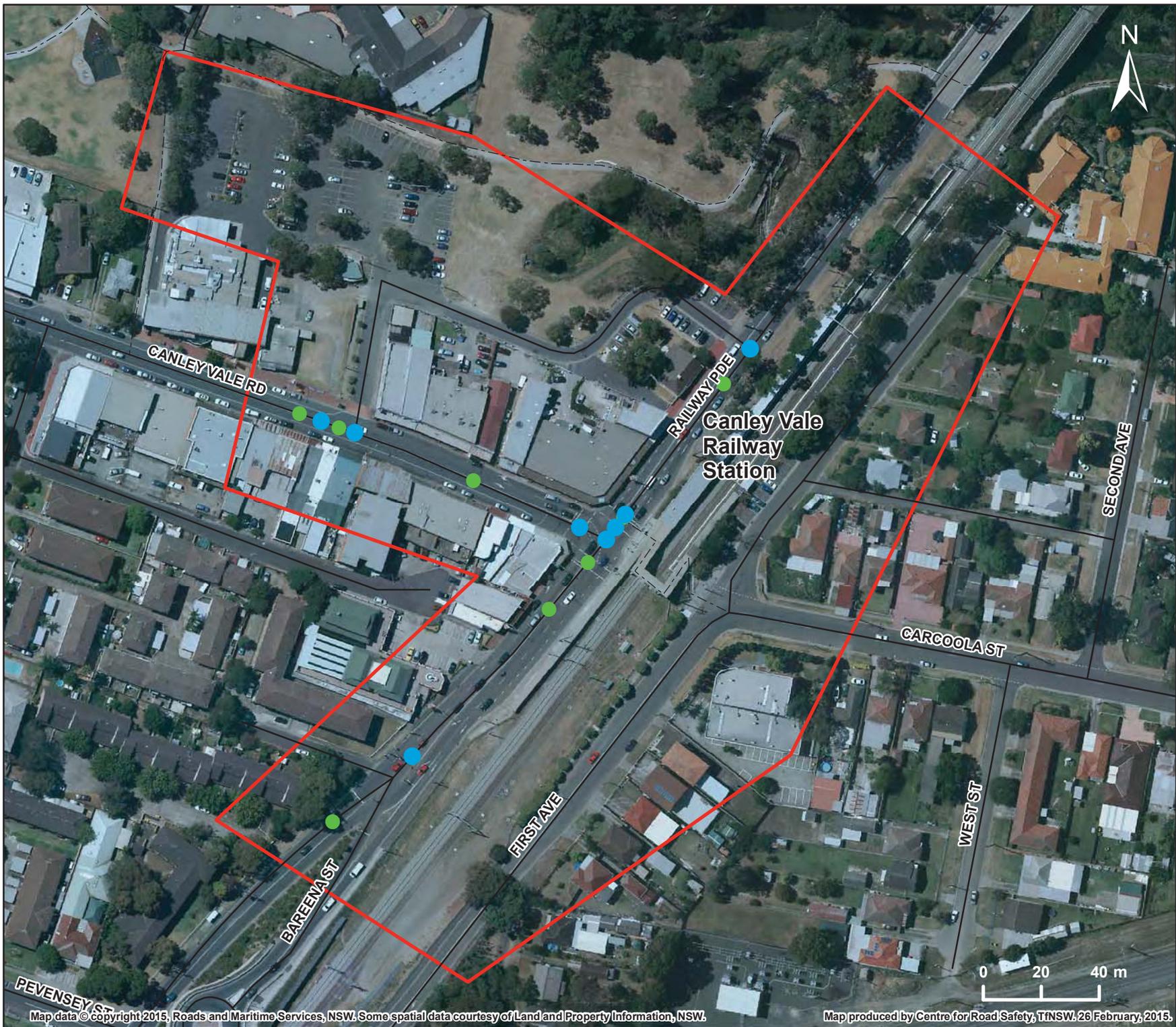
The proposed upgrades to Canley Vale Station as part of the Transport Access Program 3 are not anticipated to have a major impact on the users of the station.

Although the pedestrian levels of service are sub-optimal at present in the PM peak, pedestrian conditions are not expected to worsen from what they are at present given that the preferred option will maintain the existing footbridge.

Pedestrian access will be maintained and in the event temporary closures or long term closures are required during construction, feasible mitigation measures would be implemented.

Project construction related traffic is not expected to be only minimal and therefore only minimal (negligible) impacts to the surrounding road network during peak times is envisaged.

APPENDIX A-1 RMS CRASH DATA



Road Traffic Crashes -

Within a nominated precinct adjacent to Canley Vale Railway Station

01 January 2009 to 31 December 2013

Legend

- Degree of Crash**
- Fatal
 - Injury
 - Non-casualty (towaway)
 - Station Precinct

Summary Crash Report

# Crash Type		
Car Crash	29	96.7%
Light Truck Crash	5	16.7%
Rigid Truck Crash	2	6.7%
Articulated Truck Crash	0	0.0%
'Heavy Truck Crash	(2)	(6.7%)
Bus Crash	0	0.0%
"Heavy Vehicle Crash	(2)	(6.7%)
Emergency Vehicle Crash	1	3.3%
Motorcycle Crash	0	0.0%
Pedal Cycle Crash	1	3.3%
Pedestrian Crash	1	3.3%

' Rigid or Artic. Truck " Heavy Truck or Heavy Bus
These categories are NOT mutually exclusive

Location Type		
*Intersection	22	73.3%
Non intersection	8	26.7%

* Up to 10 metres from an intersection
~ 07:30-09:30 or 14:30-17:00 on school days

Collision Type		
Single Vehicle	4	13.3%
Multi Vehicle	26	86.7%

Road Classification		
Freeway/Motorway	0	0.0%
State Highway	0	0.0%
Other Classified Road	0	0.0%
Unclassified Road	30	100.0%

Contributing Factors		
Speeding	4	13.3%
Fatigue	1	3.3%

Weather		
Fine	21	70.0%
Rain	5	16.7%
Overcast	3	10.0%
Fog or mist	0	0.0%
Other	0	0.0%

Road Surface Condition		
Wet	8	26.7%
Dry	22	73.3%
Snow or ice	0	0.0%

Natural Lighting		
Dawn	0	0.0%
Daylight	21	70.0%
Dusk	0	0.0%
Darkness	9	30.0%

Speed Limit			~ 40km/h or less		
40 km/h or less	0	0.0%	80 km/h zone	0	0.0%
50 km/h zone	18	62.1%	90 km/h zone	0	0.0%
60 km/h zone	11	37.9%	100 km/h zone	0	0.0%
70 km/h zone	0	0.0%	110 km/h zone	0	0.0%

Crash Movement		
Intersection, adjacent approaches	5	16.7%
Head-on (not overtaking)	1	3.3%
Opposing vehicles; turning	3	10.0%
U-turn	0	0.0%
Rear-end	9	30.0%
Lane change	5	16.7%
Parallel lanes; turning	0	0.0%
Vehicle leaving driveway	1	3.3%
Overtaking; same direction	0	0.0%
Hit parked vehicle	0	0.0%
Hit railway train	0	0.0%
Hit pedestrian	0	0.0%
Permanent obstruction on road	0	0.0%
Hit animal	0	0.0%
Off road, on straight	1	3.3%
Off road on straight, hit object	1	3.3%
Out of control on straight	0	0.0%
Off road, on curve	0	0.0%
Off road on curve, hit object	0	0.0%
Out of control on curve	0	0.0%
Other crash type	4	13.3%

CRASHES		30
Fatal crash	0	0.0%
Injury crash	10	33.3%
Non-casualty crash	20	66.7%

^ Belt fitted but not worn, No restraint fitted to position OR No helmet worn

Time Group		% of Day
00:01 - 02:59	1	3.3% 12.5%
03:00 - 04:59	1	3.3% 8.3%
05:00 - 05:59	1	3.3% 4.2%
06:00 - 06:59	0	0.0% 4.2%
07:00 - 07:59	2	6.7% 4.2%
08:00 - 08:59	4	13.3% 4.2%
09:00 - 09:59	2	6.7% 4.2%
10:00 - 10:59	1	3.3% 4.2%
11:00 - 11:59	1	3.3% 4.2%
12:00 - 12:59	3	10.0% 4.2%
13:00 - 13:59	3	10.0% 4.2%
14:00 - 14:59	0	0.0% 4.2%
15:00 - 15:59	0	0.0% 4.2%
16:00 - 16:59	1	3.3% 4.2%
17:00 - 17:59	3	10.0% 4.2%
18:00 - 18:59	2	6.7% 4.2%
19:00 - 19:59	2	6.7% 4.2%
20:00 - 21:59	2	6.7% 8.3%
22:00 - 24:00	1	3.3% 8.3%

Street Lighting Off/Nil		% of Dark
0 of 9 in Dark		0.0%

CASUALTIES		10
Killed	0	0.0%
Injured	10	100.0%
^ Unrestrained	0	0.0%

Crashes		Casualties
7	2013	2
5	2012	2
5	2011	1
11	2010	5
2	2009	0

~ School Travel Time	
Involvement	7 23.3%

McLean Periods		% Week
A	5 16.7%	17.9%
B	3 10.0%	7.1%
C	8 26.7%	17.9%
D	1 3.3%	3.5%
E	1 3.3%	3.6%
F	4 13.3%	10.7%
G	4 13.3%	7.1%
H	1 3.3%	7.1%
I	1 3.3%	12.5%
J	2 6.7%	10.7%

Day of the Week			# Holiday Periods														
Monday	3	10.0%	Thursday	6	20.0%	Sunday	3	10.0%	New Year	0	0.0%	Queen's BD	0	0.0%	Easter SH	2	6.7%
Tuesday	0	0.0%	Friday	8	26.7%	WEEKDAY	22	73.3%	Aust. Day	0	0.0%	Labour Day	1	3.3%	June/July SH	1	3.3%
Wednesday	5	16.7%	Saturday	5	16.7%	WEEKEND	8	26.7%	Easter	1	3.3%	Christmas	1	3.3%	Sept./Oct. SH	1	3.3%
									Anzac Day	0	0.0%	January SH	1	3.3%	December SH	2	6.7%

Crashid dataset Crashes within Canley Vale Station Precinct - 2009 to 2013

Percentages are percentages of all crashes. Unknown values for each category are not shown on this report.

Detailed Crash Report

NOTES: Crashes within Canley Vale Station Precinct - 2009 to 2013

Crash No.	Date	Day of Week	Time	Distance	ID Feature	Loc Type	Alignment	Weather	Surface Condition	Speed Limit	No. of Tus	Tu Type/Obj	Age/Sex	Street Travelling	Speed Travelling	Manoeuvre	Degree of Crash	Killed	Injured	Factors	
Sydney Region																					
Fairfield LGA																					
Canley Vale																					
Canley Vale Rd																					
695985	15/01/2010	Fri	10:00	100 m	E CLIFFORD AVE	2WY	STR	Fine	Dry	50	2	TRK	M47	E in CANLEY VALE RD	5	Reverse parking	I	0	1		
E39800745						RUM:	3	Ped on carriageway				PED	M57	CANLEY VALE RD		Stand on carriageway					
701849	07/03/2010	Sun	17:35		at FORNASIER LANE	TJN	STR	Fine	Dry	50	2	OMV	M36	W in CANLEY VALE RD	55	Turning right	I	0	1	S	
E40064223						RUM:	21	Right through				CAR	M48	E in CANLEY VALE RD	40	Proceeding in lane					
773477	03/11/2011	Thu	08:05		at FORNASIER LANE	TJN	STR	Raining	Wet	50	2	4WD	F47	S in FORNASIER LANE	5	Turning right	N	0	0		
E46256361						RUM:	13	Right near				CAR	M27	E in CANLEY VALE RD	50	Proceeding in lane					
782610	24/12/2011	Sat	03:05	20 m	W FORNASIER LANE	2WY	STR	Fine	Dry	50	2	CAR	M20	E in CANLEY VALE RD	2	Pulling out	N	0	0	S	
E46348223						RUM:	42	Leaving parking				4WD	M38	E in CANLEY VALE RD	70	Proceeding in lane					
702512	12/03/2010	Fri	09:45	10 m	W RAILWAY PDE	TJN	STR	Fine	Dry	60	2	CAR	F26	S in RAILWAY PDE	25	Turning right	I	0	1		
E40307134						RUM:	11	Right far				CAR	M57	W in CANLEY VALE RD	0	Stationary					
792875	21/04/2012	Sat	05:00	10 m	W RAILWAY PDE	TJN	STR	Fine	Dry	50	1	CAR	M22	S in CANLEY VALE RD	40	Turning right	N	0	0	S	
E49529180						RUM:	81	Off left/rt bnd=>obj						Utility pole							
671654	30/05/2009	Sat	21:00	50 m	W RAILWAY PDE	2WY	STR	Raining	Wet	50	2	CAR	F49	W in CANLEY VALE RD	35	Proceeding in lane	N	0	0		
E37650966						RUM:	30	Rear end				CAR	M55	W in CANLEY VALE RD		Unk Proceeding in lane					
706766	16/04/2010	Fri	12:30	100 m	W RAILWAY PDE	2WY	STR	Fine	Dry	60	2	CAR	F20	S in CANLEY VALE RD	10	Forward from drive	N	0	0		
E40980277						RUM:	47	Emerging from drive				CAR	M62	E in CANLEY VALE RD	40	Proceeding in lane					
Railway Pde																					
701765	05/03/2010	Fri	19:50		at CANLEY VALE RD	TJN	STR	Raining	Wet	60	2	TRK	M49	S in RAILWAY PDE	10	Turning right	N	0	0		
E40357557						RUM:	21	Right through				CAR	F26	N in RAILWAY PDE	50	Proceeding in lane					
717210	03/07/2010	Sat	07:55		at CANLEY VALE RD	TJN	STR	Fine	Dry	50	2	CAR	M59	E in CANLEY VALE RD	10	Turning right	N	0	0		
E41364956						RUM:	13	Right near				CAR	M52	N in RAILWAY PDE	50	Proceeding in lane					
774635	10/11/2011	Thu	08:05		at CANLEY VALE RD	TJN	STR	Overcast	Wet	50	2	CAR	M40	N in RAILWAY PDE		Unk Veering right	N	0	0		
E45959214						RUM:	34	Lane change right				CAR	M42	N in RAILWAY PDE	20	Proceeding in lane					
775211	16/11/2011	Wed	22:00		at CANLEY VALE RD	TJN	STR	Raining	Wet	50	2	CAR	M19	S in RAILWAY PDE	10	Turning right	I	0	1		
E48117185						RUM:	21	Right through				4WD	M41	N in RAILWAY PDE	45	Proceeding in lane					
830886	25/03/2013	Mon	18:15		at CANLEY VALE RD	TJN	STR	Fine	Dry	50	1	CAR	M39	E in CANLEY VALE RD	40	Turning right	N	0	0	S	
E51158946						RUM:	81	Off left/rt bnd=>obj						Utility pole							

Detailed Crash Report

Crash No.	Date	Day of Week	Time	Distance	ID Feature	Loc Type	Alignment	Weather	Surface Condition	Speed Limit	No. of Tus	Tu Type/Obj	Age/Sex	Street Travelling	Speed Travelling	Manoeuvre	Degree of Crash	Killed	Injured	Factors
831653	28/03/2013	Thu	13:45		at CANLEY VALE RD	TJN	STR	Fine	Dry	50	2	CAR	M62	N in RAILWAY PDE	25	Proceeding in lane	I	0	1	
E51581351						RUM:	33	Lane sideswipe				P/C	M83	N in RAILWAY PDE		Proceeding in lane				
833863	11/04/2013	Thu	08:15		at CANLEY VALE RD	TJN	STR	Fine	Dry	50	2	CAR	F61	S in RAILWAY PDE	50	Veering left	N	0	0	
E51279957						RUM:	35	Lane change left				4WD	F30	S in RAILWAY PDE	40	Proceeding in lane				
746978	18/03/2011	Fri	16:45	5 m	N CANLEY VALE RD	TJN	STR	Fine	Wet	50	3	CAR	M22	S in RAILWAY PDE	20	Proceeding in lane	N	0	0	
E43903476						RUM:	32	Right rear				TRK	M19	S in RAILWAY PDE	0	Wait turn right				
												CAR	M56	N in RAILWAY PDE	30	Proceeding in lane				
800115	15/06/2012	Fri	19:30	5 m	N CANLEY VALE RD	TJN	STR	Fine	Dry	50	2	CAR	F47	S in RAILWAY PDE	40	Proceeding in lane	I	0	1	
E49056753						RUM:	30	Rear end				CAR	M60	S in RAILWAY PDE	0	Stationary				
1001972	16/10/2013	Wed	17:45	5 m	N CANLEY VALE RD	TJN	STR	Fine	Dry	60	2	OMV	M U	S in RAILWAY PDE	Unk	Veering left	N	0	0	
E52502717						RUM:	35	Lane change left				CAR	F26	S in RAILWAY PDE	40	Proceeding in lane				
726830	02/10/2010	Sat	12:35	10 m	N CANLEY VALE RD	TJN	STR	Overcast	Wet	60	2	CAR	F23	N in RAILWAY PDE	45	Proceeding in lane	N	0	0	
E41983135						RUM:	30	Rear end				LOR	M37	N in RAILWAY PDE	0	Stationary				
837006	10/05/2013	Fri	18:50	10 m	N CANLEY VALE RD	TJN	STR	Fine	Dry	60	2	TRK	M54	N in RAILWAY PDE	60	Proceeding in lane	N	0	0	
E51432334						RUM:	30	Rear end				4WD	F46	N in RAILWAY PDE	Unk	Proceeding in lane				
850480	12/09/2013	Thu	09:30	10 m	N CANLEY VALE RD	TJN	STR	Fine	Dry	60	3	CAR	M18	N in RAILWAY PDE	50	Proceeding in lane	I	0	1	
E52883349						RUM:	30	Rear end				4WD	F42	N in RAILWAY PDE	5	Proceeding in lane				
												CAR	F23	N in RAILWAY PDE	40	Proceeding in lane				
663790	23/03/2009	Mon	08:30	10 m	S CANLEY VALE RD	TJN	STR	Fine	Dry	60	2	CAR	F40	E in CANLEY VALE RD	30	Turning right	N	0	0	
E37654965						RUM:	11	Right far				4WD	F40	S in RAILWAY PDE	25	Proceeding in lane				
726050	22/08/2010	Sun	02:50	30 m	S CANLEY VALE RD	2WY	STR	Fine	Dry	60	1	CAR	M21	S in RAILWAY PDE	60	Proceeding in lane	N	0	0	
E41964764						RUM:	70	Off road to left												
820480	12/12/2012	Wed	17:30	100 m	S CANLEY VALE RD	2WY	STR	Fine	Dry	60	3	CAR	F22	N in RAILWAY PDE	50	Proceeding in lane	I	0	1	
E49907472						RUM:	30	Rear end				CAR	M54	N in RAILWAY PDE	45	Proceeding in lane				
												CAR	M40	N in RAILWAY PDE	0	Stationary				
731091	08/11/2010	Mon	20:25		at FORNASIER LANE	TJN	STR	Raining	Wet	50	1	4WD	M17	S in RAILWAY PDE	Unk	Proceeding in lane	N	0	0	
E139600097						RUM:	73	Off rd right => obj					Utility pole							
805998	02/08/2012	Thu	12:20		at FORNASIER LANE	TJN	STR	Fine	Dry	50	2	CAR	M39	S in RAILWAY PDE	50	Incorrect side	N	0	0	F
E48800107						RUM:	20	Head on				CAR	F33	N in RAILWAY PDE	Unk	Proceeding in lane				
830825	22/03/2013	Fri	07:30	100 m	N PEVENSEY ST	DIV	STR	Fine	Dry	50	3	CAR	F23	N in RAILWAY PDE	5	Proceeding in lane	N	0	0	
E52785687						RUM:	30	Rear end				CAR	F80	N in RAILWAY PDE	0	Stationary				
												TRK	M37	N in RAILWAY PDE	0	Stationary				

Detailed Crash Report

Crash No.	Date	Day of Week	Time	Distance	ID Feature	Loc Type	Alignment	Weather	Surface Condition	Speed Limit	No. of Tus	Tu Type/Obj	Age/Sex	Street Travelling	Speed Travelling	Manoeuvre	Degree of Crash	Killed	Injured	Factors
733707	17/11/2010	Wed	11:53		at WESTACOTT LANE	TJN	STR	Overcast	Dry	60	2	CAR	F54	E in WESTACOTT LANE	5	Turning left	I	0	1	
E42402017						RUM:	12	Left far				LOR	M62	S in RAILWAY PDE	40	Proceeding in lane				
738373	22/12/2010	Wed	13:40		at WESTACOTT LANE	TJN	STR	Fine	Dry	50	2	CAR	M61	S in RAILWAY PDE	50	Veering right	I	0	1	
E43088834						RUM:	34	Lane change right				4WD	F39	S in RAILWAY PDE	50	Proceeding in lane				
793725	01/04/2012	Sun	13:50	15 m S	WESTACOTT LANE	2WY	STR	Unk	Dry	Unk	4	4WD	M47	E in RAILWAY PDE	40	Proceeding in lane	N	0	0	
E48295865						RUM:	30	Rear end				CAR	M45	E in RAILWAY PDE	40	Proceeding in lane				
												CAR	M58	E in RAILWAY PDE	20	Proceeding in lane				
												4WD	F43	E in RAILWAY PDE	0	Stationary				

Report Totals: Total Crashes: 30 Fatal Crashes: 0 Injury Crashes: 10 Killed: 0 Injured: 10

Crashid dataset Crashes within Canley Vale Station Precinct - 2009 to 2013

Vehicle Type	Degree of Crash			All Crashes
	Fatal Crash	Injury Crash	Non-Casualty Crash	
Passenger Vehicle ¹	0	17	34	51
Rigid Truck, Van or Utility	0	2	5	7
All Motor Vehicles On Register	0	20	40	60

Crashid dataset Crashes within Canley Vale Station Precinct - 2009 to 2013

Note: Crashes within Canley Vale Station Precinct - 2009 to 2013

¹ Comprised of sedan, station wagon, hatchback, passenger van and four wheel drive passenger vehicle.

² Comprised of articulated tanker, semi-trailer, low loader, road train, B-double and B-triple.

³ Includes other and unknown motor vehicle types.