



City of
DAREBIN

the place
to live

HIGH STREET PRESTON STREETSCAPE UPGRADE

TRANSPORT ANALYSIS

August 2025

ACKNOWLEDGEMENT OF TRADITIONAL OWNERS

Darebin City Council acknowledges the Wurundjeri Woi Wurrung people as the traditional owners and custodians of the land and waters we now call Darebin and pays respect to their elders, past, present and emerging.

Council affirms that Wurundjeri Woi Wurrung people have lived on this land for millennia, practising their ceremonies of celebration, initiation and renewal.

Council respects and recognises all Aboriginal and Torres Strait Islander communities and their values, living culture and practices, including their continuing spiritual connection to the land and waters and their right to self-determination.

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1. INTRODUCTION

Preston Central is growing and changing. Over a 20-year period, it will accommodate an additional 15,000 new homes. However, High Street has not seen significant upgrade and investment in decades. The road condition of High Street is also poor and requires a full road reconstruction, presenting a unique 1-in-50 year opportunity to re-imagine what a future High Street could look like.

High Street is the main spine of Preston Central. This High Street Streetscape Upgrade Project seeks to transform the section between Bell Street and Murray Road into a people-focussed street.

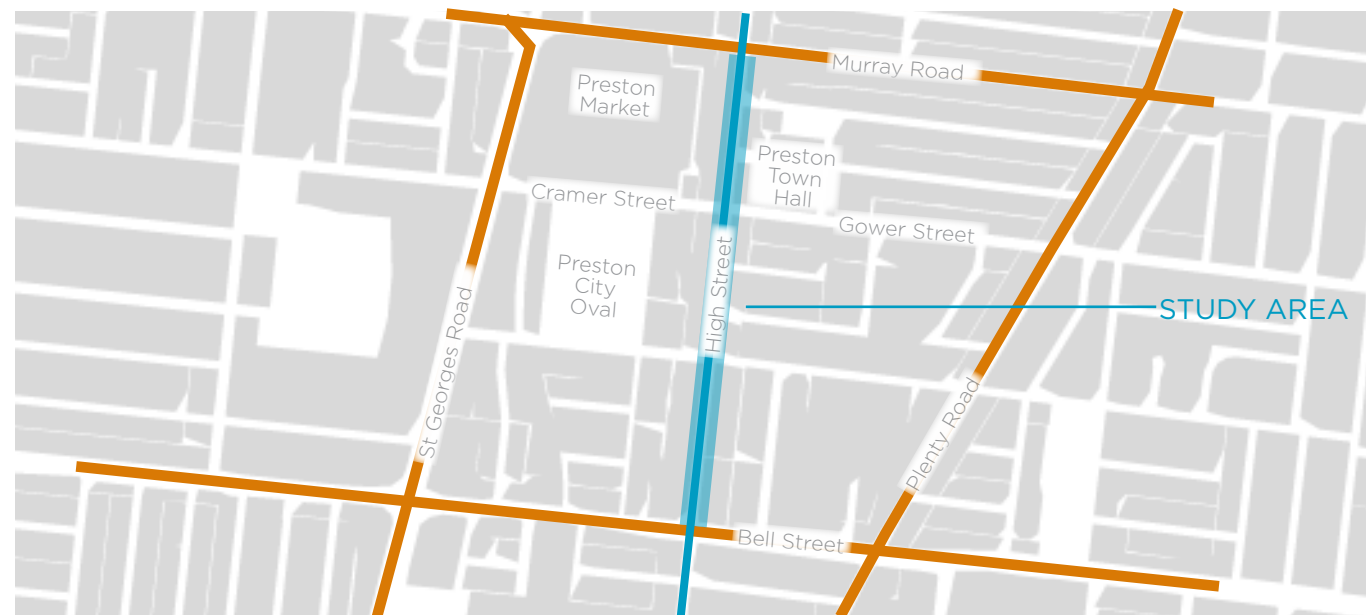
This will potentially be delivered by removing traffic clearways to prioritise space for people through the creation of new and more frequent pedestrian crossings, wider footpaths, creating new public seating opportunities, new opportunities for outdoor dining and more street tree planting and greenery.

The following transport studies have been undertaken to inform the development of a future streetscape upgrade for this section of High Street:

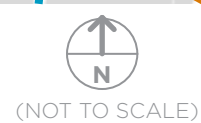
- **Vehicle Counts**
- **Car Parking Occupancy and Duration**
- **Traffic Impact Assessment - Clearway Removal**
- **Movement and Place Assessment - Clearway Removal**



Location plan

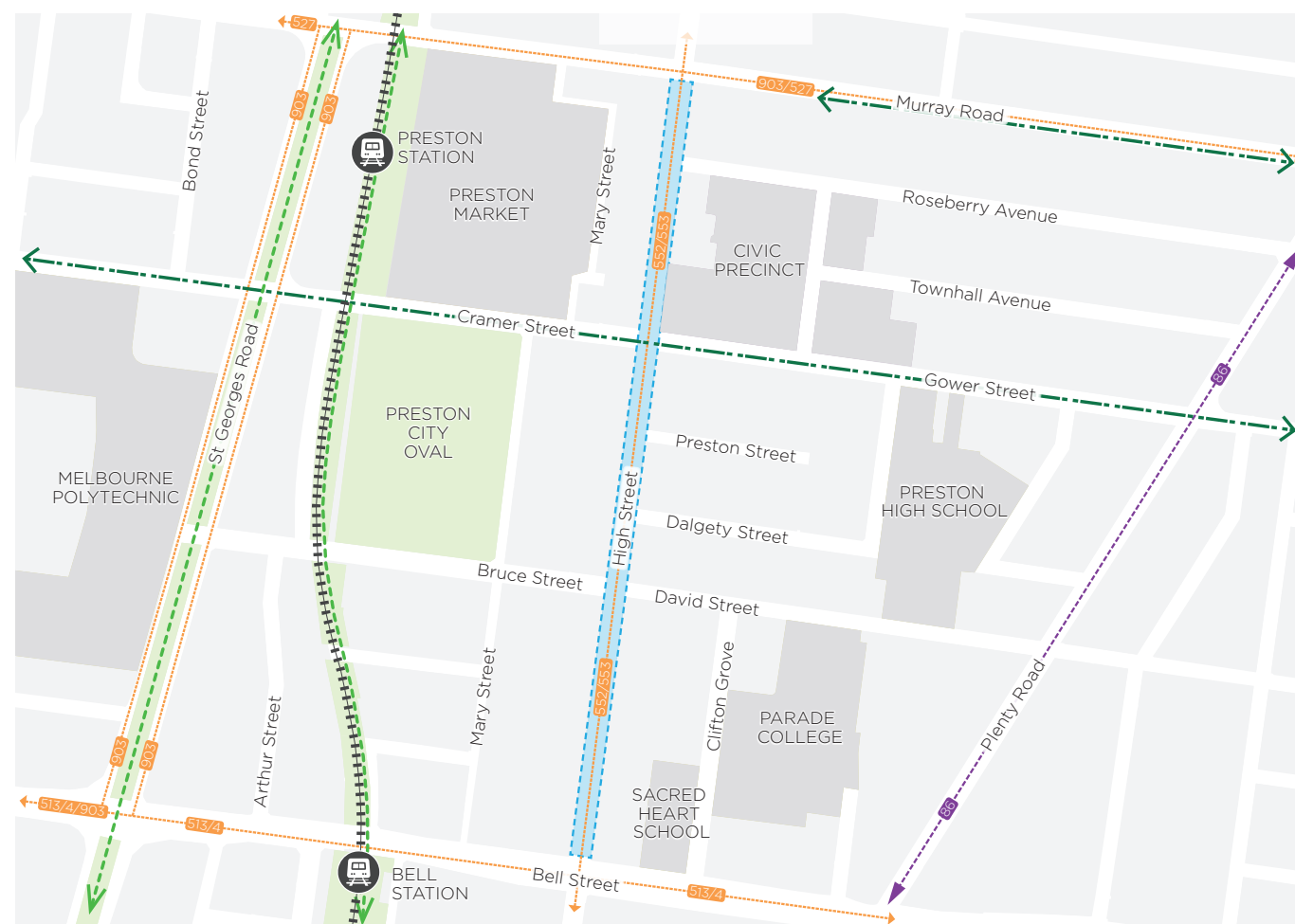


Study area and road classifications



Legend

- State Managed Road
- Council Managed Road

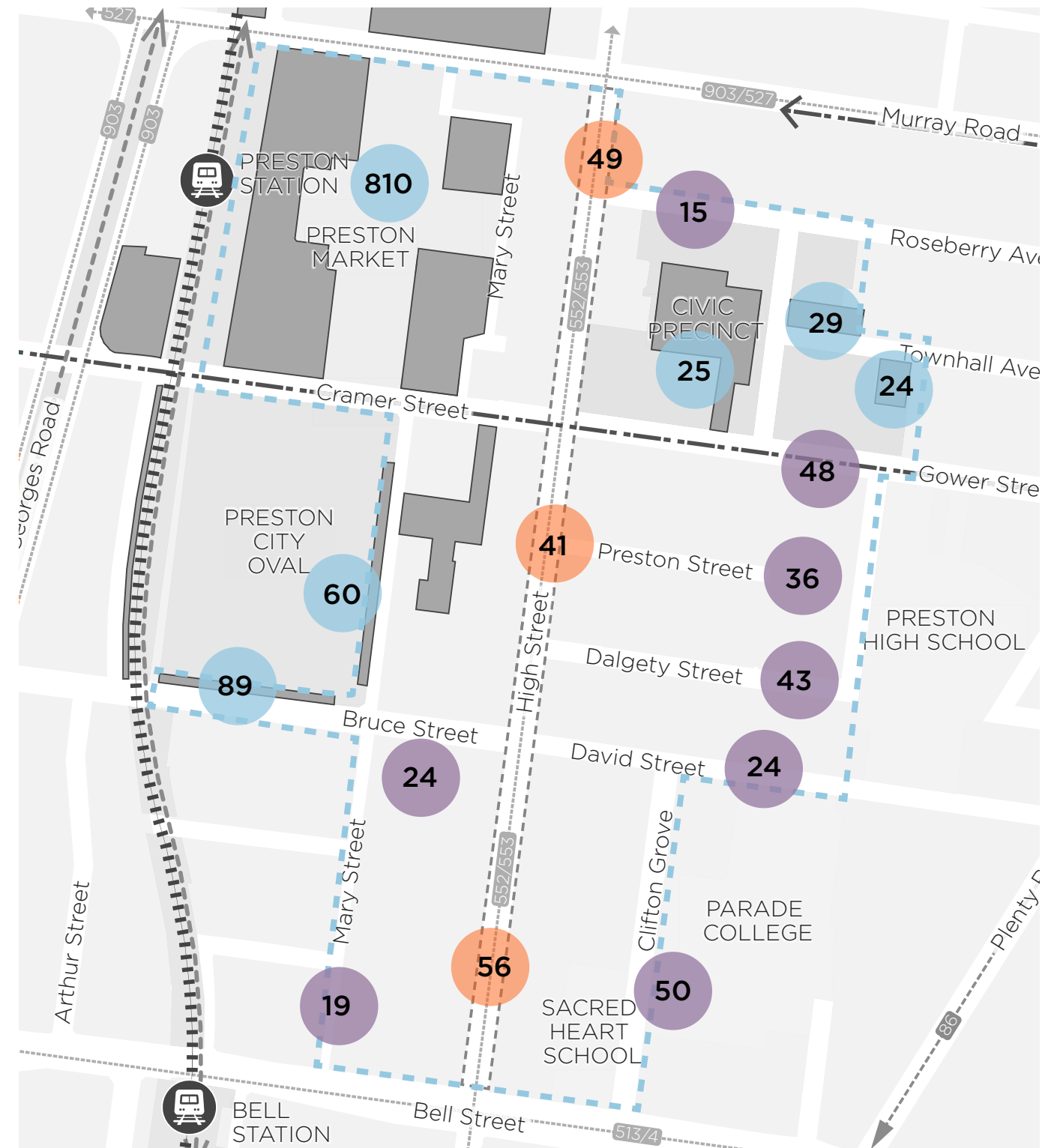


Active and Public Transport



Legend

- +—+— Train Line
- Train station
- 903— Bus Route
- 86— Tram Route
- - - - - On-road bike lane
- — — — — Off-road bike lane



Existing off- and on-street car parking within 2 min walk from High Street



Legend

- 146 On-Street Parking (High Street)
- 259 On-Street Parking (side streets)
- 1037 Off-Street Parking
- Catchment area calculated

2. VEHICLE COUNTS

2.1 VEHICLE VOLUMES

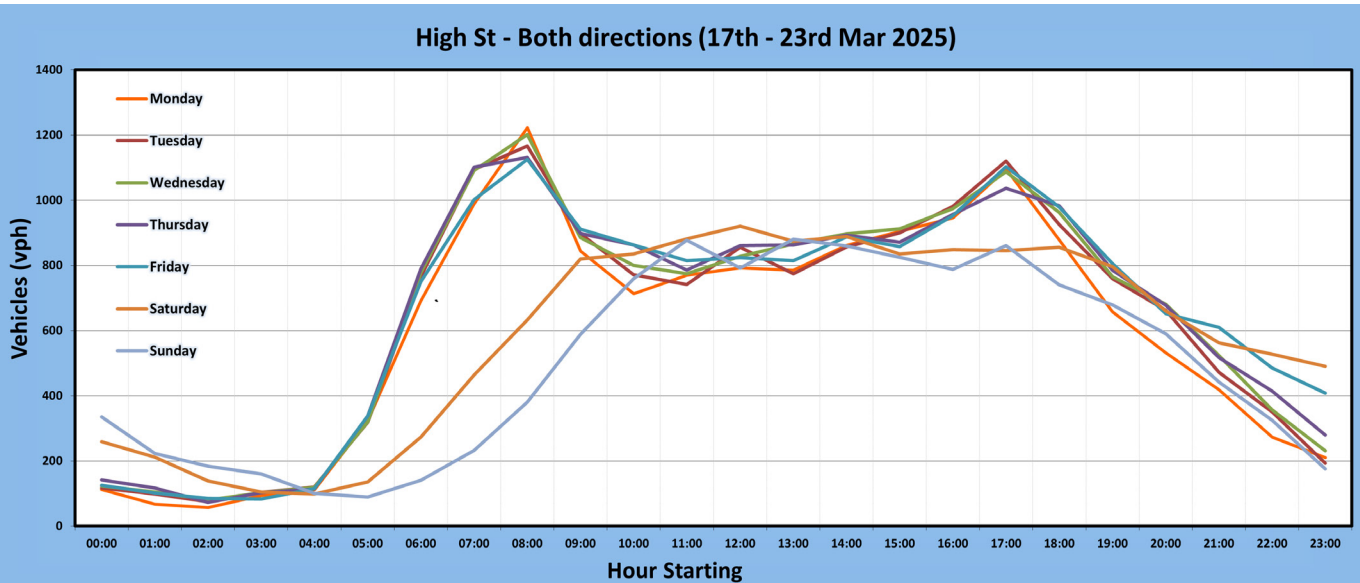
The graphs below illustrate vehicle volumes along High Street over a 24-hour period, showing two clear peaks during the morning (around 8:00 AM) and evening (around 5:00 PM) commuter periods, with volumes exceeding 1,000 vehicles per hour.

These trends indicate High Street is currently functioning as a significant movement corridor for through traffic, particularly during peak times.

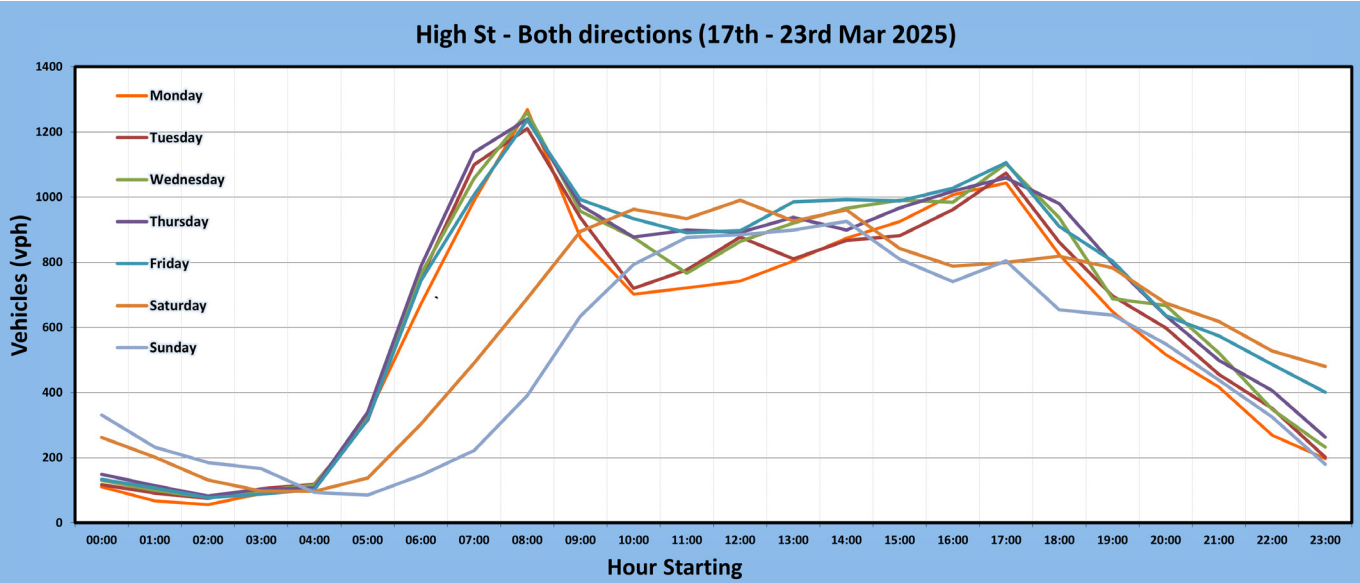
Within the context of the Movement and Place framework and the role of the Preston Activity Centre, this high volume of through traffic undermines the street’s potential as a Place Destination.

A Place destination prioritises pedestrian activity, local access, and public amenity.

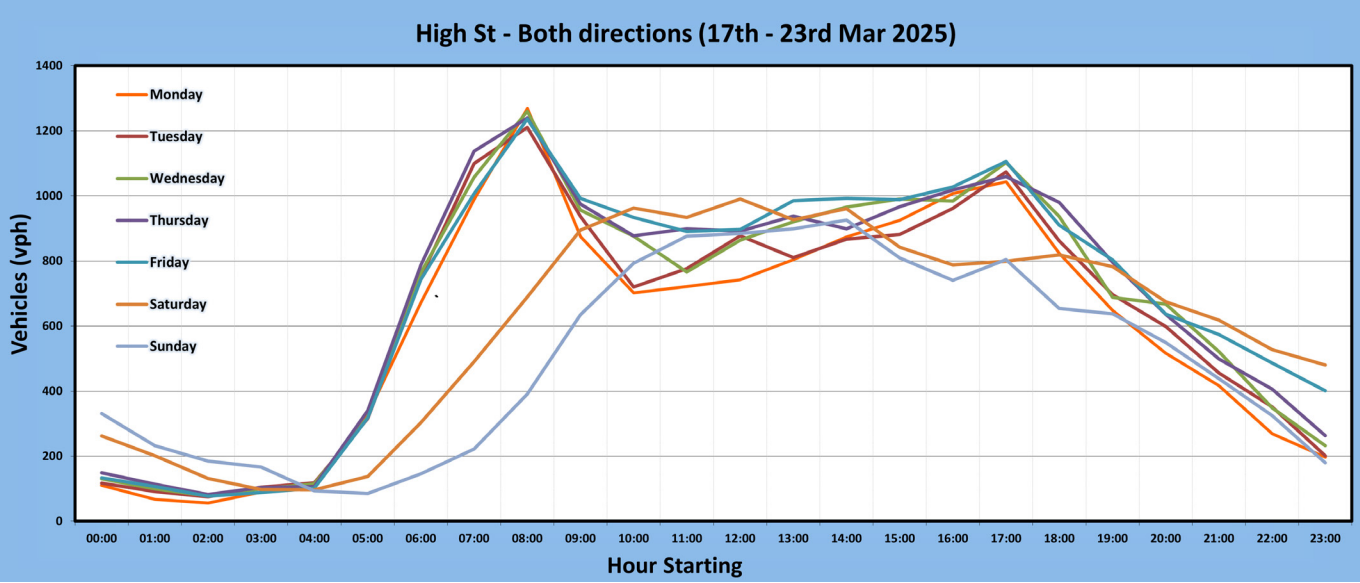
Reducing through traffic on High Street is therefore critical to enhancing its Place function, supporting a safer, more vibrant, and people-focused environment that aligns with the strategic goals for the Preston Activity Centre.



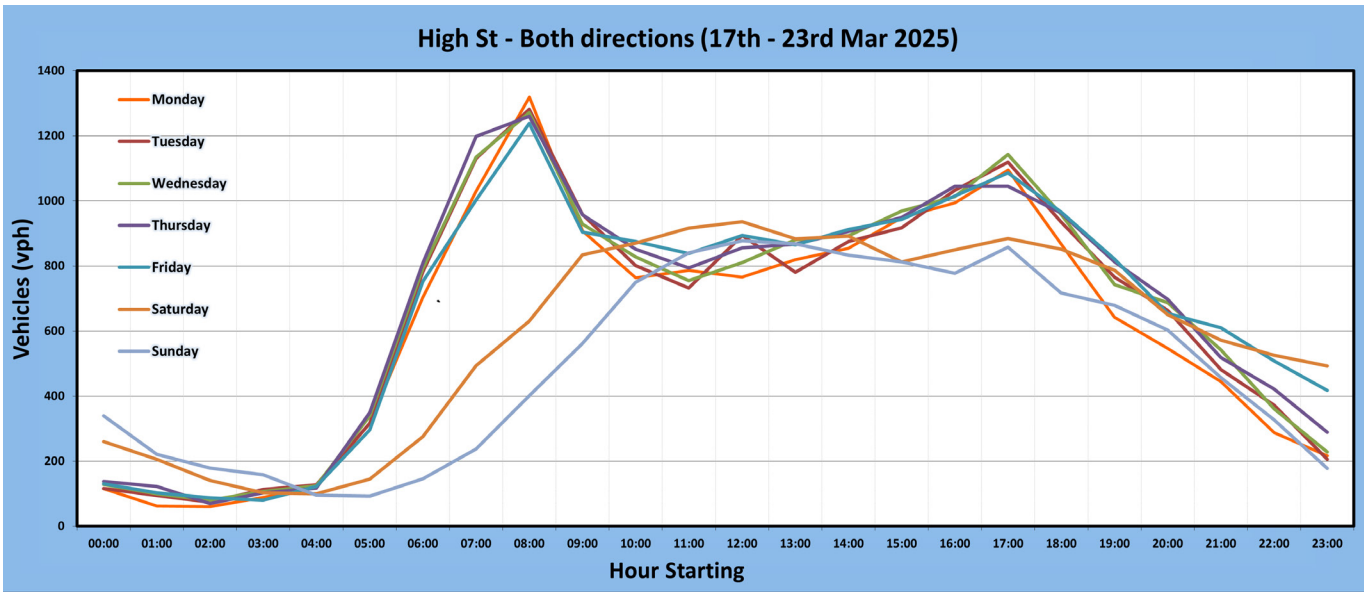
Traffic volumes - both directions - between Roseberry Ave/Cramer St



Traffic volumes - both directions - between Preston St/Bruce St



Traffic volumes - both directions - between Bruce St/Bell St



Traffic volumes - both directions - between Murray Rd/Roseberry Ave

2.2 VEHICLE SPEEDS

This graphs below present vehicle speed data along High Street over a 24-hour period, in the context of posted speed limits:

- 50 km/h from midnight to 8am
- 40 km/h from 8am to midnight

Midnight to 8am (50 km/h zone):

Average speeds range between 42–45 km/h, staying below the speed limit. The 85th percentile reaches or slightly exceeds 50 km/h, reflecting free-flowing traffic conditions during low-demand periods.

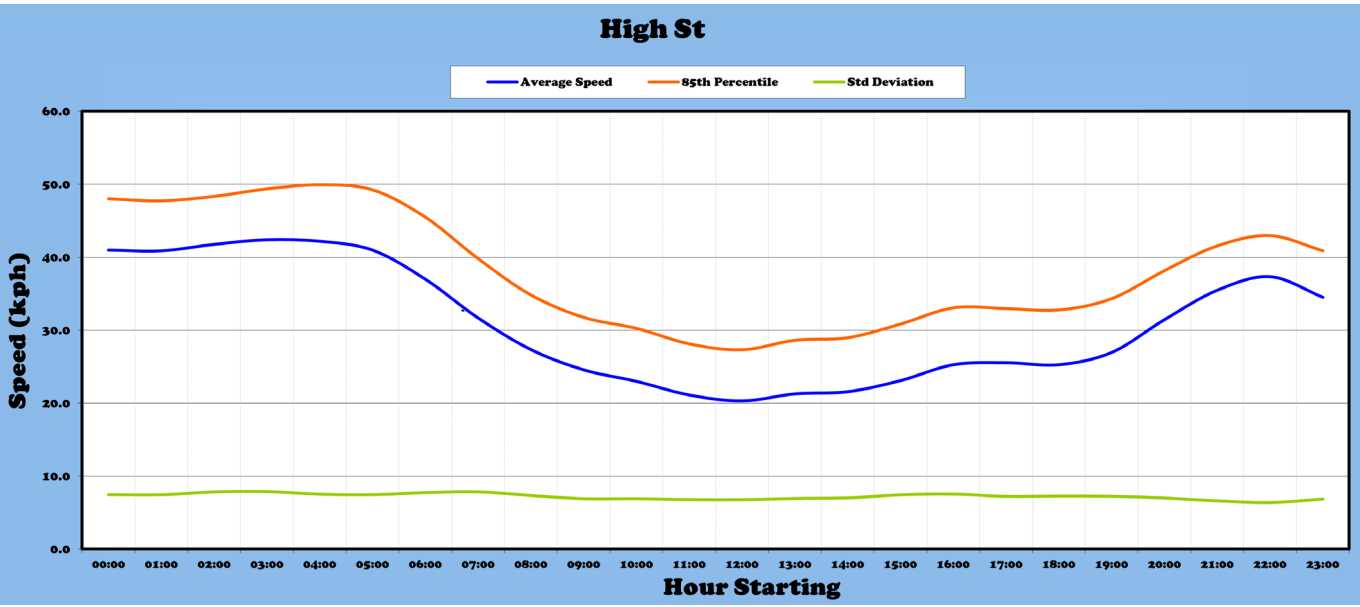
The 85th percentile is the speed at which 85% of drivers drive at or below, under free flowing conditions.

8am to midnight (40 km/h zone):

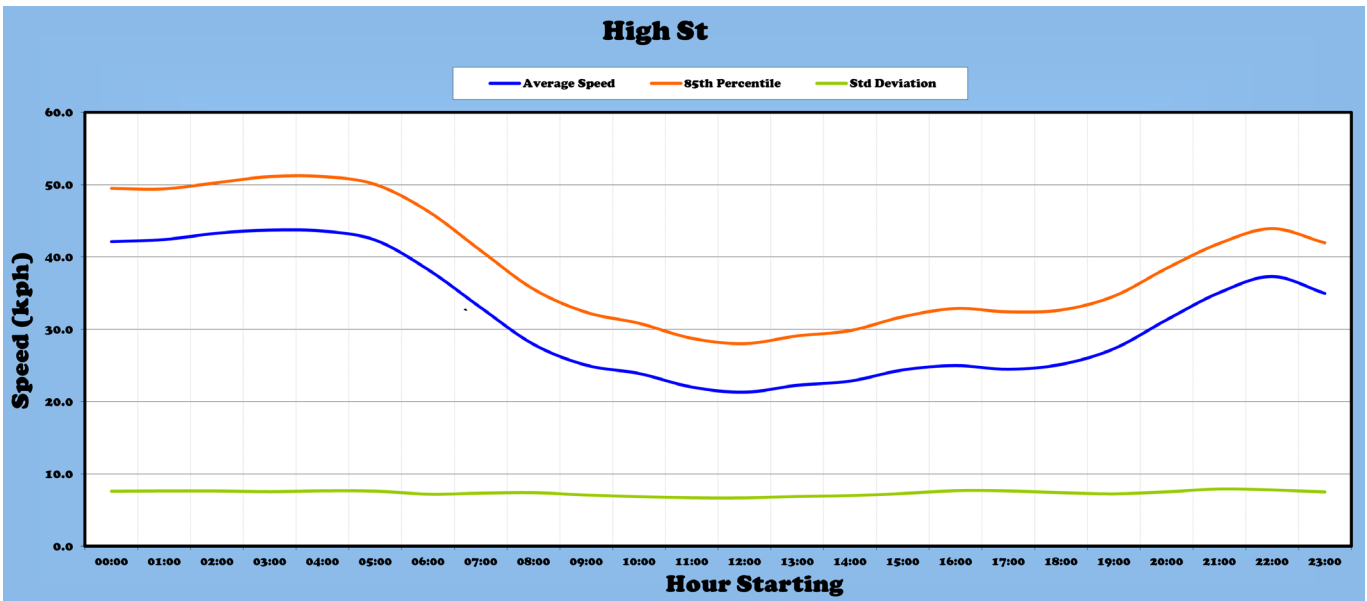
Average speeds drop significantly after 8am, typically remaining between 20–30 km/h throughout the day. The 85th percentile also aligns closely with or slightly above the 40 km/h limit. These slower speeds coincide with peak pedestrian activity and support the intended Place function of High Street.

Speed variation (Standard Deviation): Low and stable throughout the day, indicating consistent traffic flow with minimal variability.

These slower, steady speeds during the day align with the Movement and Place framework, where High Street functions as both a transport corridor and a destination. The reduced speeds support safety, amenity, and access, enhancing the Place Function within this key activity centre.



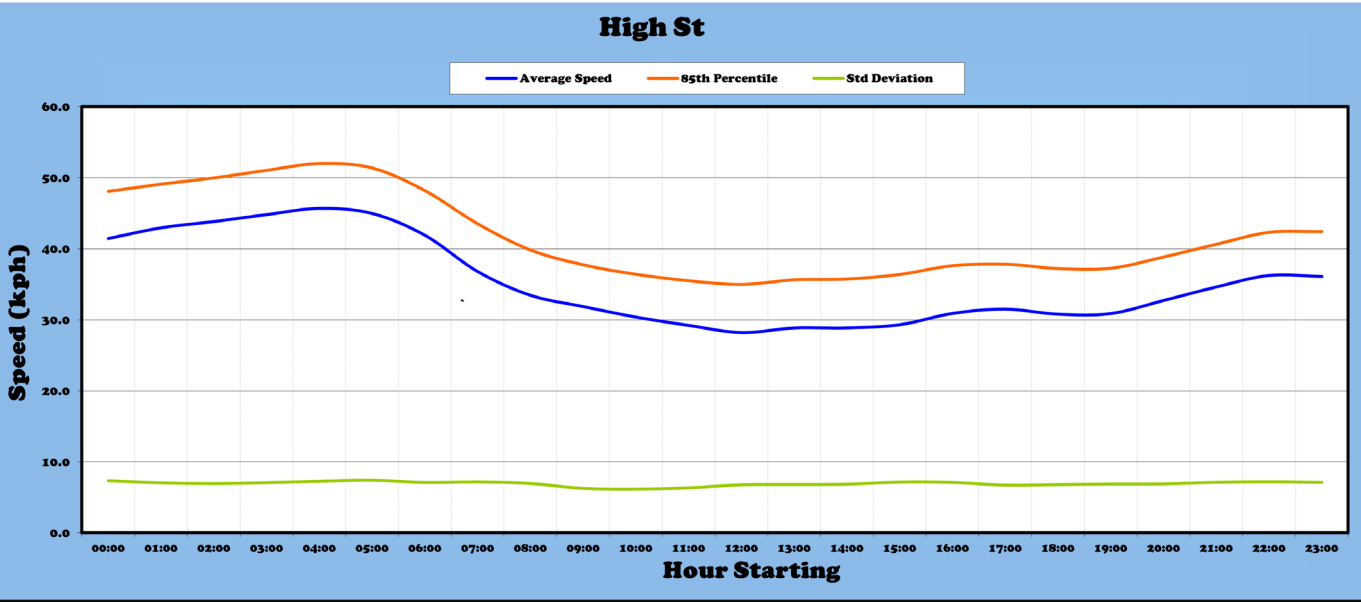
Traffic speeds - both directions - 7-day ave. between Roseberry Ave/Cramer St



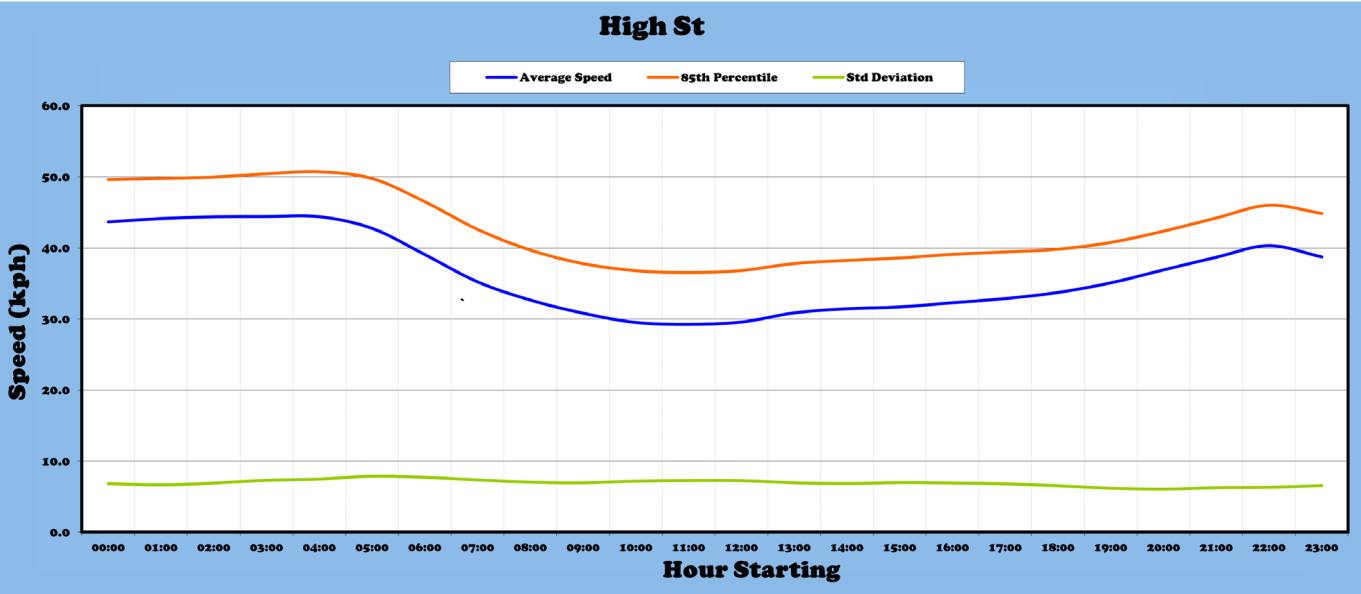
Traffic speeds - both directions - 7-day ave. between Murray Rd/Roseberry Ave

The below graphs shows vehicle speed patterns along High Street between Gower Street and Bell Street, within the High Street Activity Centre, over a 24-hour period

Between midnight and 8:00 am, when the speed limit is 50 km/h, average speeds remain between 43–46 km/h, with 85th percentile speeds staying just below or above 50 km/h, suggesting relatively good compliance. From 8:00 am to midnight, the speed limit drops to 40 km/h. During this period, both average and 85th percentile speeds decline significantly — with average speeds falling as low as 29 km/h around midday and 85th percentile speeds dropping to approximately 36 km/h.



Traffic speeds - both directions - 7-day ave. between Preston St/Bruce St



Traffic speeds - both directions - 7-day ave. between Bruce St/Bell St



3. PARKING OCCUPANCY & DURATION

Introduction

Council commissioned the collection of parking data on a Monday, Friday and Saturday for the section of High Street between Murray Road and Bell Street Preston, including 50m into each side road.

All parking controls and capacity were recorded as well as duration of stay in 15 minute increments between 7am and 10pm on each of the days.

Duration

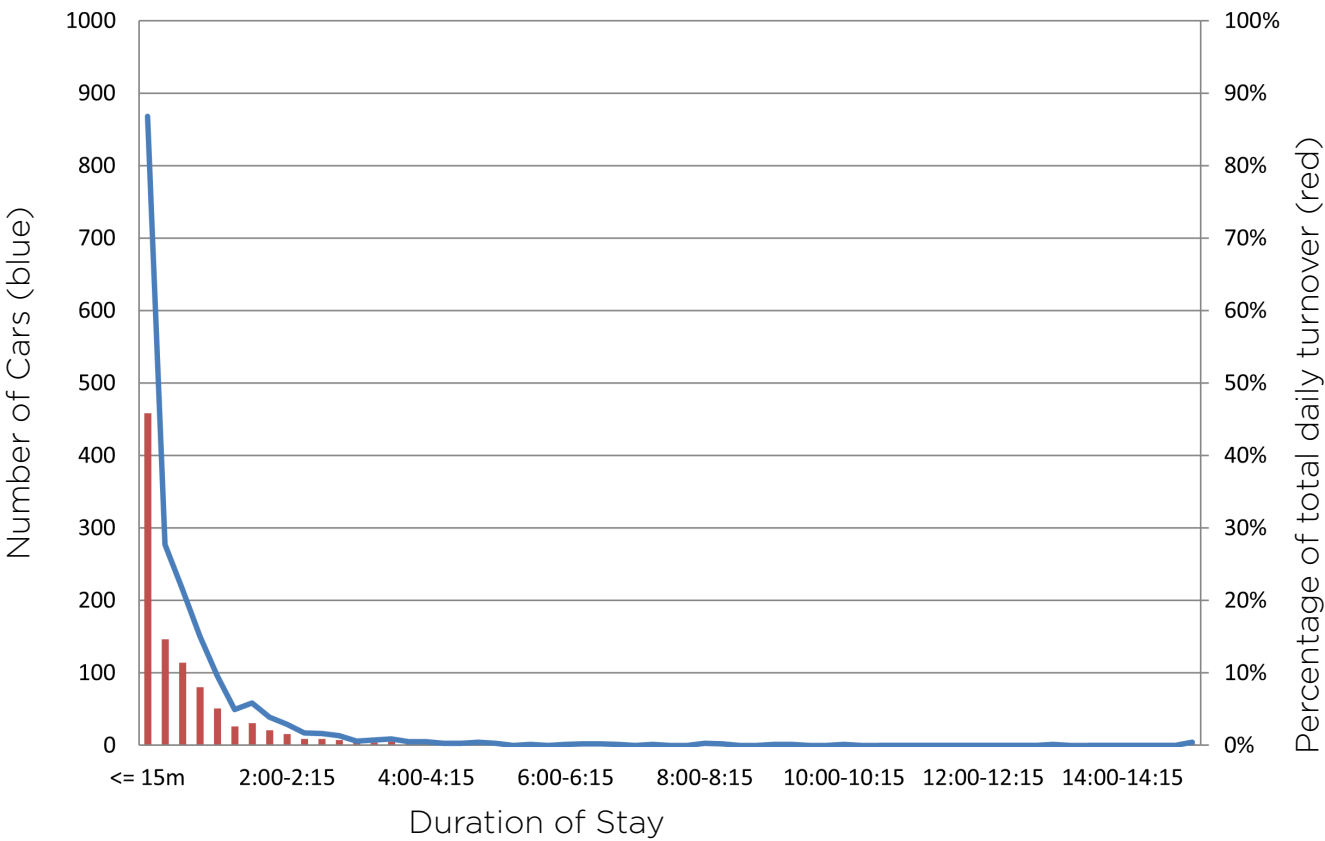
The graphs below illustrate parking duration of stay in the Preston Activity Centre. The blue line (left axis) shows the number of cars, while the red bars

(right axis) represent the percentage distribution of total parkers across each time interval.

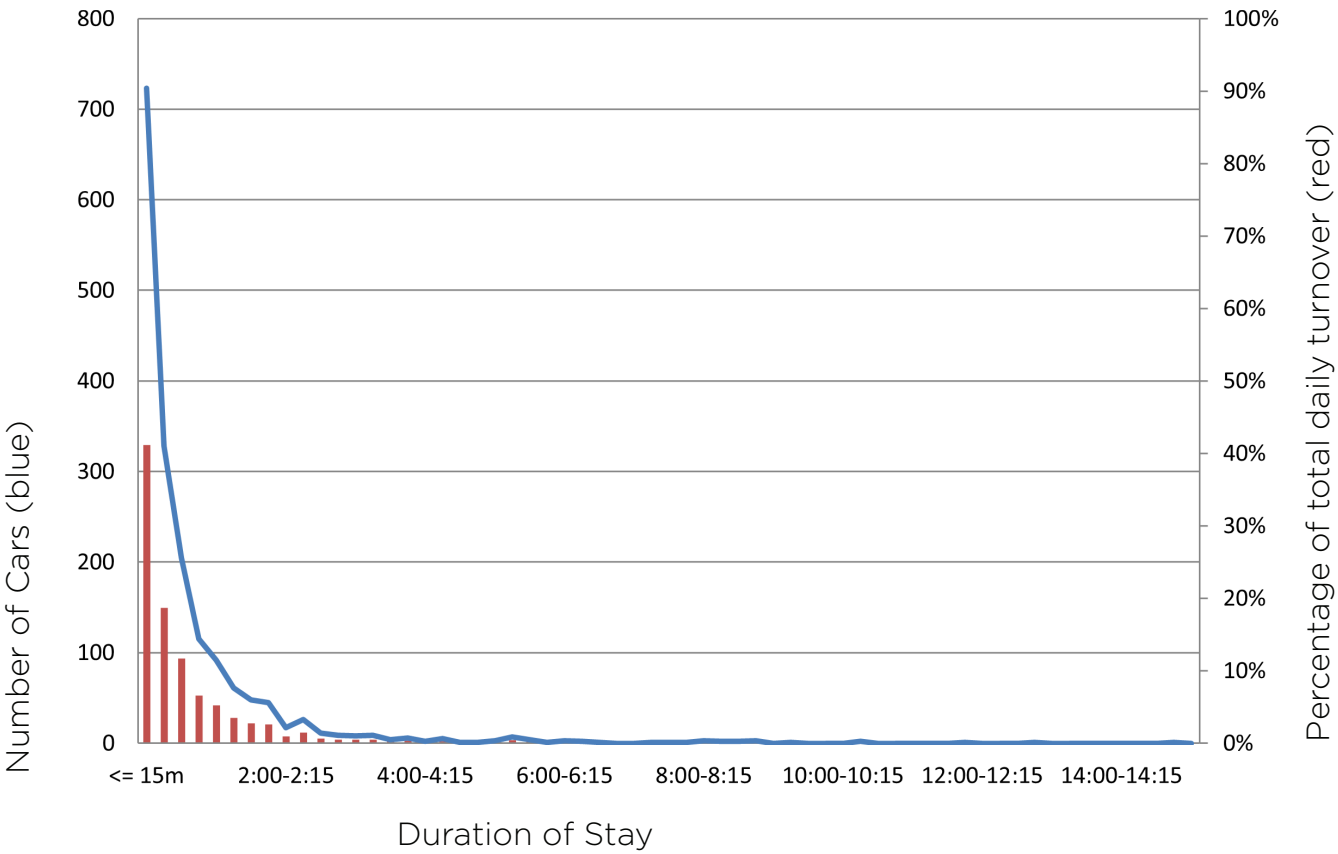
The vast majority of vehicles park for a short duration, with nearly 750 cars staying 15 minutes or less, and over 90% staying under 2 hours.

This pattern reflects a high turnover of vehicles, supporting the conclusion that the Preston Activity Centre primarily serves short-stay visits, such as shopping, errands, or quick services.

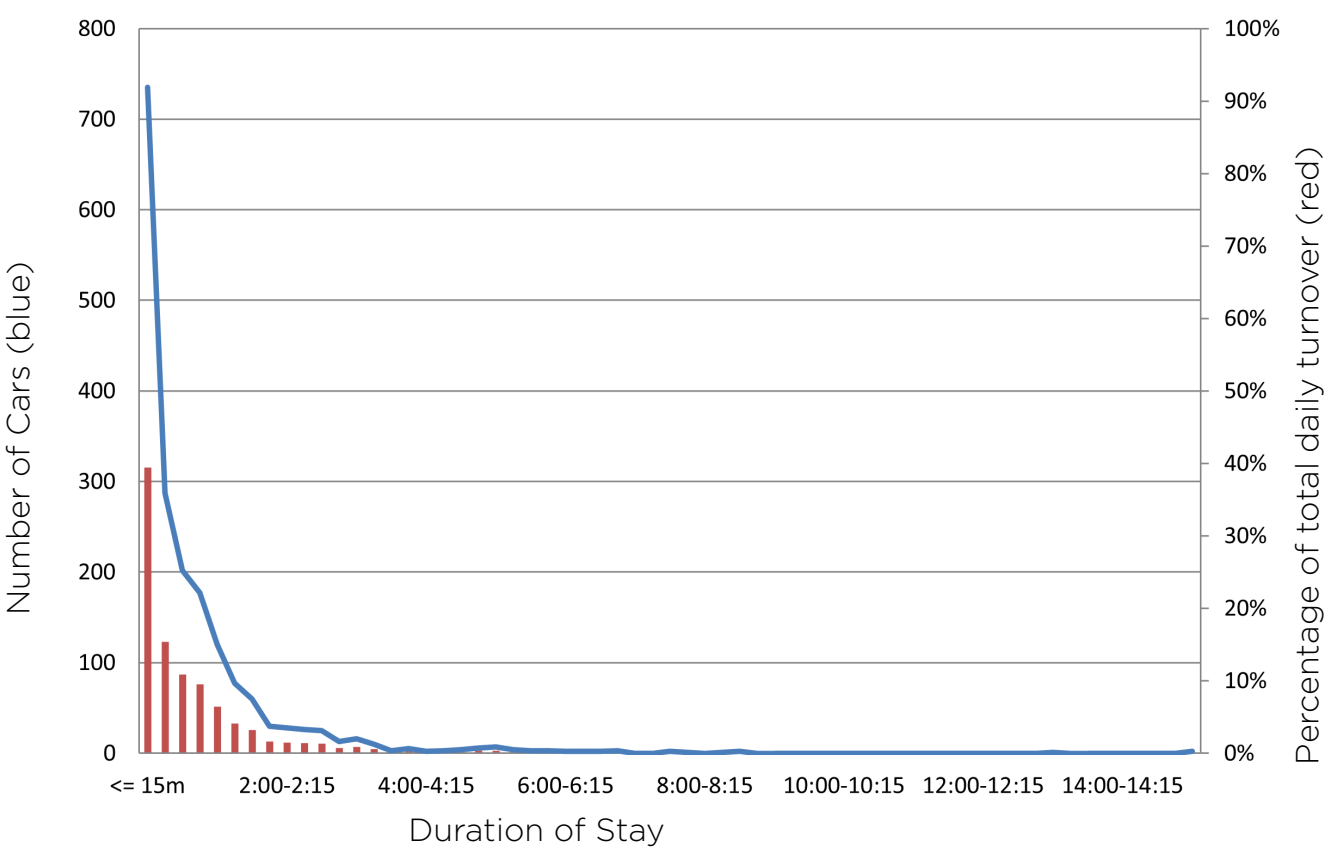
These findings highlight the importance of maintaining short-stay parking availability to support local businesses and the Place function of the area, while encouraging long-stay parkers to use alternative modes or park further away.



Parking Duration of Stay - Friday



Parking Duration of Stay - Monday



Parking Duration of Stay - Saturday

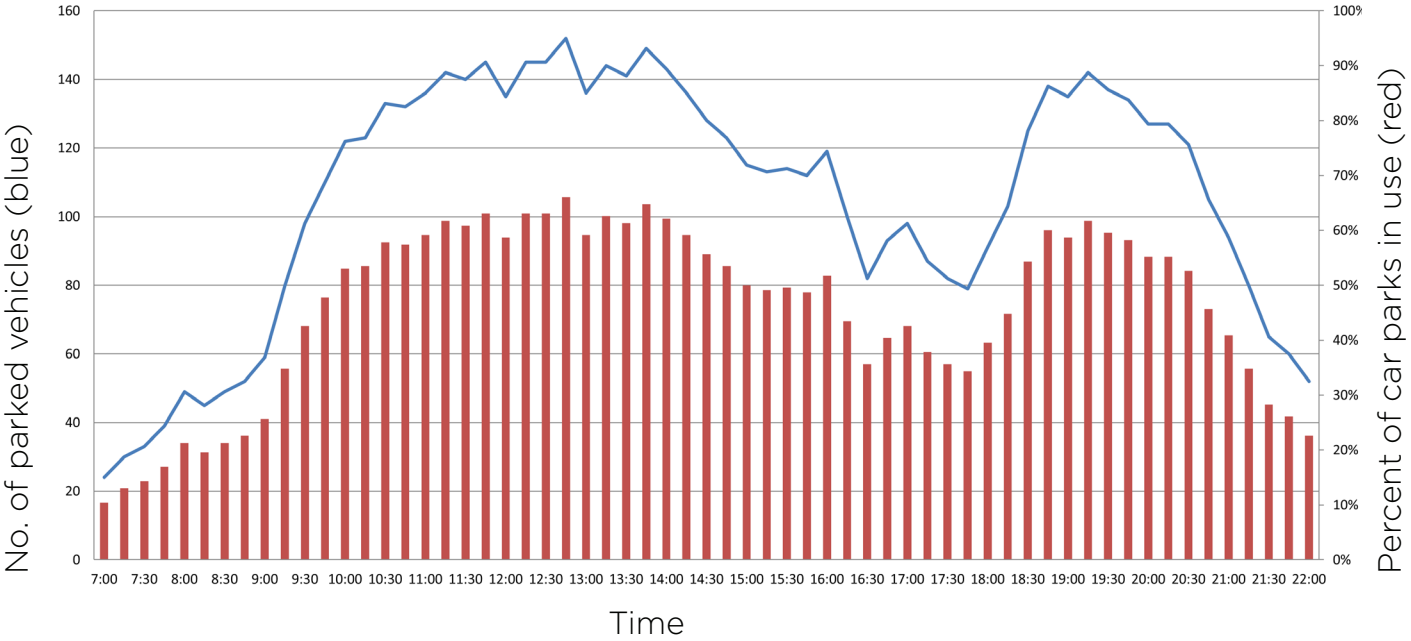
Occupancy

The graphs below show parking occupancy within the Preston Activity Centre over a typical day, from 7:00 AM to 10:00 PM. The blue line (left axis) represents the actual number of parked vehicles, while the red bars (right axis) indicate the percentage of car parks in use based on a total of 230 available parking spaces.

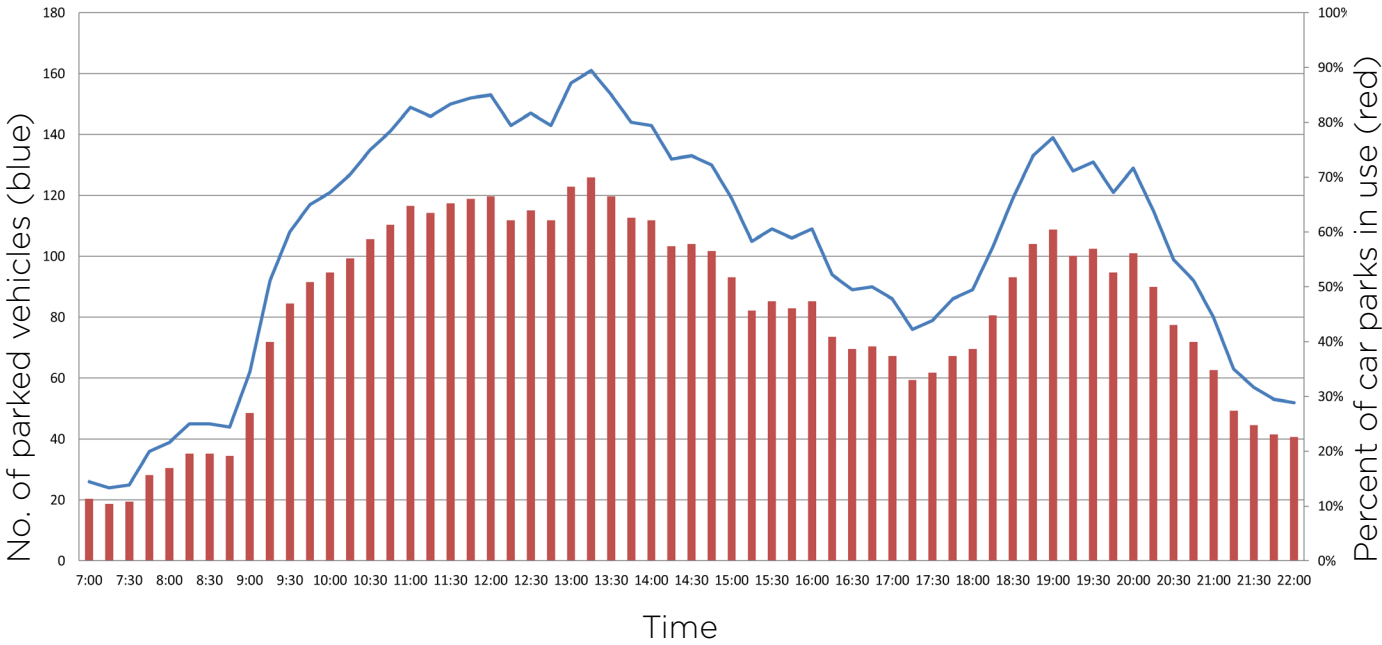
Occupancy rises sharply from around 9:00 AM, peaking between 12:00 and 2:00 PM, with approximately 160 vehicles parked, equating to approximately 70% occupancy. A secondary peak occurs between 6:30 PM and 8:30 PM equating to approximately 60% occupancy, before tapering off.

This pattern reflects moderate parking demand during business hours, consistent with High Street’s role as a busy activity centre. The strong peaks align with typical retail and service operating hours, reinforcing the Place function of the precinct.

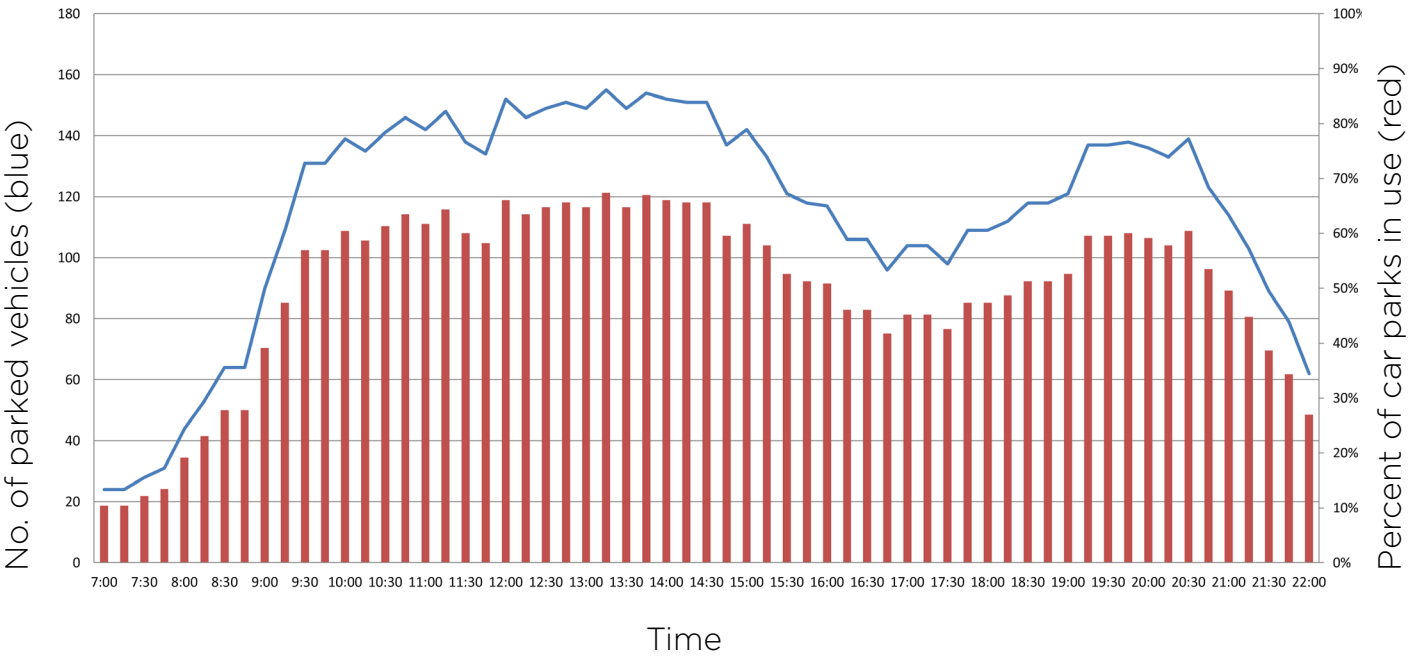
Over the 3 days that the data was collected, the occupancy rate didn't exceed 70% which is considered moderate parking demand.



Parking Occupancy - Friday



Parking Occupancy - Monday



Parking Occupancy - Saturday

4. TRAFFIC IMPACT ASSESSMENT - CLEARWAY REMOVAL

Introduction

Darebin City Council engaged a Transport consultant to undertake a traffic impact assessment (TIA) to investigate the feasibility of removing the AM and PM clearways along High Street, Preston, between Bell Street and Murray Road.

The purpose of this report is to:

- Undertake traffic modelling (using SIDRA software) to assess the proposal’s impacts to the following signalised intersections:

- Murray Road/St Georges Road / Spring Street.
- Murray Road/High Street.
- Murray Road/Plenty Road.

Road network

The road characteristics of High Street are summarised in the table below.

Traffic Volumes

- Turning movement surveys and queue length surveys were undertaken on Thursday 21 November 2024, between 7am – 9am and 4.30pm – 6.30pm at the following intersections:

- Turning movement surveys:

- Murray Rd/St Georges Rd/Spring St
 - Murray Rd/High St
 - Murray Rd/Plenty Rd
 - Bell St/St Georges Rd
 - Bell St/High St
 - Bell St/Plenty Rd
- Queue length surveys:

- Murray Rd/St Georges Rd/Spring St
- Murray Rd/High St
- Murray Rd/Plenty Rd

Based on the turning movement surveys the AM peak period occurred between 8am – 9am and the PM peak period occurred between 5 pm – 6 pm.

Feature	Description
Road type	Link Road as per Darebin City Council road register
Access	Provides access between Epping Road to the north and Queens Parade to the south
Road cross section	Four lane, two-way divided road
Speed limit	40 km/h
Parking	Kerbside parallel car parking is permitted on both sides of the road, except during the following clearway restrictions: — Southbound carriageway between 7.00 am to 9.00 am, Monday to Friday — Northbound carriageway between 4.30 pm to 6.30 pm, Monday to Friday
Public transport routes	Bus Route # 552 – North East Reservoir – Northcote Plaza via High Street, operates approx. every 15 mins Bu Route # 553 – Preston – West Preston via Reservoir, operates approx. every 30 mins

Traffic Assessment and Modelling

SIDRA software was used to analyse the intersections and determine anticipated intersection operations of the proposed conditions. Typically, the main characteristics used to assess intersection operation are the:

- degree of saturation (DOS)
- 95th percentile queue lengths
- average delay.

The table below provides an explanation of the intersection operating characteristics.

Degree of Saturation (DOS)			Operation
Sign control	Roundabout	Traffic signals	
< 0.6	< 0.6	< 0.6	Excellent operating conditions, minimal delays
0.6 - 0.699	0.6 - 0.699	0.6 - 0.699	Very good operating conditions, minimal delays
0.7 - 0.799	0.7 - 0.849	0.7 - 0.899	Good operating conditions, delays and queuing increasing
0.8 - 0.899	0.85 - 0.949	0.9 - 0.949	Fair operating conditions, delays and queues growing. Any interruption to flow such as minor incidents causes increasing delays
0.9 – 1.0	0.95 – 1.0	0.95 – 1.0	Poor operating conditions, flows starting to breakdown and queues and delays increase rapidly.
> 1.0	> 1.0	> 1.0	Very poor operating conditions with queues and delays increasing rapidly. Once queues develop it takes a significant time for queues to dissipate resulting in long delays to traffic movements

The DOS of an intersection is the ratio between the arrival (demand) flow and the intersection capacity during a given flow period. A DOS of 1.0 is the theoretical capacity of an intersection, achievable if all parameters are optimal.

Austroads Guide to Traffic Management Part 3 (AGTM3) specifies the following target DOS (practical degree of saturation/practical capacity) for different intersection types:

- 0.90 for traffic signals
- 0.85 for roundabouts
- 0.80 for unsignalised intersections.

Modelled Scenarios

The following scenarios were modelled as part of the assessment:

- Existing conditions
- Proposed conditions: removal of the clearways along High Street between Bell Street and Murray Road in both directions.

Intersection Analysed

SIDRA analysis was undertaken at the following sites:

- Murray Road/St Georges Road/Spring Street
- Murray Road/High Street
- Murray Road/Plenty Road

SIDRA Analysis

The existing and proposed conditions are shown in the following table.

Movements		Existing						Proposed						Comparison			
		DOS		95% queue (m)		Average delay (sec)		DOS		95% queue (m)		Average delay (sec)		95% queue (m)		Average delay (sec)	
		AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Site No. 4782 - Murray Road / St Georges Road / Spring Street	St Georges Road (south approach)	0.812	0.861	96.5	177.2	45.9	54.6	0.812	0.861	96.5	177.2	45.9	54.6	0.0	0.0	0.0	0.0
	Murray Road (east approach)	0.879	0.866	273.0	254.3	44.2	42.8	0.879	0.866	273.0	254.3	44.2	42.8	0.0	0.0	0.0	0.0
	Spring Street (north approach)	0.914	0.897	243.0	186.4	67.2	67.6	0.914	0.897	243.0	186.4	67.2	67.6	0.0	0.0	0.0	0.0
	Murray Road (west approach)	0.574	0.679	90.1	101.4	43.4	50.7	0.574	0.679	90.1	101.4	43.4	50.7	0.0	0.0	0.0	0.0
Site No. 3222 - Murray Road / High Street	High Street (south approach)	0.507	0.762	91.4	166.7	48.9	53.3	0.507	0.901	91.4	206.2	49.2	74.0	0.0	39.5	0.3	20.7
	Murray Road (east approach)	0.525	0.754	101.6	128.4	39.2	52.6	0.525	0.754	101.6	128.4	39.2	52.6	0.0	0.0	0.0	0.0
	High Street (north approach)	0.663	0.472	152.1	100.5	31.3	25.2	0.836	0.529	204.9	100.5	40.1	25.9	52.8	0.0	8.8	0.7
	Murray Road (west approach)	0.645	0.775	120.0	148.6	52.9	58.1	0.645	0.775	120.0	148.6	52.9	58.1	0.0	0.0	0.0	0.0
Site No. 4790 - Murray Road / Plenty Road	Plenty Road (south approach)	0.855	0.882	172.8	354.7	32.3	40.7	0.855	0.882	172.8	354.7	32.3	40.7	0.0	0.0	0.0	0.0
	Murray Road (east approach)	0.884	0.847	278.5	235.6	70.0	66.9	0.884	0.847	278.5	235.6	70.0	66.9	0.0	0.0	0.0	0.0
	Plenty Road (north approach)	0.856	0.730	299.5	202.1	41.2	34.9	0.856	0.730	299.5	202.1	41.2	34.9	0.0	0.0	0.0	0.0
	Murray Road (west approach)	0.659	0.912	164.9	233.5	48.3	85.2	0.659	0.912	164.9	233.5	48.3	85.2	0.0	0.0	0.0	0.0

The key results of the models are summarised below.

Existing Conditions

- All intersections operate below practical capacity, with the following operating conditions:

AM Peak

- Murray Rd/St Georges Rd/Spring St – ‘fair’
- Murray Rd/High St – ‘very good’
- Murray Rd/Plenty Rd – ‘good’

PM Peak

- Murray Rd/St Georges Rd/Spring St – ‘good’
- Murray Rd/High St – ‘good’
- Murray Rd/Plenty Rd – ‘fair’

Proposed Conditions

- Murray Road/High Street is anticipated to remain operating below practical capacity during both the AM and PM peak periods, with ‘good’ and ‘fair’ operating conditions, respectively. Therefore, it is anticipated that following the clearways removal, there will be minimal distribution of traffic from High Street onto St Georges Road and Plenty Road.
- Murray Road/St Georges Road/Spring Street Site and Murray Road/Plenty Road Site are anticipated to continue operating as per existing conditions, with no impacts from the proposed works. There is generally sufficient capacity at these intersections should there be some traffic redistributed from High Street as a result of the clearways removal.

- The 95th percentile queue length and average delays at Site Murray Road/High Street is anticipated to increase as follows:
 - o High Street, north approach is anticipated to increase by approx. 53 m and up to 9 seconds during the AM peak period.
 - o High Street, south approach is anticipated to increase by approx. 40m and up to 21 seconds during the PM peak period.
- The increase in 95th percentile queues will not extend beyond the adjacent intersections.

Conclusion

The analysis has been undertaken to investigate the feasibility of removing the AM and PM clearways along High Street, Preston, between Bell Street and Murray Road.

The traffic analysis indicates that removing the clearways is unlikely to impact the existing road network during either the AM or PM peak periods, with all intersections continuing to operate below practical capacity in both peaks.

Further findings from the analysis at Site Murray Road / High Street suggest that while there may be an increase in the 95th percentile queues on High Street (north approach during the AM peak and south approach during the PM peak), these queues are unlikely to extend beyond the adjacent intersections.



5. MOVEMENT & PLACE - CLEARWAY REMOVAL

Introduction

Darebin City Council engaged a Transport consultant to undertake a Movement and Place Assessment to investigate the feasibility of removing the AM and PM clearways along High Street, Preston, between Bell Street and Murray Road.

The purpose of this report is to:

- Undertake a movement and place assessment identifying:
- Movement and place classifications.
- Transport mode classifications.

Movement and Place Classifications

The Movement and Place Framework has been developed by Department Transport and Planning (DTP) to assist

in road planning in Victoria. It recognises that streets and roads perform multiple functions and provides a tool to translate broad transport outcomes into priority changes to improve link and place performance for communities.

The Movement and Place classifications for each mode of transport along High Street between Bell Street and Murray Road and the surrounding streets (i.e. St Georges Road, Plenty Road, Murray Road and Bell Street) are shown in the table below.

Under the Movement and Place framework, High Street, between the subject length is classified with a Movement value of M3 and a Place value of P3. This indicates moderate movement of people and goods on routes connecting municipalities or primary access to municipal level places.

			Place				
			State	Regional	Municipal	Neighbourhood	Local
			P1	P2	P3	P4	P5
Movement	State	M1					
	Regional	M2			St Georges Road	Plenty Road	
						Bell Street	
	Municipal	M3			High Street		
					Murray Road		
	Neighbourhood	M4					
	Local	M5					

Transport Mode Classifications

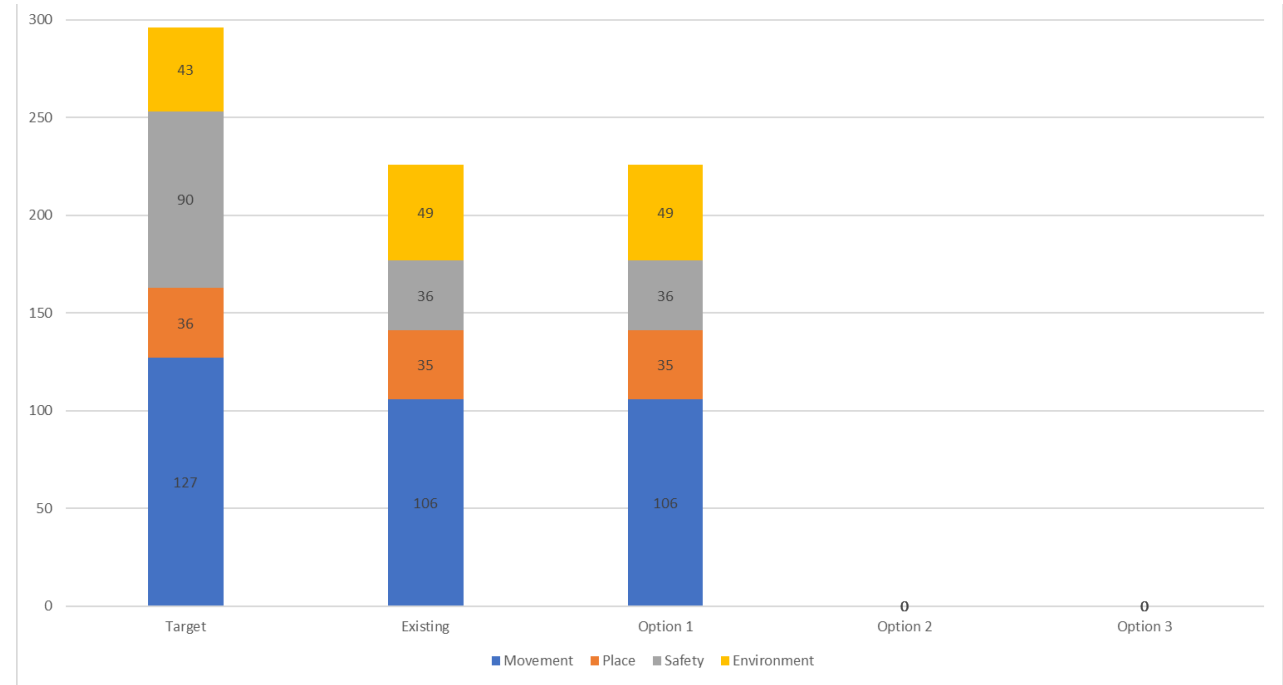
Victoria’s multi-modal transport system is represented in a series of sub-movement types with a defined hierarchy for each mode. Figure 5 summarises the transport mode classifications at the site, and further information is provided below.

A review of the mode classifications of the roads indicate the following:

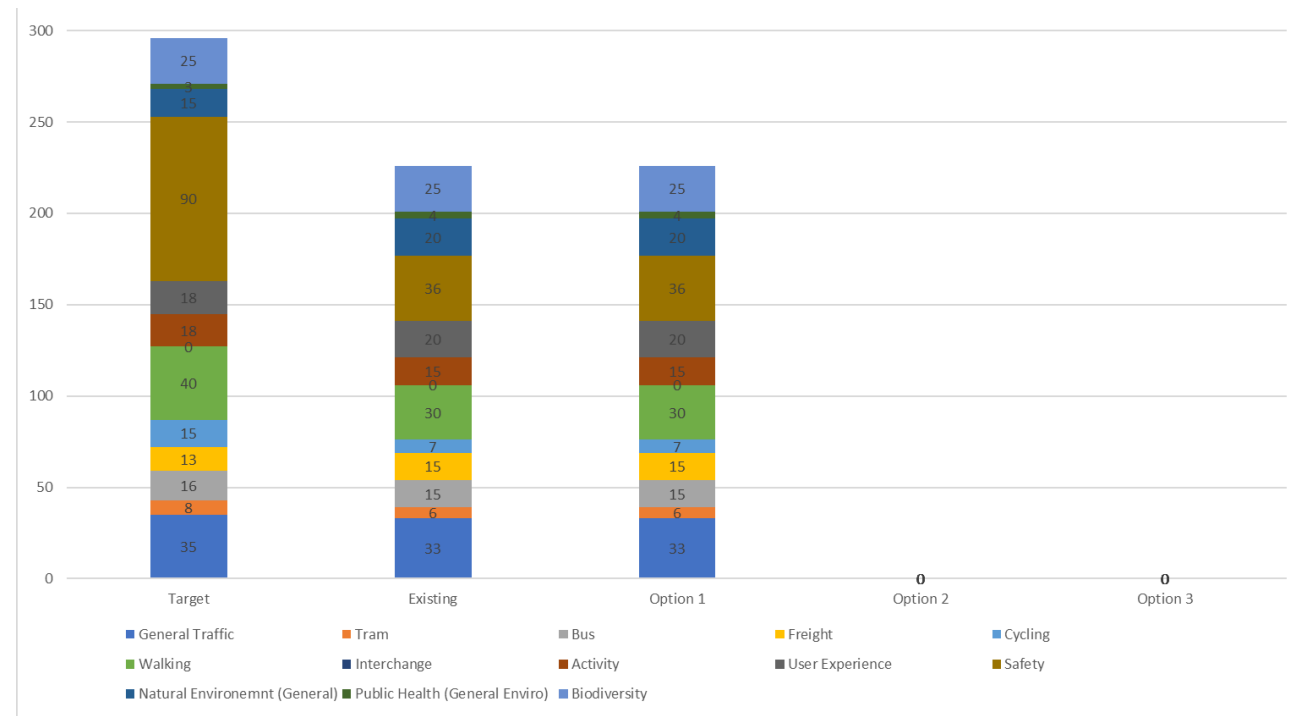
Road				Classifications										
				Place	Movement	General Traffic	Tram	Bus	Freight	Cycling	Walking	Interchange	Tourist Route	Biodiversity
				Start	End									
1	High Street	Bell Street	Murray Road	P3	M3	GT4	N/A	B3	N/A	C3	W2	N/A	N/A	BD1
2	St Georges Road	Bell Street	Murray Road	P3	M2	GT2	N/A	B3	F3	C1	W2	N/A	N/A	BD1
3	Plenty Road	Bell Street	Murray Road	P4	M2	GT3	T2	B5	F3	N/A	W2	N/A	N/A	BD1
4	Bell Street	Plenty Road	St Georges Road	P4	M2	GT2	N/A	B3	F3	N/A	W2	N/A	N/A	BD1
5	Murray Road	Plenty Road	St Georges Road	P3	M3	GT3	N/A	B4	F3	N/A	W2	N/A	N/A	BD1

A Movement and Place Option Assessment was also undertaken for the proposal to identify how the existing conditions compares with the targets, and how much the project option improves the level of service for each theme and transport mode.

The Level of Service (LOS) scores by theme and mode of transport are shown in the figures below comparing the LOS between the existing conditions, project option and the optimum targets.

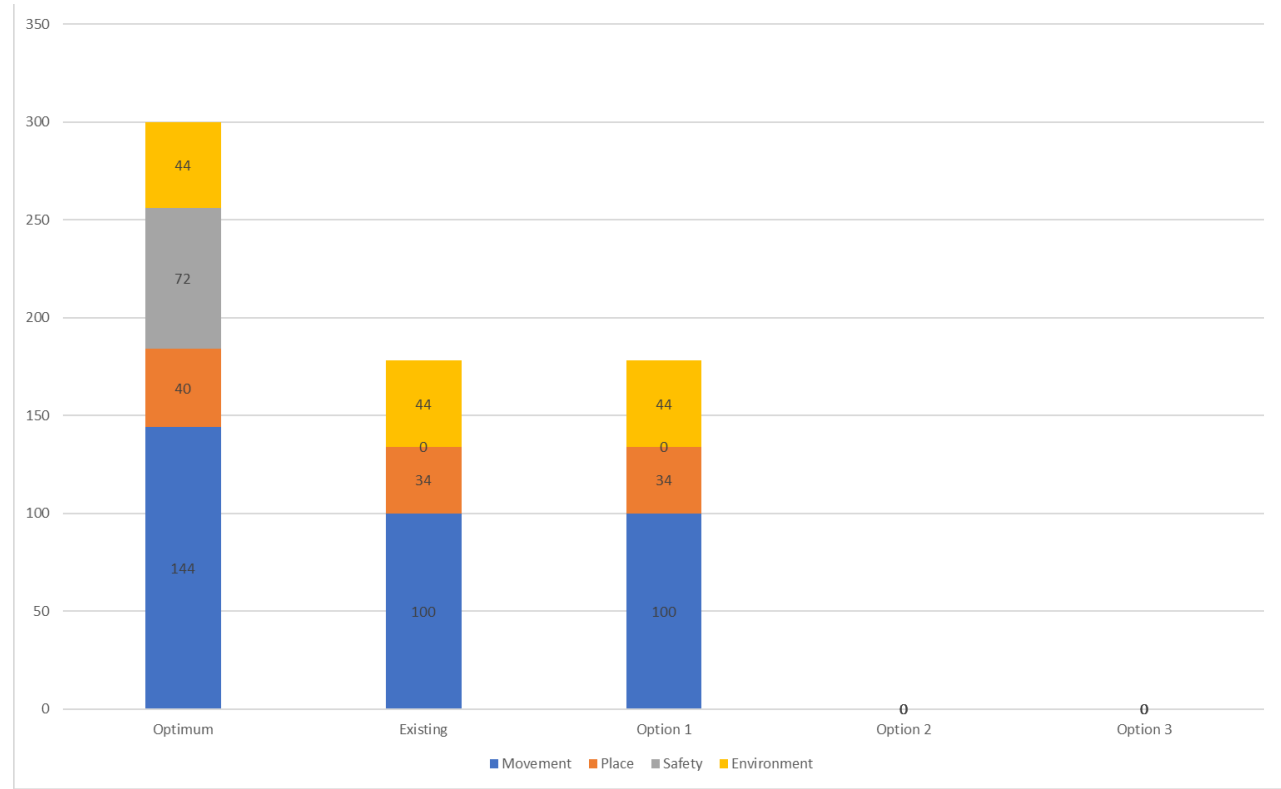


Level of Service score (theme)

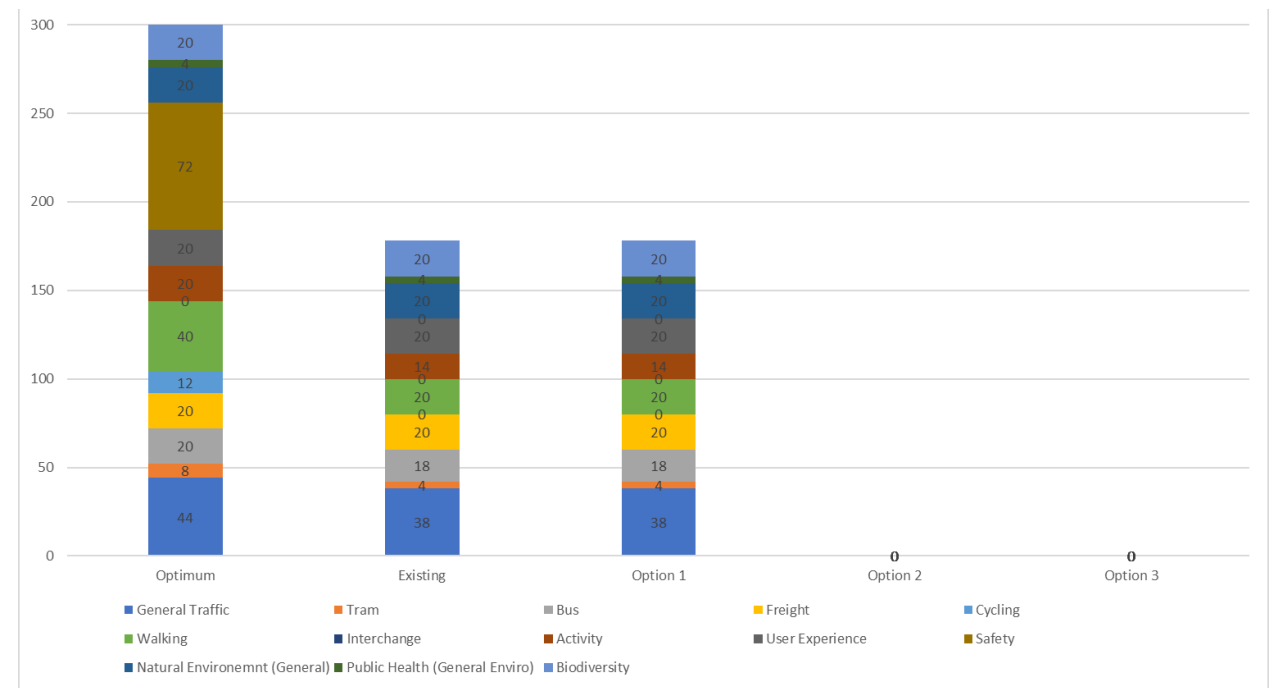


Level of Service score (mode)

The figures below show how well the existing conditions and the project option is meeting the targets for each theme and mode and where it is below target.



Meeting targets (theme)



Meeting Targets (mode)

The table below summarises the level of service (LOS) scores for the existing conditions and the proposed conditions, as well as their alignment with the optimum aspirational state.

Options	LoS score	Optimum%
Existing	226	60%
Option 1	226	60%

The assessment indicates the removal of the clearways along High Street, between Bell Street and Murray Road will maintain existing LOS in all assessed areas.

Conclusion

The Movement and Place assessment found that the subject section of High Street has a Movement value of M3 and a Place value of P3.

The proposed conditions analysis confirms that the existing level of service (LOS) will be maintained in all assessed areas. The removal of the clearways will provide opportunities for Council to improve placemaking along High Street, such as constructing kerb outstands at the intersections, aligning closer to the aspirational Place outcome.



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