Transport Impact Statement

Project:	Proposed Carpark Woolstores Shopping Centre in Fremantle
Client:	PTS Town Planning
Author:	L. Jiang Li / P. Nguyen
Date:	2nd September 2025
Shawmac Document #:	2409003-TIS-001

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1. Introduction

1.1. Proponent

Shawmac has been engaged by PTS Town Planning to prepare a Transport Impact Statement (TIS) for a proposed temporary car parking facility at the Woolstores Shopping Centre in Fremantle.

This TIS has been prepared in accordance with the Western Australian Planning Commission (WAPC) *Transport Impact Assessment Guidelines Volume 4 – Individual Developments*.

1.2. Site Location

The site address is 28 Cantonment Street in Fremantle and the local authority is the City of Fremantle. The site location is shown in **Figure 1**.

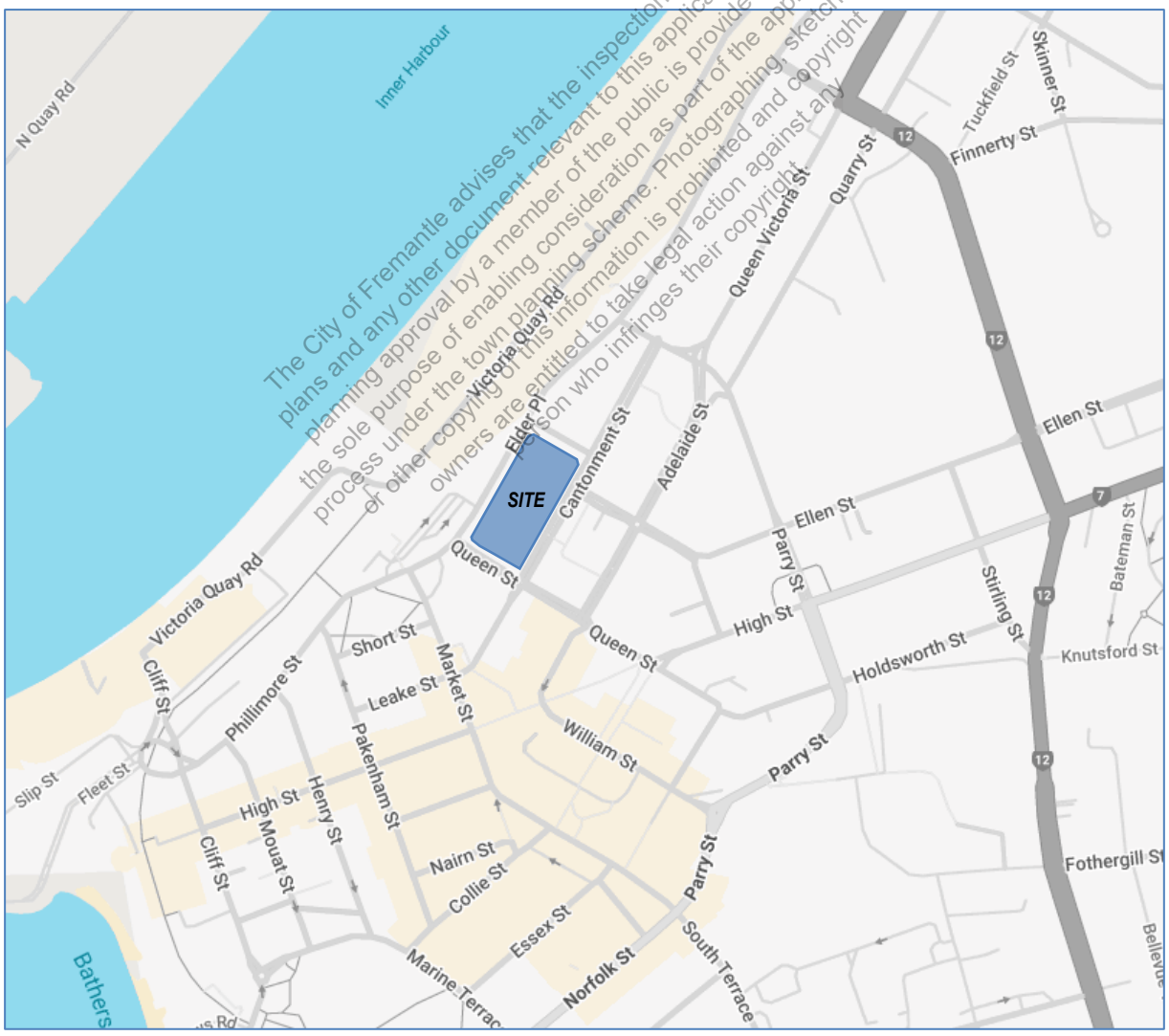


Figure 1: General Site Location

An aerial view of the existing site is shown in **Figure 2**. The car park will be located in the south-western corner of the site.

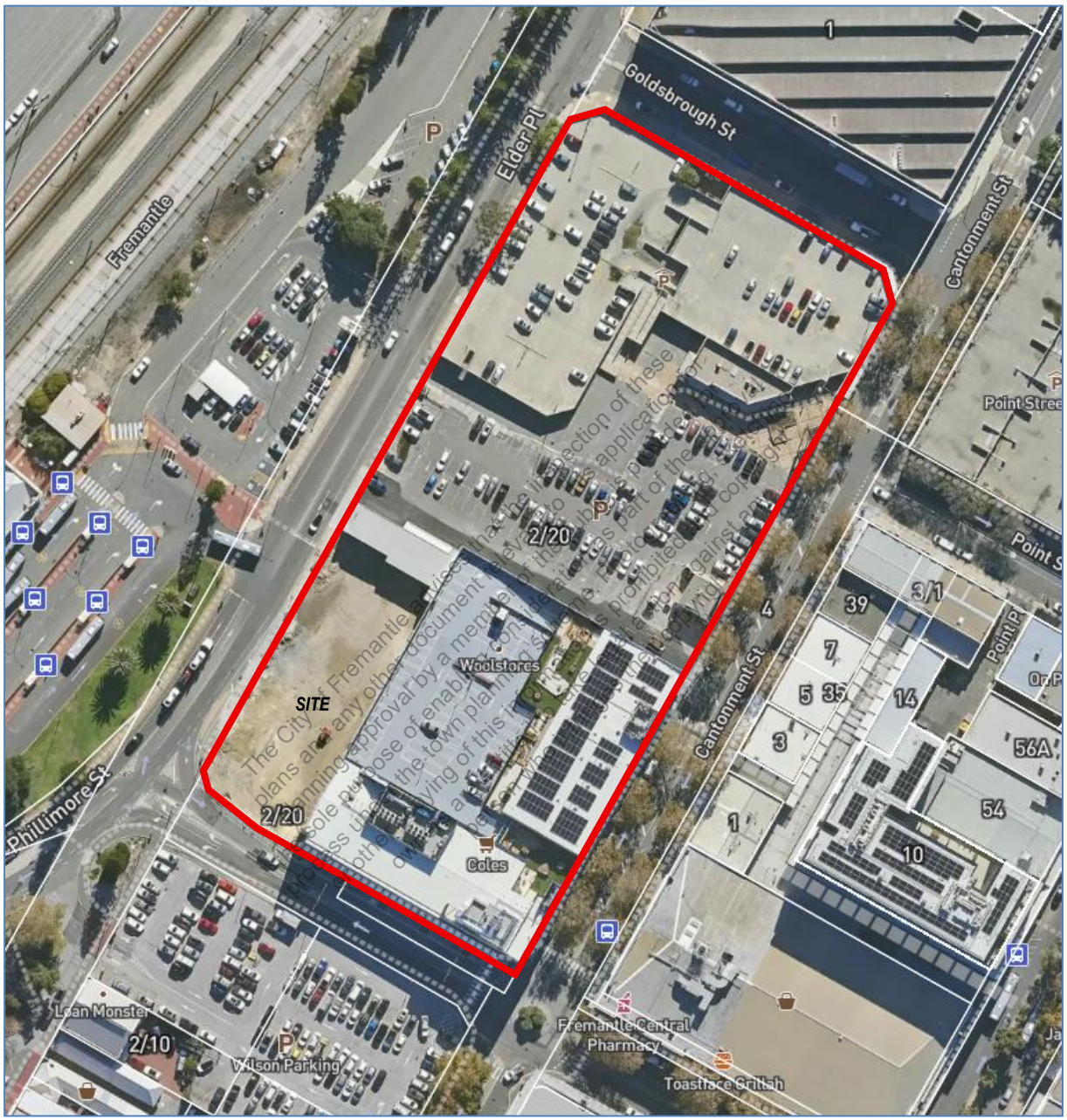


Figure 2: Aerial View (May 2025)

2. Proposed Development

2.1. Land Use

The site is currently cleared. It is proposed to establish a temporary car park with 60 bays. The car park will accommodate medium to long-term parking for the adjacent commercial uses and is expected to be in place for approximately 5 years.

The proposed car parking layout is shown in **Figure 3**.

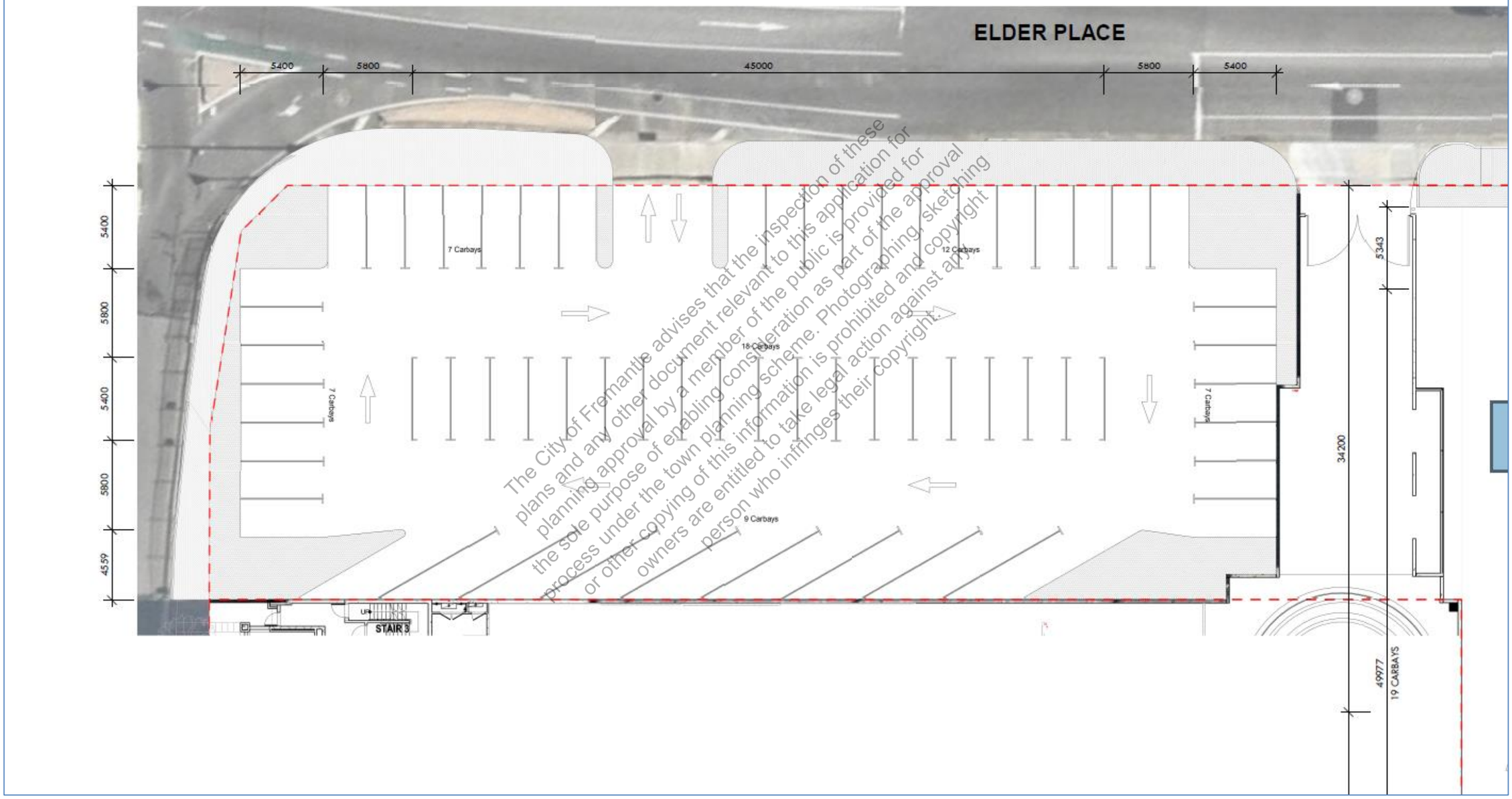


Figure 3: Proposed Car Parking Layout

3. Traffic Management on Frontage Streets

3.1. Existing Road Layout and Hierarchy

The layout and hierarchy of the existing local road network according to the Main Roads WA *Road Information Mapping System* is shown in **Figure 4**.

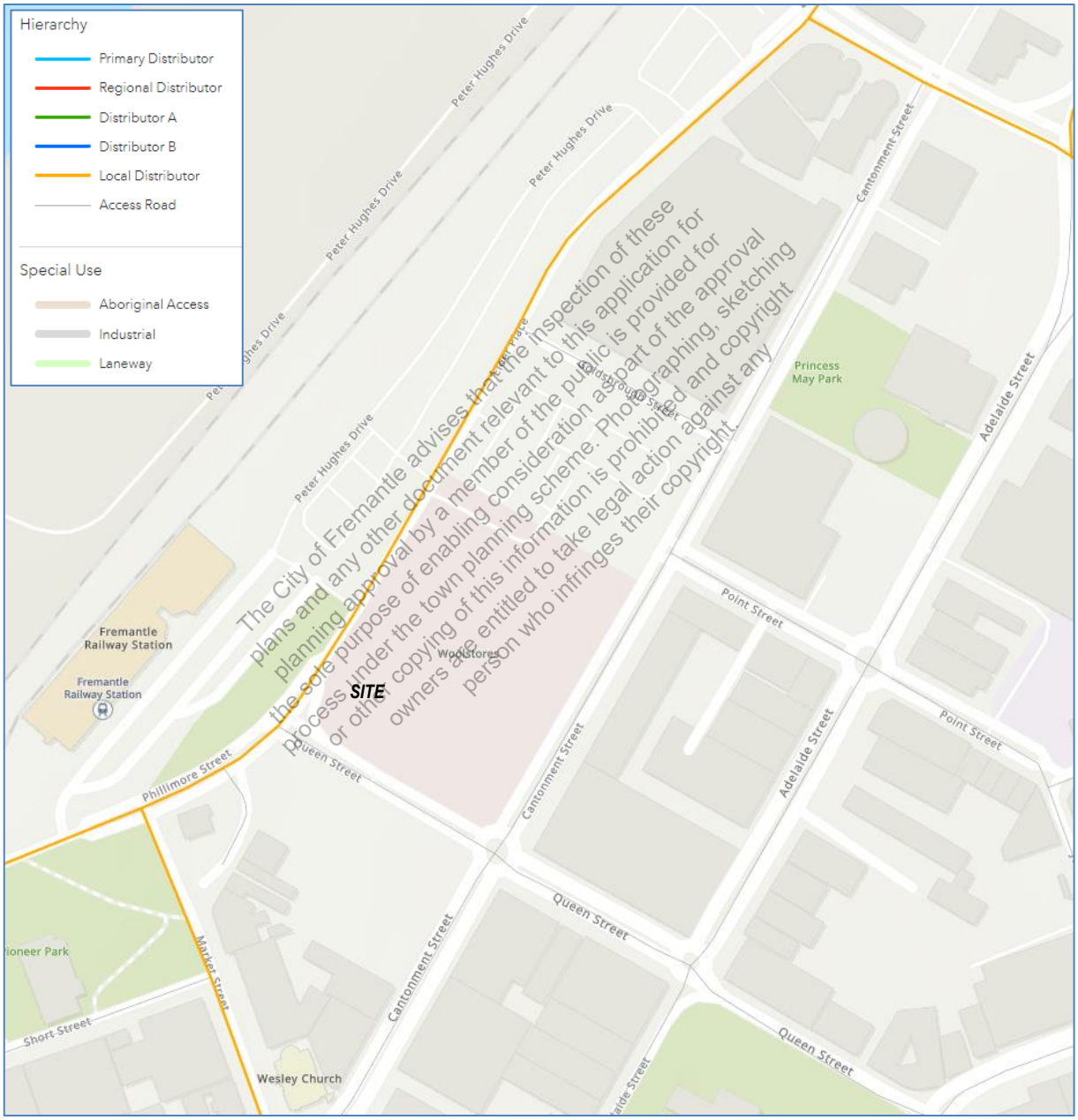


Figure 4: Existing Road Network Hierarchy

3.2. Speed Limit

The existing speed limits are shown in **Figure 5**.

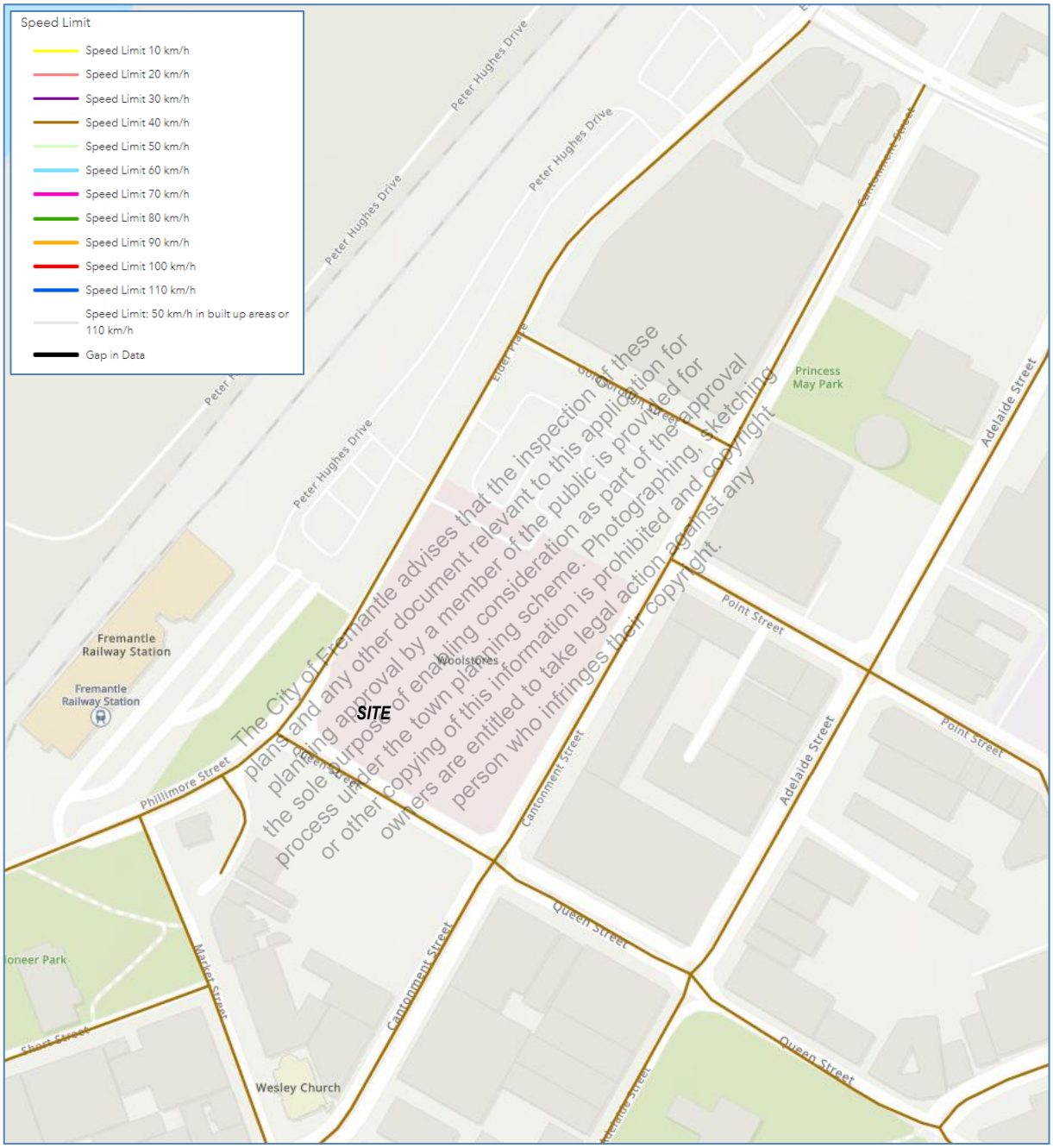


Figure 5: Existing Speed Limits on the Frontage Street

3.3. Traffic Volumes

The latest traffic volumes on Elder Place were obtained from Main Roads WA as summarised in **Figure 6** and **Figure 7**.

mainroads WESTERN AUSTRALIA

SITE 53611

Hourly Volume

Elder Pl (1180012)

South of Parry St (SLK 0.11)

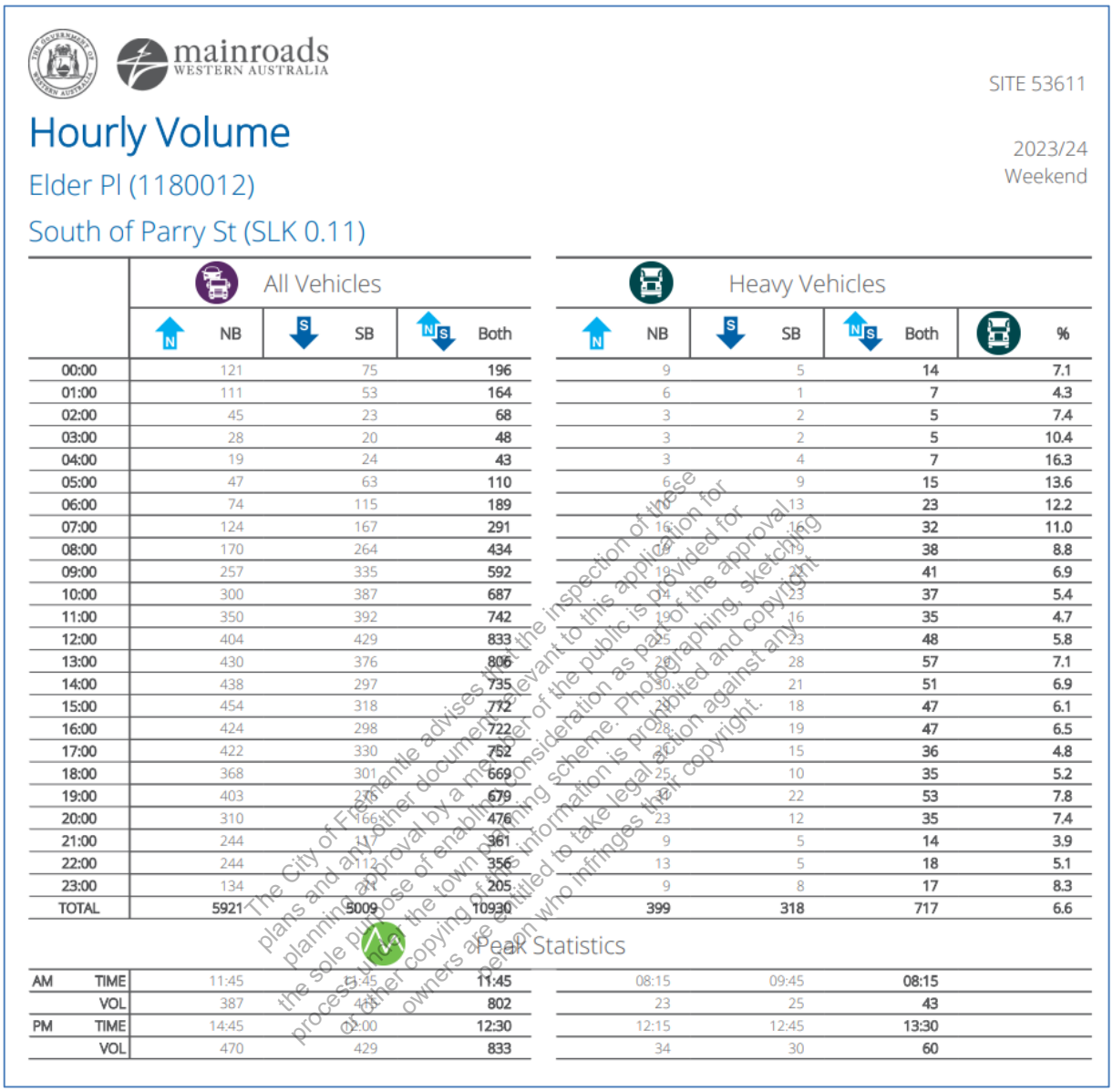
2023/24
Monday to Friday

	All Vehicles			Heavy Vehicles			
	NB	SB	Both	NB	SB	Both	%
00:00	40	19	59			8	13.6
01:00	19	7	26	2	2	4	15.4
02:00	10	6	16	3	2	5	31.3
03:00	11	9	20	3	4	7	35.0
04:00	15	15	30	6	6	12	40.0
05:00	44	75	119	7	14	21	17.6
06:00	104	196	300	11	38	49	16.3
07:00	212	397	609	31	56	87	14.3
08:00	263	645	908	32	44	76	8.4
09:00	332	345	677	48	28	76	11.2
10:00	368	333	701	50	33	83	11.8
11:00	396	280	676	54	29	83	12.3
12:00	470	301	771	55	31	86	11.2
13:00	411	313	724	58	41	99	13.7
14:00	441	295	736	40	39	79	10.7
15:00	506	307	813	33	32	65	8.0
16:00	494	285	779	33	18	51	6.5
17:00	540	324	864	40	14	54	6.3
18:00	329	300	629	44	14	58	9.2
19:00	276	183	459	25	8	33	7.2
20:00	255	108	363	20	6	26	7.2
21:00	213	82	295	18	5	23	7.8
22:00	143	57	200	6	3	9	4.5
23:00	74	31	105	4	3	7	6.7
TOTAL	5966	4913	10879	628	473	1101	10.1

Peak Statistics

AM	TIME	11:45	08:00	08:00	10:30	06:45	10:15
	VOL	456	645	908	58	56	92
PM	TIME	16:45	17:15	16:45	12:30	13:30	12:30
	VOL	560	332	884	63	42	100

Figure 6: Elder Place Traffic Volumes – Average Weekday



mainroads WESTERN AUSTRALIA

SITE 53611

Hourly Volume

Elder Pl (1180012)

South of Parry St (SLK 0.11)

2023/24
Weekend

	All Vehicles			Heavy Vehicles			
	NB	SB	Both	NB	SB	Both	%
00:00	121	75	196	9	5	14	7.1
01:00	111	53	164	6	1	7	4.3
02:00	45	23	68	3	2	5	7.4
03:00	28	20	48	3	2	5	10.4
04:00	19	24	43	3	4	7	16.3
05:00	47	63	110	6	9	15	13.6
06:00	74	115	189	10	13	23	12.2
07:00	124	167	291	16	16	32	11.0
08:00	170	264	434	19	19	38	8.8
09:00	257	335	592	19	22	41	6.9
10:00	300	387	687	14	23	37	5.4
11:00	350	392	742	19	16	35	4.7
12:00	404	429	833	25	23	48	5.8
13:00	430	376	806	29	28	57	7.1
14:00	438	297	735	30	21	51	6.9
15:00	454	318	772	29	18	47	6.1
16:00	424	298	722	28	19	47	6.5
17:00	422	330	752	21	15	36	4.8
18:00	368	301	669	25	10	35	5.2
19:00	403	276	679	31	22	53	7.8
20:00	310	166	476	23	12	35	7.4
21:00	244	117	361	9	5	14	3.9
22:00	244	112	356	13	5	18	5.1
23:00	134	71	205	9	8	17	8.3
TOTAL	5921	5009	10930	399	318	717	6.6

Peak Statistics

AM	TIME	11:45	11:45	11:45	08:15	09:45	08:15
	VOL	387	415	802	23	25	43
PM	TIME	14:45	12:00	12:30	12:15	12:45	13:30
	VOL	470	429	833	34	30	60

Figure 7: Elder Place Traffic Volumes – Average Weekend

The typical hourly mid-block capacities for urban roads (per traffic lane) according to Austroads *Guide to Traffic Management Part 3: Traffic Studies and Analysis* are detailed in **Figure 8**.

Table 6.1: Typical mid-block capacities for urban roads with interrupted flow

Type of lane	One-way mid-block capacity (pc/h)
Median or inner lane	
Divided road	1000
Undivided road	900
Middle lane (of a 3 lane carriageway)	
Divided road	900
Undivided road	1000
Kerb lane	
Adjacent to parking lane	900
Occasional parked vehicles	600
Clearway conditions	900

Figure 8: Austroads Typical Mid-Block Capacities for Urban Roads

As no parking is permitted along Elder Place, the hourly lane capacity is estimated to be 900 vehicles/hour. The existing peak hour volumes noted above are within the estimated capacity of the road.

4. Traffic Impact

4.1. Traffic Generation

As the car park will accommodate medium to long-term parking, it is assumed as a worst-case scenario that each bay would generate 1 vehicle movement during each peak hour. This would result in a total of 60 vehicle movements during the peak hours.

According to the WAPC TIA guidelines, an increase of between 10 to 100 peak hour vehicles is considered to have a low to moderate impact and is generally deemed acceptable without requiring a detailed capacity analysis. The estimated 60 vehicles per hour is around the middle of this range, indicating that the generated traffic will have a low to moderate impact and can be accommodated within the existing capacity of the road network.

As the car park is temporary, the traffic impact is also temporary and the site will eventually be redeveloped.

5. Vehicle Access and Parking

5.1. Access

Access to the car park is proposed via a single entry / exit crossover on Elder Place as shown in **Figure 9**. Due to the location of the acess and proximity to the bus station signalised access, it is recommended that the access is restricted to left turns only.

Figure 9: Vehicle Access Arrangement

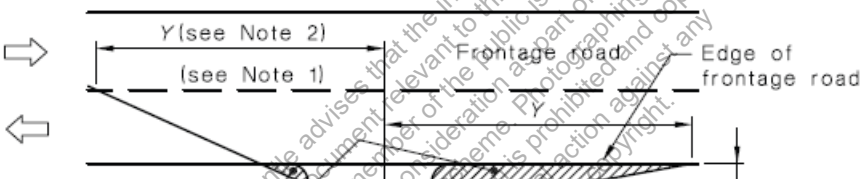
According to the City of Fremantle *Technical Specification for Crossovers*, commercial property crossovers are to be between 3m and 7.5m wide at the road or kerb edge, excluding the splays/wings. The splays/wings of the crossover shall be 1m wide and 1.5m long.

The proposed crossover is 6.5m wide which complies with the width requirements. The appropriate splay / wings should be provided during detailed design.

There is an existing pedestrian path at the proposed crossover location. The new crossover level shall match into the existing concrete footpath/verge to ensure pedestrian access is maintained.

5.2. Sight Distance

Sight distance requirements from vehicle exit points are defined in Figure 3.2 of Australian Standard AS2890.1-2004 *Parking facilities Part 1: Off street car parking* (AS2890.1) which are based on the Austroads Stopping Sight Distance (SSD) shown in **Figure 10**.



Frontage road speed (Note 4) km/h	Distance (Y) along frontage road m		
	Access driveways other than domestic (Note 5)		Domestic property access (Note 6)
	Desirable 5 s gap	Minimum SSD	
40	55	35	30
50	69	45	40
60	83	65	55
70	97	85	70
80	111	105	95
90	125	130	Use values from 2nd and 3rd columns
100	139	160	
110	153	190	

Figure 10: AS2890.1 Sight Distance Requirements

Based on a 40km/h speed limit on Elder Place, the minimum stopping sight distance is 35m. As the exit will be restricted to left turns only, sight distance is only required towards the north-east and towards the bus exit.

As shown in **Figure 11**, the required sight distance is achieved from the proposed vehicle exit.

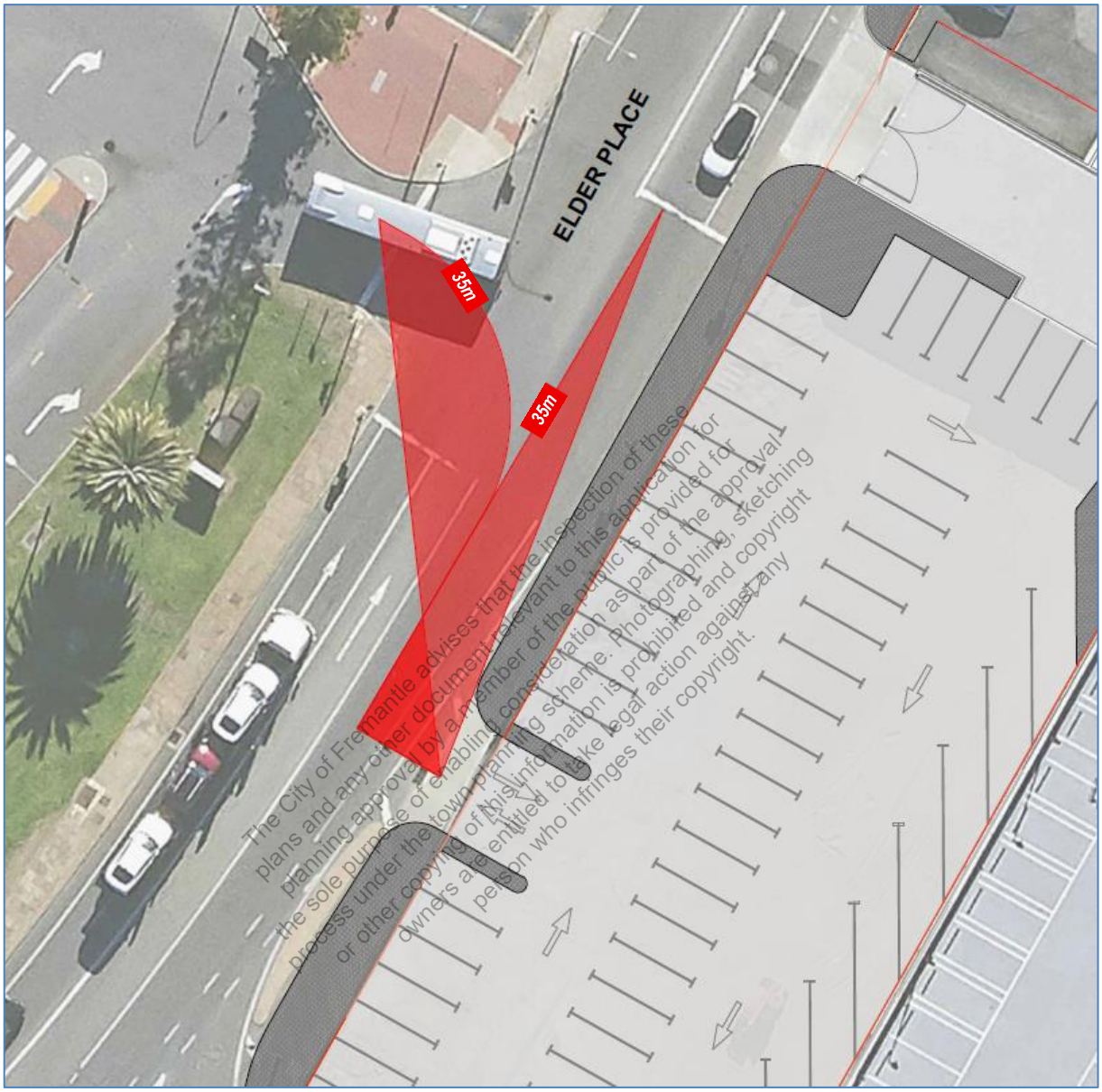


Figure 11: Sight Distance Check

5.3. Parking Design

The adopted parking layout is the result of various design iterations and the current layout was chosen to minimise conflicting movements and simplify circulation.

The proposed parking layout will need to comply with the requirements outlined in Australian Standard AS2890.1. The user class will depend on the purpose of the bay as detailed in **Figure 12**.

9 AS/NZS 2890.1:2004

TABLE 1.1

CLASSIFICATION OF OFF-STREET CAR PARKING FACILITIES

User class	Required door opening	Required aisle width	Examples of uses (Note 1)
1	Front door, first stop	Minimum for single manoeuvre entry and exit	Employee and commuter parking (generally, all-day parking)
1A	Front door, first stop	Three-point turn entry and exit into 90° parking spaces only, otherwise as for User Class 1	Residential, domestic and employee parking
2	Full opening, all doors	Minimum for single manoeuvre entry and exit	Long-term city and town centre parking, sports facilities, entertainment centres, hotels, motels, airport visitors (generally medium-term parking)
3	Full opening, all doors	Minimum for single manoeuvre entry and exit	Short-term city and town centre parking, parking stations, hospital and medical centres
3A	Full opening, all doors	Additional allowance above minimum single manoeuvre width to facilitate entry and exit	Short term, high turnover parking at shopping centres

Figure 12: Classification of Parking Facilities

As the parking will be for medium to long-term parking, User Class 2 has been applied. An assessment of the AS2890.1 parking requirements is detailed in **Table 1**.

Table 1: AS2890.1 and LPP6.7 Car Parking Compliance

Dimension	Requirement	Provided
90 degree parking – User Class 1 – Medium Term Parking		
Car Bay Width	2.5m	2.5m
Car Bay Length	5.4m	5.4m
Parking Aisle Width	5.8m	5.8m
90 degree parking – User Class 1 – Medium Term Parking		
Car Bay Width	2.3m	2.5m
Car Bay Length (C1 – High Wall)	4.4m	4.5m
Parking Aisle Width	3.0m	5.8m

As shown, all relevant parking layout dimensions are compliant with AS2890.1. A vehicle swept path analysis has

been undertaken to check vehicle manoeuvring through the car park and some of the critical bays. The analysis has been undertaken in AutoTURN vehicle tracking software using the Australian Standard B99 template which is the standard for checking vehicle access and circulating roads. The results of the analysis are attached as **Appendix A** and these demonstrate adequate manoeuvring for the B99 vehicle.

6. Pedestrian Access

There are paths / walkways along both Elder Place and Queen Street frontages of the site. The surrounding road network is well established with paths and walkways along most roads and crossing with pram ramps and median breaks at key intersections.

7. Public Transport Access

The site has excellent access to public transport as it is located directly opposite Fremantle Bus and Train Station. The demand for public transport will be negligible for a car park and so the existing public transport services are adequate.

8. Site Specific Issues and Safety Issues

8.1. Crash History

The crash history of the adjacent road network was obtained from the Main Roads WA Reporting Centre. The search included the length of Elder Place between Queens Street and Goldsbrough Street. A summary of crashes recorded over the five-year period from January 2020 to December 2024 is shown in **Figure 13**.

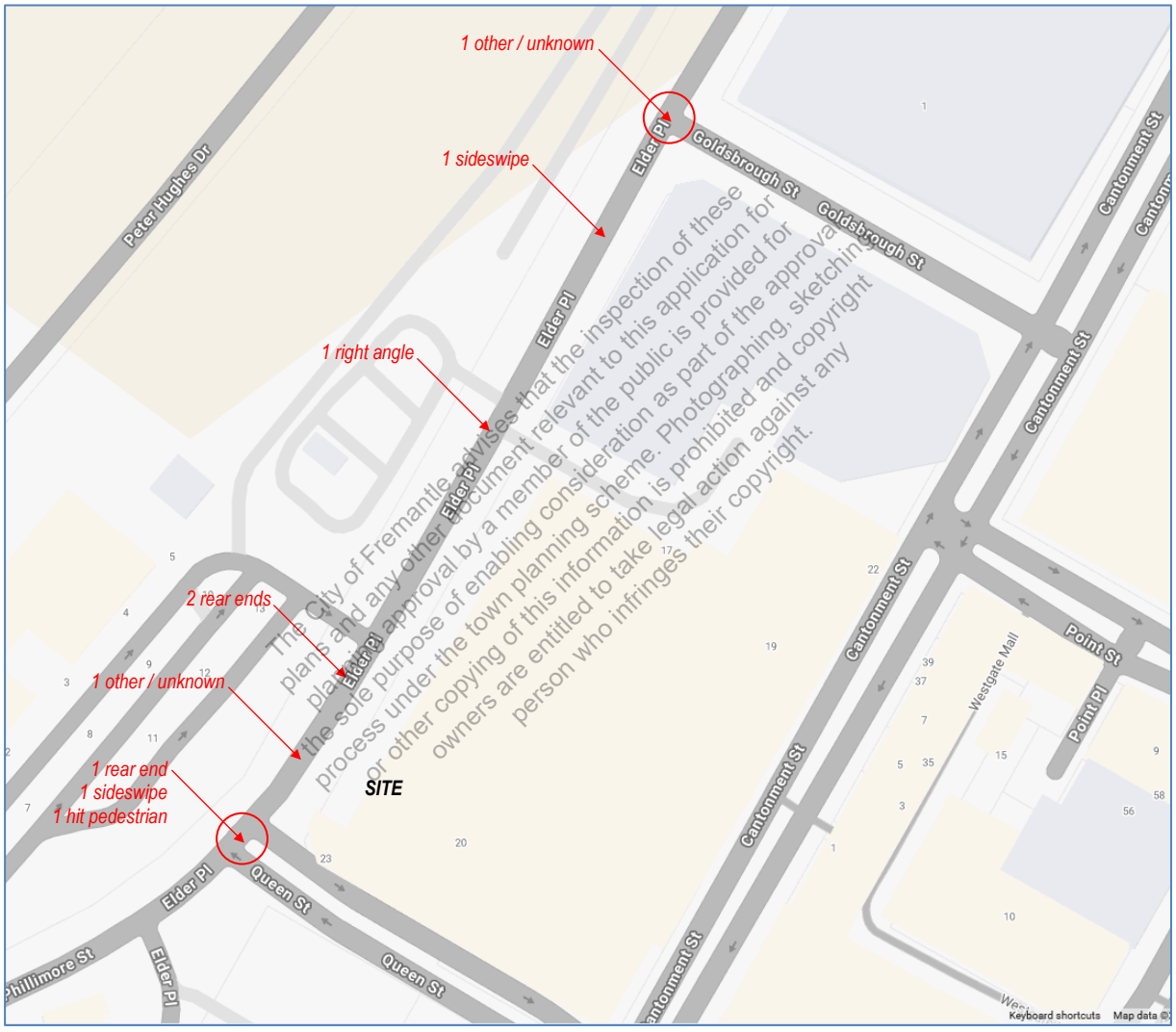


Figure 13: Crash History January 2020 to December 2024

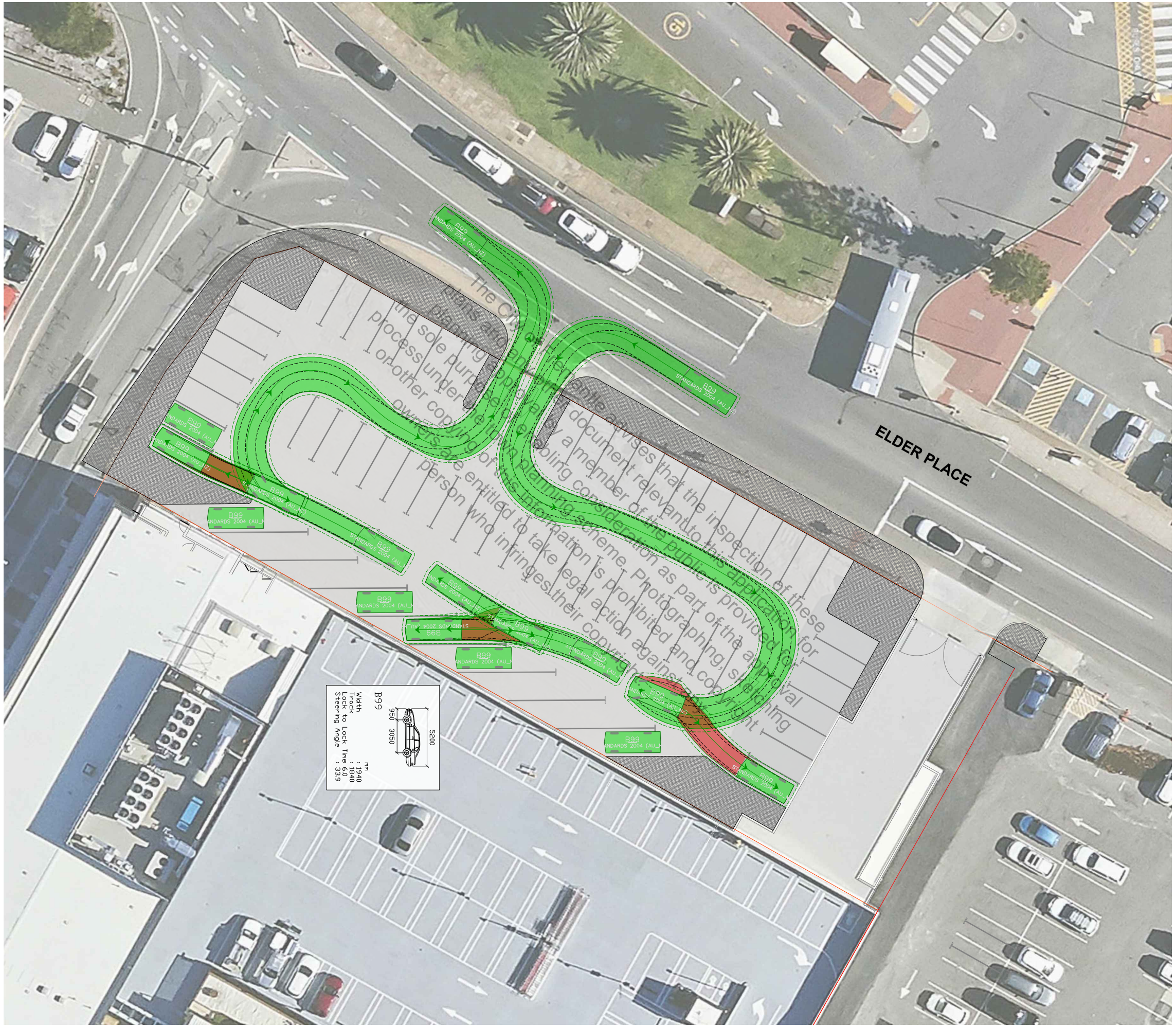
The number and type of crashes appears to be typical of the road environment and does not appear to indicate a major safety issue on the road network. The proposed car park itself will generate a low to moderate volume of additional traffic and there is no indication that the car park would increase the risk of crashes to unacceptable levels.

9. Conclusion

This Transport Impact Statement for the proposed temporary car park at 28 Cantonment Street in Fremantle concludes the following:

- As the car park will accommodate medium to long-term parking, it is assumed as a worst-case scenario that each bay would generate 1 vehicle movement during each peak hour. This would result in a total of 60 vehicle movements during the peak hours.
- This volume of traffic will have a low to moderate impact and can be accommodated within the existing capacity of the road network. As the car park is temporary, the traffic impact is also temporary and the site will eventually be redeveloped.
- Access to the car park is proposed via a single entry / exit crossover on Elder Place. Due to the location of the access and proximity to the bus station signalised access, it is recommended that the access is restricted to left turns only.
- The proposed crossover is 6m wide which complies with the width requirements. The appropriate splay / wings should be provided during detailed design.
- There is an existing pedestrian path at the proposed crossover location. The new crossover level shall match into the existing concrete footpath/verge to ensure pedestrian access is maintained.
- The required sight distance is achieved from the proposed vehicle exit.
- All key parking layout dimensions are compliant with AS2890.1. A vehicle swept path analysis demonstrates adequate manoeuvring for the B99 vehicle.
- There are paths / walkways along both Elder Place and Queen Street frontages of the site. The surrounding road network is well established with paths and walkways along most roads and crossing with pram ramps and median breaks at key intersections.
- The site has excellent access to public transport as it is located directly opposite Fremantle Bus and Train Station. The demand for public transport will be negligible for a car park and so the existing public transport services are adequate.
- The number and type of crashes appears to be typical of the road environment and does not appear to indicate a major safety issue on the road network. The proposed car park itself will generate a low to moderate volume of additional traffic and there is no indication that the car park would increase the risk of crashes to unacceptable levels.

Appendix A – Vehicle Swept Path Analysis


ELDER PLACE
B99
STANDARDS 2004 (AU_NZ)
B99
Width : 1940
Track : 1840
Lock to Lock Time : 6.0
Steering Angle : 33.9
mm
950
3050
5200