September 6, 2024

2220324

Venetin Aghostin
Senior Development Planner
Fairfield City Council
86 Avoca Road
Wakely, NSW 2176

Dear Ms Aghostin,

APPLICANT RESPONSE TO MATTERS RAISED IN COUNCIL LETTER DATED 4 JULY 2024

We thank Fairfield City Council (Council) for their thorough assessment of Development Application (DA) 260.1/2023. This letter has been prepared by Ethos Urban on behalf of TCON Constructions to provide a response to the issues raised by Council in their letter dated 26 August 2024. The DA proposes staged development of the site involving construction of:

- multi dwelling housing (MDH) containing 53 dwellings and 1 storey basement;
- a 6-storey residential flat building (RFB) containing 87 apartments at time of original lodgement, reduced to 85 apartments to address matters raised in Council's first RFI letter, with two storey basement; and
- a private internal access road, earthworks, associated landscaping communal open space and tree removal.

We note Council's first letter dated 21 December 2023, which was formally responded to in letter dated March 29, 2024, accompanied by amended drawings and reports to address the matters raised by Council. Following this, Council's second letter identifying matters in response to the revised application (with exception to traffic matters) dated 5 July 2024 was responded to on 29 July 2024, with further revised architectural plans. This letter provides a response to the matters raised by Council's Traffic and Transport section, following their review of the revised plans submitted 29 March 2024.

We note that a briefing session has been arranged by Council with the Sydney Western City Planning Panel (Panel) for 9 September 2024. We look forward to discussing the below response, as well as our previous response to Council's preliminary assessment, seeking to work with both Council and the Panel to achieve consent for a development that addresses Council and community concerns, delivering a substantial quantum of critical housing in Fairfield City, in a climate of increasing housing shortage.

Should Council wish to further discuss the response outlined below, please contact the undersigned.

Yours sincerely,

Aaron Hogan
Principal
ahogan@ethosurban.com

Jim Murray
Associate Director
jmurray@ethosurban.com

Supporting documentation

This letter should be read in conjunction with the following revised documents prepared to accompany this letter:

Appended traffic SIDRA intersection analysis.

This letter should also be read in conjunction with the following documents provided to accompany the 29 July 2024 RFI response:

*Architectural Drawings – Multi Dwelling Development prepared by Designiche (**Attachment A**);*
*Architectural Drawings – Residential Flat Building prepared by Alexsander Projects (**Attachment C**);*
*Architectural Statement - Residential Flat Building prepared by Alexsander Projects (**Attachment D**);*
*ADG Verification Statement prepared by Alexsander Projects (**Attachment E**);*
*ADG Apartment and storage schedule prepared by Alexsander Projects (**Attachment F**);*

This letter should also be read in conjunction with the following documents provided to accompany the 29 March 2024 RFI response:

*Arboricultural Impact Assessment prepared by Urban Forestry (**Attachment G**);*
*Acoustic Report prepared by Acoustic Noise and Vibration Solutions Pty Ltd (**Attachment H**);*
*Revised CGIs – includes version with transparent trees for information (**Attachment I**);*
*Ecological Issues and Assessment Report prepared by Gunninah (**Attachment J**);*
*Landscape Drawings prepared by ATC (**Attachment K**);*
*Civil Engineering Plans - Multi Housing Development prepared by Ana Civil Pty Ltd (**Attachment L**);*
*Civil Engineering Plans – Residential Flat Building prepared by Ana Civil Pty Ltd (**Attachment M**);*
*Landscape Statement prepared by ATC (**Attachment N**);*
*Amended Waste Management Plan prepared by Dickens Solutions (**Attachment O**);*
*Traffic Report prepared by Hemanote Consulting Pty Ltd (**Attachment P**);*
*Loading Dock Management Plan by Hemanote Consulting Pty Ltd (**Attachment Q**); and*
*Pedestrian and Mobility Plan by Hemanote Consulting Pty Ltd (**Attachment R**).*

Ethos Urban

Table 1 Summary of applicant response to each matter raised in Council's letter dated 5 July 2024

Topic	Council matter raised	Compliant Y/N	Applicant response
Traffic & Transport Planning Section	a) The applicant has provided updated (using revised traffic generation rates) pre and post development sidra modelling for base year 2024 and not future year 2032.	Y	• SIDRA intersections analysis and modelling has been undertaken for the future year 2034. Refer to analysis attached to this letter. The future analysis confirms that the proposed development does not directly contribute to deficiency in intersection performance. The general increase in traffic may require upgrade works, however the increase in traffic is found to occur regardless of the proposed development.
	b) The installation/alteration of regulatory signage and/or line marking on Links Avenue would require referral to Fairfield Traffic Committee for consideration. Any cost associated with the installation of signs and or line marking would be borne by the applicant at no cost to Council. It is worth noting that the extension of 'No Stopping' restrictions in Links Avenue would remove available on-street parking used by existing residents and or their visitors and justification on its merit should be made.	Y	• The proposed extension to the existing 'No Stopping' restrictions on both sides of Links Avenue, near its signalised intersection with Orange Grove Road, is required to reduce traffic congestion, queuing and improve both the current and future performance of the intersection. This addresses the findings of the SIDRA intersection analysis. • The length of the proposed 'No Stopping' restrictions on Links Avenue can be reduced, to minimise loss of on-street car parking. This is subject to further investigation during the detailed design phase of the upgrade works at the intersection (i.e. signage and lane line markings). • The proposed 'No Stopping' restrictions in Links Avenue could also be restricted to AM and PM peak traffic periods only, to further reduce loss of on-street parking to residents and visitors outside of the restricted hours. • The applicant accepts the cost of changes to line marking and signage.
	c) The applicant states 'two-way internal road is to serve as a shared pedestrian and vehicle environment. Appropriate traffic calming mechanisms are to be detailed as part of the relevant development application', the applicant has not stated why separation between vehicular and pedestrian access has not been considered and how confusion regarding priority between motorists and pedestrians may occur when there is a pedestrian crossing in the shared zone.	Y	• To improve pedestrian safety and access to the proposed development off Links Avenue, it is proposed to introduce a separate pedestrian gate and path alongside the driveway. This would require the removal of one on-site car parking space and minor adjustment to landscaping. • The proposed development has been designed to share the internal roadways between vehicles and pedestrians, as required by the SSDCP, through the introduction of a 'Shared Zone' (10km/h speed limit) with appropriate signage, line marking, lighting and traffic calming devices, as shown on the architectural plans. • The above is typical for multi-dwelling developments. Importantly, vehicular movement to and from the RFB is restricted to the eastern roadway, which provides driveway access to 7 townhouses only.

Topic	Council matter raised	Compliant Y/N	Applicant response
	d) Consideration should be given to altering the 'no parking' restriction to 'no stopping' within the internal roadway to deter vehicles from illegally parking and obstructing two-way traffic flow.	Y	• The applicant accepts introducing 'No Stopping' restrictions rather than 'No Parking' within the internal roads. This can be addressed by way of a condition of consent.
	e) From the swept paths provided it does not appear that a service vehicle (waste collection vehicle) can pass another vehicle particularly on bends where sight distance is reduced, this presents a safety issue that needs to be addressed has not been adequately addressed. How will a service vehicle pass another vehicle at the driveway or at bends without causing one vehicle to reserve.	Y	• The internal roads have been designed to allow for two passenger vehicles to pass one another, while allowing vehicle passing and waiting opportunities to give way to larger service vehicles and waste collection trucks. This is anticipated in the SSDCP, which does not provide for additional width at corners for a waste collection vehicle and car to turn the corner together (townhouses would require to be removed at each corner to facilitate this). • A combination of traffic convex mirrors, signage and line markings will also be provided to improve sight lines, to allow for passenger vehicles and trucks to give way to each other around bends. • Movement of larger service vehicles and removalist trucks can be limited by way of a strata by-law, in coordination with a booking system to regulate, minimise and manage truck movements within the site.
	f) The PAMP does not note what pedestrian facilities are adequate now but may need upgrading in the future upon occupation, in any case the applicant is upgrade any pedestrian facility that would primarily benefit and mitigate the impact of the development on traffic congestion in the area.	Y	• The PAMP will be revised to identify all existing pedestrian facilities and identify those that require an upgrade. • The applicant accepts responsibility to carry out any necessary upgrade works for pedestrian facilities.
	g) The Loading Dock Management Plan does not state how a HRV such as Waste Collection vehicle will reverse safely into the loading dock, concerns regarding vehicle and pedestrian conflict have not been adequately addressed. A warning sign may be missed particularly by visitors.	Y	• The dedicated loading dock, and its access, is anticipated in the SSDCP. • The Loading Dock Management Plan will be updated to identify all proposed measures to ensure the efficient and safe use of the dedicated loading dock. Measures can include warning lighting indicators.
	h) Whilst parking rate has been met further consideration should be made regarding increasing resident and visitor parking spaces, there is very little on-street parking available surrounding the site which may encourage residents and or their visitors to parking illegally.	Y	• Additional visitor parking is provided (14 required and 30 spaces provided). The provision of any additional car parking spaces would result in loss to landscaped area, increased loss of existing trees. • All townhouses are provided with two parking spaces, in garages, basement and on grade. Where a resident does not have two cars, the remaining parking space serves as an additional visitor parking spot for any visitors to that townhouse.
	i) The splay triangle at the driveway is to be as per AS/NZS 2890.1:2004 and shown on the plans, to ensure motorists and pedestrian have adequate sight distance at driveways and ramps to basement parking.	Y	• Sight line triangles/splays have been factored into the proposed design, and for absolute clarity can be noted on revised architectural plans, to ensure adequate sight lines in compliance with AS2890.1:2004.

Topic	Council matter raised	Compliant Y/N	Applicant response
	j) Swept paths to vehicle parking spaces in basement parking spaces 121, 107,111, 114 should be shown.	Y	• Vehicular access to these spaces has been tested and has informed the proposed design. For absolute clarity, these additional swept path diagrams will be prepared alongside revised architectural plans.

MOVEMENT SUMMARY – 7.45am – 8.45am – Future Year 2034 – Cumberland Highway / Cabramatta Road West / Orange Grove Road

Pre-Development

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Cumberland Hwy (240m)															
1	L2	All MCs	311	2.4	311	2.4	0.872	14.1	LOS A	45.1	330.5	0.99	0.95	1.06	21.8
2	T1	All MCs	1623	7.9	1623	7.9	*0.872	56.6	LOS E[11]	45.1	330.5	0.99	0.96	1.08	31.2
3	R2	All MCs	241	0.9	241	0.9	*1.306	362.0	LOS F[11]	37.0	261.0	1.00	1.57	2.66	6.8
Approach			2175	6.3	2175	6.3	1.306	84.4	LOS F[11]	45.1	330.5	0.99	1.03	1.25	21.3
East: Cabramatta Rd W (500m)															
4	L2	All MCs	274	5.1	274	5.1	0.289	19.1	LOS B	9.1	66.4	0.55	0.72	0.55	37.3
5	T1	All MCs	642	4.5	642	4.5	0.678	51.1	LOS D	19.8	144.1	0.96	0.83	0.96	27.7
6	R2	All MCs	114	2.2	114	2.2	0.725	77.3	LOS F[11]	8.0	57.4	1.00	0.86	1.11	26.7
Approach			1029	4.4	1029	4.4	0.725	45.5	LOS D	19.8	144.1	0.86	0.80	0.87	29.0
North: Cumberland Hwy (500m)															
7	L2	All MCs	64	7.8	64	7.8	0.719	26.9	LOS B	29.2	221.6	0.90	0.89	0.90	35.2
8	T1	All MCs	1504	10.0	1504	10.0	0.719	41.3	LOS C	29.6	225.0	0.91	0.84	0.91	28.1
9	R2	All MCs	165	3.8	165	3.8	0.915	89.9	LOS F[11]	13.0	94.3	1.00	1.00	1.37	19.9
Approach			1734	9.3	1734	9.3	0.915	45.4	LOS D	29.6	225.0	0.91	0.85	0.95	27.1
West: Cabramatta Rd W (500m)															
10	L2	All MCs	68	7.4	69	7.4	1.183	253.0	LOS F[11]	81.3	583.0	1.00	1.89	2.26	8.8
11	T1	All MCs	1016	2.2	1034	2.2	*1.183	283.8	LOS F[11]	81.3	583.0	1.00	1.91	2.27	8.8
12	R2	All MCs	325	4.7	325	4.7	*1.054	158.0	LOS F[11]	16.3	118.8	1.00	1.23	1.79	5.0
Approach			1408	3.0	1428	3.0	1.183	253.7	LOS F[11]	81.3	583.0	1.00	1.75	2.16	8.0
All Vehicles			6347	6.1	6367	6.1	1.306	104.9	LOS F[11]	81.3	583.0	0.95	1.10	1.31	17.1

Post-Development

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Cumberland Hwy (240m)															
1	L2	All MCs	320	2.4	320	2.4	0.883	15.6	LOS B	46.8	342.2	1.00	0.96	1.09	21.3
2	T1	All MCs	1637	7.8	1637	7.8	*0.883	58.7	LOS E[11]	46.8	342.2	1.00	0.98	1.10	30.6
3	R2	All MCs	264	0.8	264	0.8	*1.429	470.9	LOS F[11]	46.1	324.8	1.00	1.74	3.04	5.4
Approach			2220	6.2	2220	6.2	1.429	101.5	LOS F[11]	46.8	342.2	1.00	1.07	1.33	18.6
East: Cabramatta Rd W (500m)															
4	L2	All MCs	280	5.0	280	5.0	0.296	19.2	LOS B	9.4	68.4	0.56	0.72	0.56	37.2
5	T1	All MCs	642	4.5	642	4.5	0.678	51.1	LOS D	19.8	144.1	0.96	0.83	0.96	27.7
6	R2	All MCs	114	2.2	114	2.2	0.725	77.3	LOS F[11]	8.0	57.4	1.00	0.86	1.11	26.7
Approach			1036	4.4	1036	4.4	0.725	45.4	LOS D	19.8	144.1	0.86	0.80	0.87	29.0
North: Cumberland Hwy (500m)															
7	L2	All MCs	64	7.8	64	7.8	0.720	27.0	LOS B	29.3	222.4	0.90	0.89	0.90	35.2
8	T1	All MCs	1508	10.0	1508	10.0	0.720	41.4	LOS C	29.7	225.8	0.91	0.84	0.91	28.1
9	R2	All MCs	165	3.8	165	3.8	0.915	89.9	LOS F[11]	13.0	94.3	1.00	1.00	1.37	19.9
Approach			1738	9.3	1738	9.3	0.915	45.5	LOS D	29.7	225.8	0.92	0.85	0.95	27.1
West: Cabramatta Rd W (500m)															
10	L2	All MCs	68	7.4	69	7.4	1.183	253.2	LOS F[11]	81.3	583.3	1.00	1.89	2.26	8.8
11	T1	All MCs	1016	2.2	1034	2.2	*1.183	284.0	LOS F[11]	81.3	583.3	1.00	1.91	2.27	8.8
12	R2	All MCs	327	4.6	327	4.6	*1.062	163.7	LOS F[11]	16.7	121.6	1.00	1.24	1.82	4.9
Approach			1411	3.0	1431	3.0	1.183	255.0	LOS F[11]	81.3	583.3	1.00	1.75	2.16	8.0
All Vehicles			6405	6.0	6425	6.0	1.429	110.9	LOS F[11]	81.3	583.3	0.95	1.12	1.34	16.3

MOVEMENT SUMMARY – 7.45am – 8.45am – Future Year 2034 – Orange Grove Road / Links Avenue / Golf Club Access

Pre-Development

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Cumberland Hwy (670m)															
1	L2	All MCs	8	16.7	8	16.7	0.538	13.4	LOS A	13.3	97.6	0.43	0.40	0.43	52.0
2	T1	All MCs	1503	5.8	1503	5.8	*0.538	7.0	LOS A	13.8	101.5	0.43	0.40	0.43	58.3
3	R2	All MCs	1	0.0	1	0.0	0.016	77.8	LOS F[11]	0.1	0.6	0.98	0.60	0.98	26.8
Approach			1511	5.8	1511	5.8	0.538	7.1	LOS A	13.8	101.5	0.43	0.40	0.43	58.2
East: Links Ave (360m)															
4	L2	All MCs	11	0.0	11	0.0	0.490	66.6	LOS E[11]	4.0	29.0	1.00	0.77	1.00	13.5
5	T1	All MCs	1	0.0	1	0.0	*0.490	71.2	LOS F[11]	4.0	29.0	1.00	0.77	1.00	18.1
6	R2	All MCs	45	5.6	45	5.6	0.490	75.8	LOS F[11]	4.0	29.0	1.00	0.77	1.00	13.5
Approach			58	4.3	58	4.3	0.490	73.9	LOS F[11]	4.0	29.0	1.00	0.77	1.00	13.7
North: Cumberland Hwy (240m)															
7	L2	All MCs	18	14.3	18	14.3	0.157	11.5	LOS A	3.9	29.3	0.29	0.28	0.29	47.8
8	T1	All MCs	525	8.1	520	8.2	0.157	4.8	LOS A	3.9	29.3	0.29	0.26	0.29	50.9
9	R2	All MCs	1	0.0	1	0.0	*0.016	77.7	LOS F[11]	0.1	0.6	0.98	0.59	0.98	15.4
Approach			543	8.3	539	8.3	0.157	5.2	LOS A	3.9	29.3	0.29	0.26	0.29	50.2
West: Parking Access (200m)															
10	L2	All MCs	1	0.0	1	0.0	0.000	148.5	LOS F[11]	0.4	3.3	NaN	NaN	NaN	NaN
11	T1	All MCs	1	0.0	1	0.0	0.000	166.3	LOS F[11]	0.4	3.3	NaN	NaN	NaN	NaN
12	R2	All MCs	1	100.0	1	100.0	0.000	175.7	LOS F[11]	0.4	3.3	NaN	NaN	NaN	NaN
Approach			4	33.3	4	33.3	0.000	163.5	LOS F[11]	0.4	3.3	NaN	NaN	NaN	NaN
All Vehicles			2117	6.5	2112	6.5	0.538	8.7	LOS A	13.8	101.5	NaN	NaN	NaN	NaN

Post-Development

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Cumberland Hwy (670m)															
1	L2	All MCs	8	16.7	8	16.7	0.570	14.4	LOS A	14.5	106.6	0.47	0.44	0.47	51.2
2	T1	All MCs	1503	5.8	1503	5.8	*0.570	8.0	LOS A	15.2	111.9	0.47	0.43	0.47	56.9
3	R2	All MCs	4	0.0	4	0.0	0.050	79.3	LOS F[11]	0.3	1.8	0.98	0.63	0.98	26.3
Approach			1514	5.8	1514	5.8	0.570	8.2	LOS A	15.2	111.9	0.47	0.43	0.47	56.6
East: Links Ave (360m)															
4	L2	All MCs	23	0.0	23	0.0	*1.014	122.5	LOS F[11]	11.3	80.6	1.00	1.19	1.72	8.8
5	T1	All MCs	1	0.0	1	0.0	1.014	127.2	LOS F[11]	11.3	80.6	1.00	1.19	1.72	12.3
6	R2	All MCs	91	2.8	91	2.8	1.014	132.3	LOS F[11]	11.3	80.6	1.00	1.19	1.72	8.8
Approach			115	2.2	115	2.2	1.014	130.3	LOS F[11]	11.3	80.6	1.00	1.19	1.72	8.9
North: Cumberland Hwy (240m)															
7	L2	All MCs	30	8.3	30	8.4	0.164	11.5	LOS A	4.3	32.1	0.30	0.32	0.30	48.7
8	T1	All MCs	525	8.1	520	8.2	0.164	5.3	LOS A	4.3	32.1	0.30	0.28	0.30	49.0
9	R2	All MCs	1	0.0	1	0.0	0.016	78.8	LOS F[11]	0.1	0.6	0.98	0.59	0.98	15.3
Approach			556	8.1	551	8.2	0.164	5.8	LOS A	4.3	32.1	0.30	0.28	0.30	48.6
West: Parking Access (200m)															
10	L2	All MCs	1	0.0	1	0.0	0.032	61.0	LOS E[11]	0.2	2.2	0.92	0.63	0.92	9.7
11	T1	All MCs	1	0.0	1	0.0	0.032	65.3	LOS E[11]	0.2	2.2	0.92	0.63	0.92	19.3
12	R2	All MCs	1	100.0	1	100.0	0.032	74.1	LOS F[11]	0.2	2.2	0.92	0.63	0.92	9.7
Approach			4	33.3	4	33.3	0.032	66.8	LOS E[11]	0.2	2.2	0.92	0.63	0.92	13.5
All Vehicles			2189	6.3	2184	6.3	1.014	14.2	LOS A	15.2	111.9	0.46	0.43	0.49	46.5

MOVEMENT SUMMARY – 7.45am – 8.45am – Future Year 2034 – Orange Grove Road / Viscount Place

Pre-Development

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Orange Grove Road															
2	T1	All MCs	2921	6.1	2921	6.1	0.912	8.6	LOS A	63.9	470.2	0.71	0.64	0.71	42.5
3	R2	All MCs	199	1.7	199	1.7	*0.956	101.8	LOS F[11]	8.3	58.8	1.00	1.04	1.55	18.6
Approach			3120	5.8	3120	5.8	0.956	14.5	LOS B	63.9	470.2	0.73	0.67	0.76	33.1
East: Viscount Place															
4	L2	All MCs	92	3.5	92	3.5	0.339	63.8	LOS E[11]	5.7	41.2	0.94	0.78	0.94	24.4
6	R2	All MCs	176	3.7	176	3.7	*0.984	109.5	LOS F[11]	7.7	55.5	1.00	1.06	1.65	13.4
Approach			268	3.6	268	3.6	0.984	93.8	LOS F[11]	7.7	55.5	0.98	0.96	1.41	16.6
North: Orange Grove Road															
7	L2	All MCs	340	1.0	339	1.0	0.216	17.3	LOS B	3.9	27.8	0.19	0.63	0.19	52.5
8	T1	All MCs	2582	9.2	2578	9.2	*1.000	61.4	LOS E[11]	123.7	933.9	1.00	1.20	1.25	29.8
Approach			2922	8.2	2918	8.2	1.000	56.3	LOS D[11]	123.7	933.9	0.91	1.13	1.13	30.4
All Vehicles			6311	6.8	6307	6.8	1.000	37.2	LOS C	123.7	933.9	0.82	0.90	0.96	29.9

Post-Development

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Orange Grove Road															
2	T1	All MCs	2923	6.1	2923	6.1	0.913	8.7	LOS A	64.1	472.1	0.71	0.65	0.71	42.3
3	R2	All MCs	199	1.7	199	1.7	*0.956	101.8	LOS F[11]	8.3	58.8	1.00	1.04	1.55	18.6
Approach			3123	5.8	3123	5.8	0.956	14.6	LOS B	64.1	472.1	0.73	0.67	0.76	33.0
East: Viscount Place															
4	L2	All MCs	92	3.5	92	3.5	0.339	63.8	LOS E[11]	5.7	41.2	0.94	0.78	0.94	24.4
6	R2	All MCs	176	3.7	176	3.7	*0.984	109.5	LOS F[11]	7.7	55.5	1.00	1.06	1.65	13.4
Approach			268	3.6	268	3.6	0.984	93.8	LOS F[11]	7.7	55.5	0.98	0.96	1.41	16.6
North: Orange Grove Road															
7	L2	All MCs	340	1.0	339	1.0	0.216	17.4	LOS B	3.9	27.8	0.19	0.63	0.19	52.5
8	T1	All MCs	2593	9.1	2589	9.1	*1.003	63.4	LOS E[11]	125.1	944.7	1.00	1.21	1.27	29.3
Approach			2933	8.2	2928	8.2	1.003	58.1	LOS E[11]	125.1	944.7	0.91	1.14	1.14	29.9
All Vehicles			6325	6.8	6320	6.8	1.003	38.1	LOS C	125.1	944.7	0.82	0.90	0.97	29.6

MOVEMENT SUMMARY – 4.30pm – 5.30pm – Future Year 2034 – Cumberland Highway / Cabramatta Road West / Orange Grove Road

Pre-Development

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV %]	Arrival Flows [Total veh/h	HV %]	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Cumberland Hwy (240m)															
1	L2	All MCs	768	3.3	768	3.3	1.193	198.0	LOS F[11]	54.2	391.7	1.00	1.59	2.14	6.4
2	T1	All MCs	1542	5.7	1542	5.7	*1.193	265.4	LOS F[11]	54.2	391.7	1.00	1.82	2.16	9.9
3	R2	All MCs	379	0.7	379	0.7	*1.154	235.3	LOS F[11]	46.6	328.2	1.00	1.37	2.07	10.2
Approach			2689	4.3	2689	4.3	1.193	241.9	LOS F[11]	54.2	391.7	1.00	1.69	2.14	8.8
East: Cabramatta Rd W (500m)															
4	L2	All MCs	289	1.7	289	1.7	0.267	27.0	LOS B	8.5	60.1	0.49	0.70	0.49	39.4
5	T1	All MCs	1123	2.4	1123	2.4	*1.163	229.6	LOS F[11]	70.6	504.2	1.00	1.79	2.06	10.0
6	R2	All MCs	109	2.3	109	2.3	0.701	88.0	LOS F[11]	7.6	54.6	1.00	0.85	1.09	26.9
Approach			1521	2.2	1521	2.2	1.163	180.9	LOS F[11]	70.6	504.2	0.90	1.51	1.70	11.4
North: Cumberland Hwy (500m)															
7	L2	All MCs	65	6.3	65	6.3	0.788	36.6	LOS C	29.0	211.1	0.97	0.97	1.00	31.6
8	T1	All MCs	1327	4.4	1327	4.4	0.788	52.8	LOS D	29.1	211.3	0.98	0.91	1.01	24.1
9	R2	All MCs	351	2.0	351	2.0	1.078	163.1	LOS F[11]	37.5	267.0	1.00	1.24	1.78	12.8
Approach			1742	4.0	1742	4.0	1.078	74.4	LOS F[11]	37.5	267.0	0.98	0.98	1.16	20.0
West: Cabramatta Rd W (500m)															
10	L2	All MCs	112	2.2	112	2.2	1.012	87.9	LOS F[11]	47.9	342.7	1.00	1.29	1.48	17.3
11	T1	All MCs	859	2.5	859	2.5	1.012	117.0	LOS F[11]	47.9	342.7	1.00	1.31	1.48	17.3
12	R2	All MCs	245	2.6	245	2.6	*0.792	85.4	LOS F[11]	8.9	63.6	1.00	0.91	1.18	8.8
Approach			1216	2.5	1216	2.5	1.012	107.9	LOS F[11]	47.9	342.7	1.00	1.22	1.42	15.5
All Vehicles			7169	3.5	7169	3.5	1.193	165.5	LOS F[11]	70.6	504.2	0.98	1.40	1.69	11.7

Post-Development

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV %]	Arrival Flows [Total veh/h	HV %]	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Cumberland Hwy (240m)															
1	L2	All MCs	771	3.3	771	3.3	1.196	200.5	LOS F[11]	54.2	391.7	1.00	1.59	2.15	6.4
2	T1	All MCs	1546	5.7	1546	5.7	*1.196	268.0	LOS F[11]	54.2	391.7	1.00	1.83	2.18	9.8
3	R2	All MCs	385	0.7	385	0.7	*1.173	251.5	LOS F[11]	49.0	344.7	1.00	1.40	2.14	9.7
Approach			2702	4.3	2702	4.3	1.196	246.4	LOS F[11]	54.2	391.7	1.00	1.70	2.16	8.7
East: Cabramatta Rd W (500m)															
4	L2	All MCs	313	1.6	313	1.6	0.291	27.6	LOS B	9.5	67.7	0.51	0.70	0.51	38.8
5	T1	All MCs	1123	2.4	1123	2.4	*1.163	229.9	LOS F[11]	70.7	504.7	1.00	1.79	2.07	10.0
6	R2	All MCs	109	2.3	109	2.3	0.701	88.0	LOS F[11]	7.6	54.6	1.00	0.85	1.09	26.9
Approach			1545	2.2	1545	2.2	1.163	178.9	LOS F[11]	70.7	504.7	0.90	1.50	1.68	11.5
North: Cumberland Hwy (500m)															
7	L2	All MCs	65	6.3	65	6.3	0.796	37.1	LOS C	29.6	215.1	0.97	0.98	1.01	31.4
8	T1	All MCs	1341	4.4	1341	4.4	0.796	53.3	LOS D	29.6	215.1	0.98	0.92	1.01	23.9
9	R2	All MCs	351	2.0	351	2.0	1.078	163.1	LOS F[11]	37.5	267.0	1.00	1.24	1.78	12.8
Approach			1756	4.0	1756	4.0	1.078	74.7	LOS F[11]	37.5	267.0	0.98	0.99	1.17	19.9
West: Cabramatta Rd W (500m)															
10	L2	All MCs	112	2.2	112	2.2	1.013	88.4	LOS F[11]	48.1	343.4	1.00	1.29	1.48	17.2
11	T1	All MCs	859	2.5	859	2.5	1.013	117.5	LOS F[11]	48.1	343.4	1.00	1.31	1.49	17.2
12	R2	All MCs	255	2.5	255	2.5	*0.824	86.9	LOS F[11]	9.4	67.1	1.00	0.93	1.23	8.6
Approach			1227	2.5	1227	2.5	1.013	108.4	LOS F[11]	48.1	343.4	1.00	1.23	1.43	15.4
All Vehicles			7229	3.5	7229	3.5	1.196	166.8	LOS F[11]	70.7	504.7	0.97	1.40	1.69	11.6

MOVEMENT SUMMARY – 4.30pm – 5.30pm – Future Year 2034 – Orange Grove Road / Links Avenue / Golf Club Access

Pre-Development

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Cumberland Hwy (670m)															
1	L2	All MCs	6	20.0	6	20.0	0.952	60.1	LOS E[11]	68.0	488.6	0.95	1.08	1.21	29.3
2	T1	All MCs	1971	2.9	1971	2.9	*0.952	53.8	LOS D	68.0	488.6	0.95	1.08	1.21	27.6
3	R2	All MCs	10	0.0	10	0.0	*0.132	79.9	LOS F[11]	0.7	4.9	0.99	0.67	0.99	26.4
Approach			1987	3.0	1987	3.0	0.952	54.0	LOS D	68.0	488.6	0.95	1.08	1.21	27.6
East: Links Ave (360m)															
4	L2	All MCs	11	0.0	11	0.0	0.456	64.2	LOS E[11]	2.9	21.2	0.98	0.76	0.98	13.7
5	T1	All MCs	1	0.0	1	0.0	*0.456	68.7	LOS E[11]	2.9	21.2	0.98	0.76	0.98	18.3
6	R2	All MCs	30	7.1	30	7.1	0.456	75.4	LOS F[11]	2.9	21.2	0.98	0.76	0.98	13.7
Approach			42	5.1	42	5.1	0.456	72.3	LOS F[11]	2.9	21.2	0.98	0.76	0.98	13.9
North: Cumberland Hwy (240m)															
7	L2	All MCs	27	0.0	27	0.0	0.134	11.9	LOS A	3.5	25.3	0.30	0.31	0.30	47.1
8	T1	All MCs	547	3.9	547	3.9	0.134	5.2	LOS A	3.5	25.5	0.30	0.27	0.30	49.5
9	R2	All MCs	10	0.0	10	0.0	0.127	79.6	LOS F[11]	0.7	4.9	0.99	0.67	0.99	15.1
Approach			584	3.6	584	3.6	0.134	6.8	LOS A	3.5	25.5	0.31	0.28	0.31	46.1
West: Parking Access (200m)															
10	L2	All MCs	23	11.1	23	11.1	0.272	62.1	LOS E[11]	2.4	17.5	0.94	0.75	0.94	9.7
11	T1	All MCs	1	0.0	1	0.0	0.272	66.4	LOS E[11]	2.4	17.5	0.94	0.75	0.94	19.4
12	R2	All MCs	13	0.0	13	0.0	0.272	71.9	LOS F[11]	2.4	17.5	0.94	0.75	0.94	9.7
Approach			37	6.9	37	6.9	0.272	65.7	LOS E[11]	2.4	17.5	0.94	0.75	0.94	10.1
All Vehicles			2649	3.2	2649	3.2	0.952	44.0	LOS D	68.0	488.6	0.81	0.89	1.01	28.2

Post-Development

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Cumberland Hwy (670m)															
1	L2	All MCs	6	20.0	6	20.0	0.941	53.9	LOS D	68.9	495.1	0.92	1.02	1.15	31.1
2	T1	All MCs	1971	2.9	1971	2.9	*0.941	47.7	LOS D	68.9	495.1	0.92	1.03	1.15	29.6
3	R2	All MCs	23	0.0	23	0.0	*0.292	79.5	LOS F[11]	1.6	11.1	1.00	0.71	1.00	26.3
Approach			2000	3.0	2000	3.0	0.941	48.1	LOS D	68.9	495.1	0.92	1.02	1.15	29.5
East: Links Ave (360m)															
4	L2	All MCs	13	0.0	13	0.0	0.729	70.6	LOS F[11]	4.2	30.6	1.00	0.89	1.22	13.0
5	T1	All MCs	1	0.0	1	0.0	*0.729	75.3	LOS F[11]	4.2	30.6	1.00	0.89	1.22	17.4
6	R2	All MCs	43	5.0	43	5.0	0.729	82.5	LOS F[11]	4.2	30.6	1.00	0.89	1.22	13.0
Approach			57	3.8	57	3.8	0.729	79.6	LOS F[11]	4.2	30.6	1.00	0.89	1.22	13.1
North: Cumberland Hwy (240m)															
7	L2	All MCs	75	0.0	75	0.0	0.144	10.7	LOS A	3.6	25.8	0.29	0.40	0.29	48.3
8	T1	All MCs	547	3.9	547	3.9	0.144	4.7	LOS A	3.6	26.3	0.29	0.28	0.29	49.7
9	R2	All MCs	10	0.0	10	0.0	0.125	78.5	LOS F[11]	0.7	4.8	0.99	0.67	0.99	15.3
Approach			632	3.3	632	3.3	0.144	6.6	LOS A	3.6	26.3	0.30	0.30	0.30	46.8
West: Parking Access (200m)															
10	L2	All MCs	23	11.1	23	11.1	0.302	63.4	LOS E[11]	2.4	17.7	0.95	0.75	0.95	9.5
11	T1	All MCs	1	0.0	1	0.0	0.302	67.8	LOS E[11]	2.4	17.7	0.95	0.75	0.95	19.2
12	R2	All MCs	13	0.0	13	0.0	0.302	73.4	LOS F[11]	2.4	17.7	0.95	0.75	0.95	9.5
Approach			37	6.9	37	6.9	0.302	67.0	LOS E[11]	2.4	17.7	0.95	0.75	0.95	10.0
All Vehicles			2725	3.1	2725	3.1	0.941	39.4	LOS C	68.9	495.1	0.78	0.85	0.95	30.0

MOVEMENT SUMMARY – 4.30pm – 5.30pm – Future Year 2034 – Orange Grove Road / Viscount Place

Pre-Development

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Orange Grove Road															
2	T1	All MCs	676	4.7	676	4.7	0.354	13.0	LOS A	8.0	58.2	0.65	0.56	0.65	33.2
3	R2	All MCs	696	2.6	696	2.6	0.808	41.8	LOS C	14.4	102.8	1.00	0.93	1.18	30.6
Approach			1372	3.7	1372	3.7	0.808	27.6	LOS B	14.4	102.8	0.83	0.75	0.92	31.2
East: Viscount Place															
4	L2	All MCs	889	1.7	889	1.7	*0.895	36.5	LOS C	37.6	267.4	0.90	0.97	1.10	34.3
6	R2	All MCs	920	1.9	920	1.9	0.808	38.4	LOS C	20.1	143.4	0.97	0.93	1.11	27.9
Approach			1809	1.8	1809	1.8	0.895	37.5	LOS C	37.6	267.4	0.94	0.95	1.11	29.8
North: Orange Grove Road															
7	L2	All MCs	536	1.0	536	1.0	0.478	14.6	LOS B	11.4	80.5	0.59	0.76	0.59	48.2
8	T1	All MCs	639	4.6	639	4.6	*0.893	45.7	LOS D[11]	14.8	107.9	1.00	1.09	1.38	33.1
Approach			1175	3.0	1175	3.0	0.893	31.5	LOS C	14.8	107.9	0.81	0.94	1.02	39.5
All Vehicles			4356	2.7	4356	2.7	0.895	32.8	LOS C	37.6	267.4	0.87	0.88	1.02	33.4

Post-Development

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Orange Grove Road															
2	T1	All MCs	689	4.6	689	4.6	0.360	13.1	LOS A	8.2	59.5	0.65	0.56	0.65	33.1
3	R2	All MCs	696	2.6	696	2.6	0.808	41.8	LOS C	14.4	102.8	1.00	0.93	1.18	30.6
Approach			1385	3.6	1385	3.6	0.808	27.5	LOS B	14.4	102.8	0.83	0.75	0.92	31.2
East: Viscount Place															
4	L2	All MCs	889	1.7	889	1.7	*0.895	36.5	LOS C	37.6	267.4	0.90	0.97	1.10	34.3
6	R2	All MCs	920	1.9	920	1.9	0.808	38.4	LOS C	20.1	143.4	0.97	0.93	1.11	27.9
Approach			1809	1.8	1809	1.8	0.895	37.5	LOS C	37.6	267.4	0.94	0.95	1.11	29.8
North: Orange Grove Road															
7	L2	All MCs	536	1.0	536	1.0	0.478	14.6	LOS B	11.4	80.5	0.59	0.76	0.59	48.2
8	T1	All MCs	642	4.6	642	4.6	*0.896	46.1	LOS D[11]	15.0	108.9	1.00	1.09	1.39	33.0
Approach			1178	3.0	1178	3.0	0.896	31.8	LOS C	15.0	108.9	0.81	0.94	1.03	39.4
All Vehicles			4371	2.7	4371	2.7	0.896	32.8	LOS C	37.6	267.4	0.87	0.88	1.02	33.4