MU GROUP
TRANSPORT AND INFRASTRUCTURE

MU GROUP CONSULTING

TECHNICAL NOTE

Huntingwood Logistics Estate

Augusta Street, Huntingwood

Issue: April 2024

Ref: P22_05_LOGOS_HWDA_FSD

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Report Control Form

Revision History

Revision	Date	Prepared by	Reviewed by	Approval for issue by
1	30/04/2024	Sula Jayawickrama	Amy Pavlovic	Amy Pavlovic

HUNTINGWOOD LOGISTICS ESTATE

MU Group Consulting has been engaged by LOGOS Property to provide design and WAD management services to support the development of the Huntingwood Logistics Estate. LOGOS Property is developing the site at Augusta Street, Huntingwood for warehouse distribution and office facilities. The proposed development is classified as a State Significant Development by the NSW Department of Planning Industry and Environment.

MU Group have developed a preliminary concept design package that has been submitted to TfNSW in early March 2024 and subsequently received RtS comments late April 2024.

Item 11 of these comments relates to provision of adequate sight distances for the approach to the traffic signal lanterns on the proposed southern leg of the intersection of Prospect Highway ramp and Great Western Highway. See below TfNSW comment.

TfNSW is concerned that the driver's sight lines for the approach to the traffic signal lanterns on the proposed southern leg may be restricted, due to the unnecessary horizontal curve on the egress within the site. Sight distance assessment should be provided to prove that the required sight distance to the traffic signal lanterns or sight lines to the stop line/queued vehicles can be achieved.

MU Groups' response to this item is outlined below.

The proposed design layout satisfies the required Approach Sight Distance (ASD) in accordance with Table 3.1 and Section 3.2.1 of the Austroads Guide to Road Design Part 4A Ed3.1. It is noted that;

- The approach speed from the LOGOS development site to Great Western Highway is less than 20km/h. The turning speed of B-Doubles is limited to 5km/h for the tight radius.
- Assuming a design speed of 40km/h (this is the lowest design speed given), and a reaction time of 2.0 seconds (worst case scenario), an ASD of 40m is required (refer table 3.1 of AGRD below); this is very conservative.
- The grade correction required for this approach is negligible.
- No obstruction will be made within the visibility envelope.

Design speed (km/h)	Based on approach sight distance for a car[1] $h_1 = 1.1$, $h_2 = 0$, $d = 0.36$[2]					
	$R_T = 1.5$ sec[3]		$R_T = 2.0$ sec		$R_T = 2.5$ sec	
	ASD (m)	K	ASD (m)	K	ASD (m)	K
40	34	5.3	40	7.2	–	–
50	48	10.5	55	13.8	–	–
60	64	18.8	73	24.0	–	–
70	83	31.1	92	38.9	–	–
80	103	48.5	114	59.5	–	–
90	126	72.3	139	87.3	151	104
100	151	104	165	124	179	146
110	–	–	193	171	209	198
120	–	–	224	229	241	264
130	–	–	257	301	275	344
Truck stopping capability provided by the minimum crest curve size[4]	$h_1 = 2.4$ m, $h_2 = 0$ m, $d = 0.22$					

Figure 1: Table 3.1 of AGRD Part 4A Ed 3.1

Furthermore, as per the Traffic Signal Design Guide Section 5, Geometry, Section 5.2, Sight distance requirements, the Stopping Sight Distance is the minimum to achieve to:

- Primary, overhead primary, or dual primary lanterns (as applicable)
- The rear end of a stored vehicle or stationery queue.

Therefore, it is noted, ASD (Approach Sight Distance) = SSD (Stopping Sight Distance) = 40m and this is in compliance with Austroads Design guidelines.

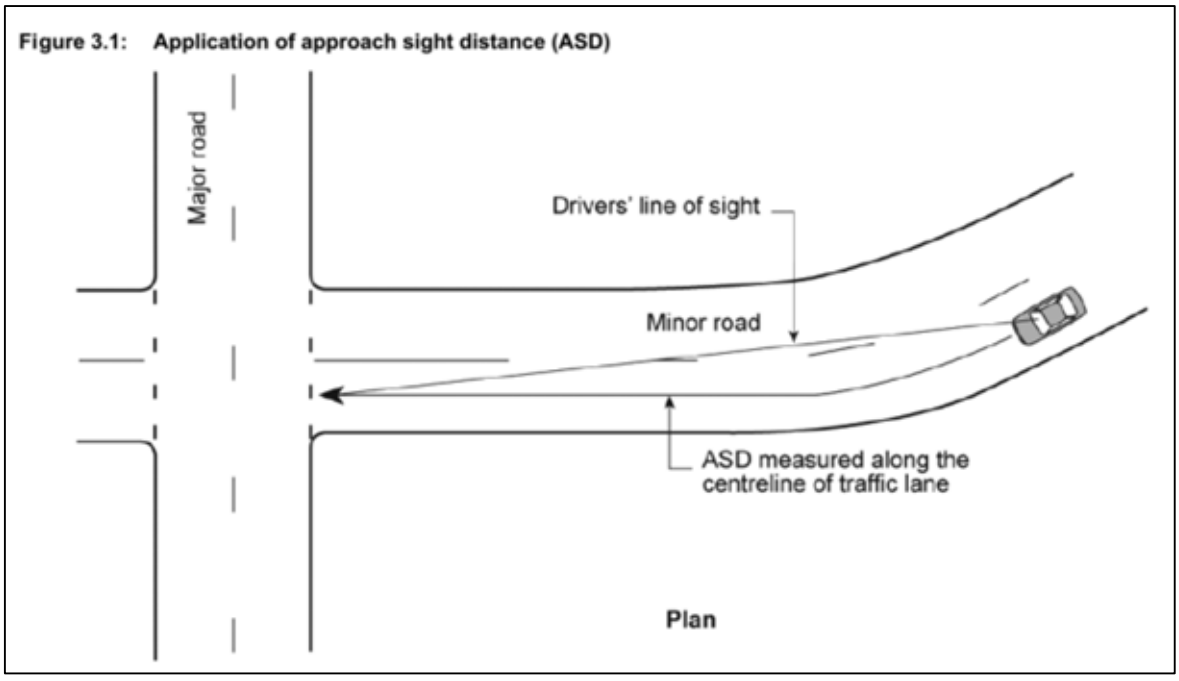

Figure 2: Figure 3.1 of ARGD Part 4A Ed 3.1