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Safe System Assessments

Towards Zero in action



ROAD SAFETY

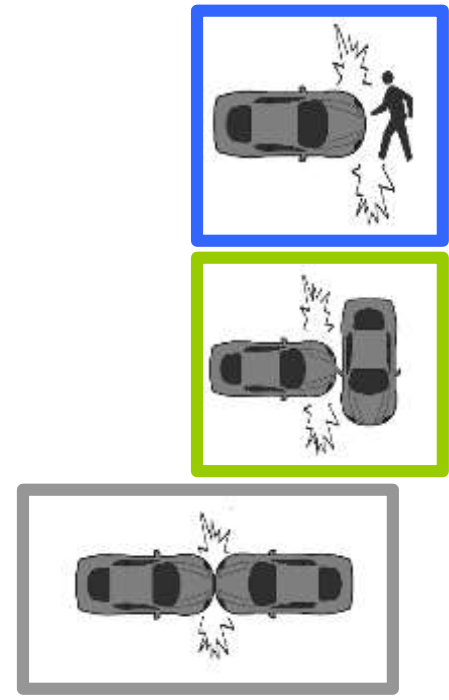
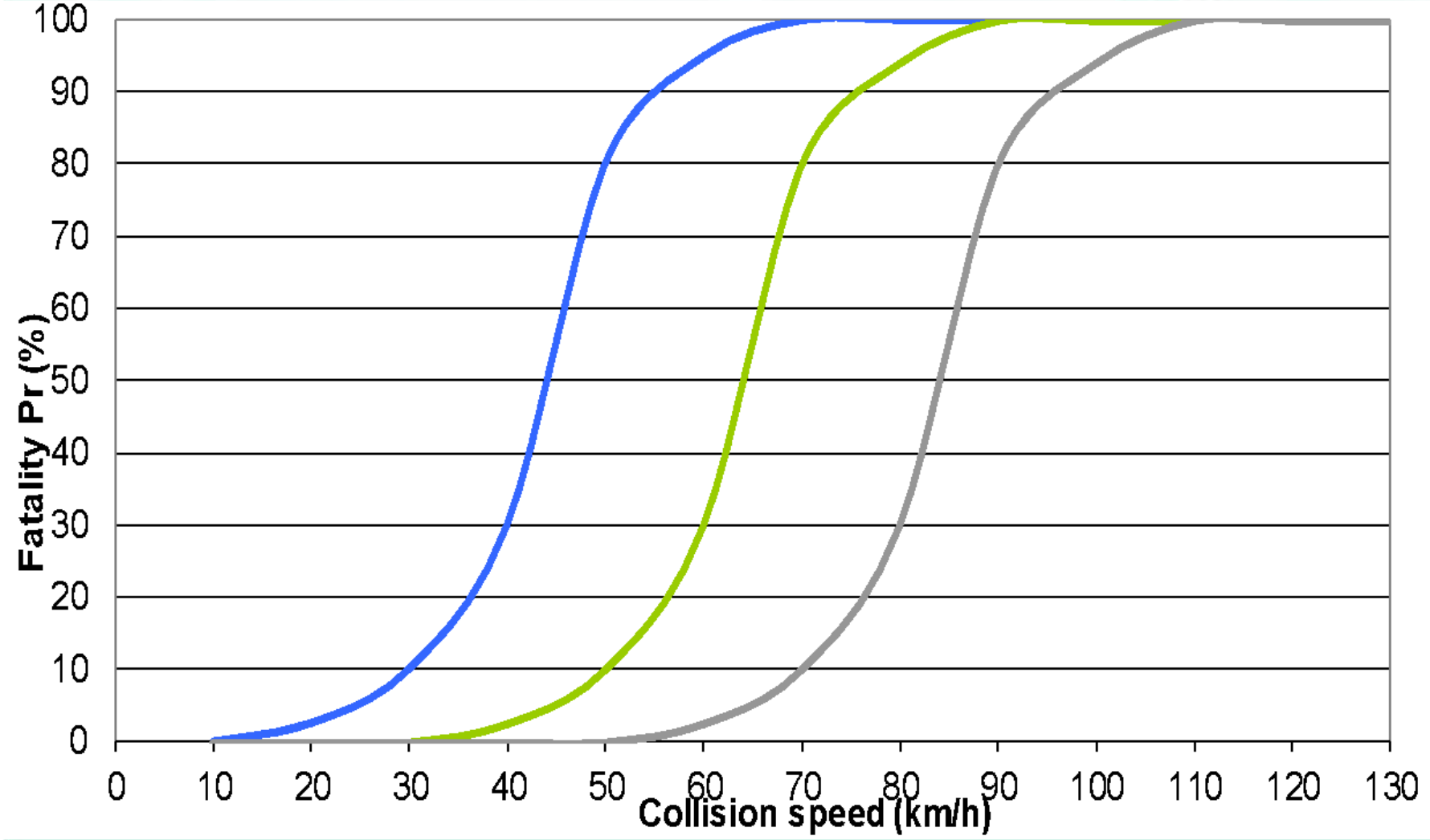
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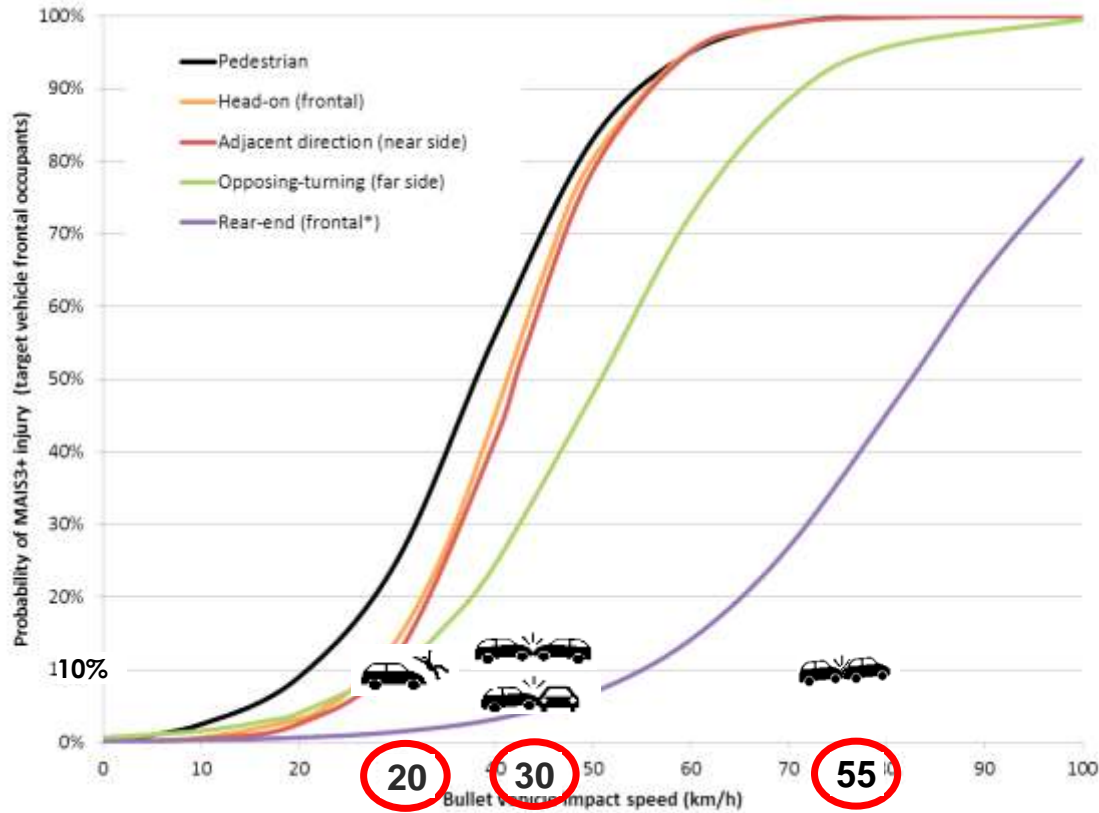
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Safe System Matrix

	Run-off-road	Head-on	Intersection	Other	Pedestrian	Cyclist	Motorcyclist
Exposure	AADT; length of road segment	AADT; length of road segment	AADT for each approach; intersection size	AADT; length of road segment	AADT; pedestrian numbers; crossing width; length of road segment	AADT; cyclist numbers; pedestrians	AADT; motorcycle numbers; length of road segment
Likelihood	Speed; geometry; shoulders; barriers; hazard offset; guidance and delineation	Geometry; separation; guidance and delineation; speed	Type of control; speed; design, visibility; conflict points	Speed; sight distance; number of lanes; surface friction	Design of facilities; separation; number of conflicting directions; speed	Design of facilities; separation; speed	Design of facilities; separation; speed
Severity	Speed; roadside features and design (e.g. flexible barriers)	Speed	Impact angles; speed	Speed	Speed	Speed	Speed





New research evidence:

Crash type	Critical impact speeds
Pedestrian-vehicle	20 km/h
Head-on	30 km/h
Adjacent direction	30 km/h
Opposing-turning	30 km/h*
Rear-end**	55 km/h

* May vary depending on the impact angle and the turning vehicle speed.

** Bullet vehicle has the higher severity

Source: Jurewicz et al. (2016) based on Bahouth et al. (2014), Davis (2001)

* probability applies to the bullet vehicle occupants.



Maximum impact speed (km/h)	Maximum acceptable conflict angle
40 and below	All OK
50	90°
60	52°/128° (from KEMM-X)
70	0°/180°
80 and above	None feasible

NOTE: 0° and 180° in the above table indicate a head-on and rear-end collision respectively.

MONASH UNIVERSITY ACCIDENT RESEARCH CENTRE (2010)



Top 10

opportunities to improve alignment with Safe System principles

As identified in Safe System Assessments



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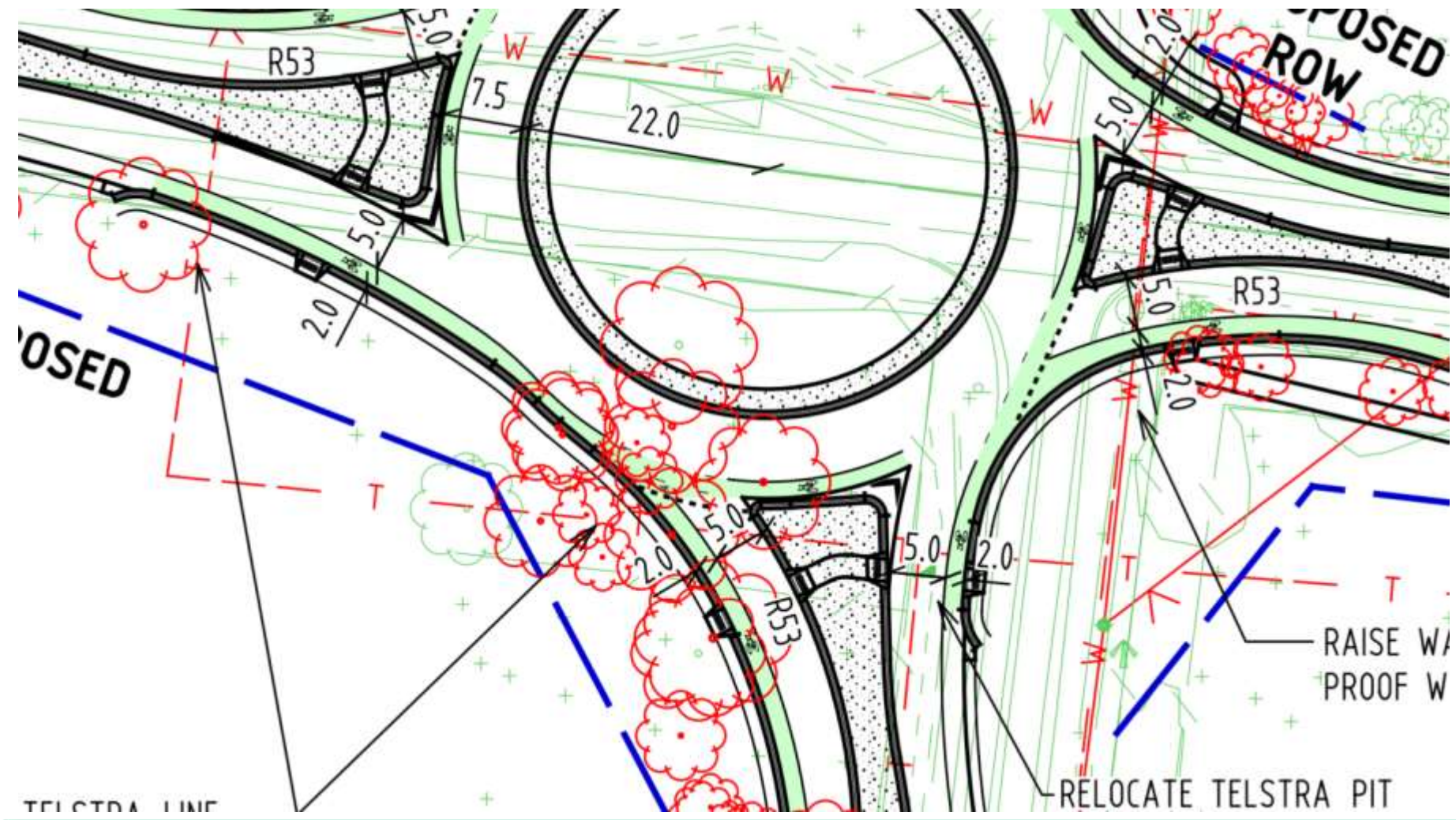




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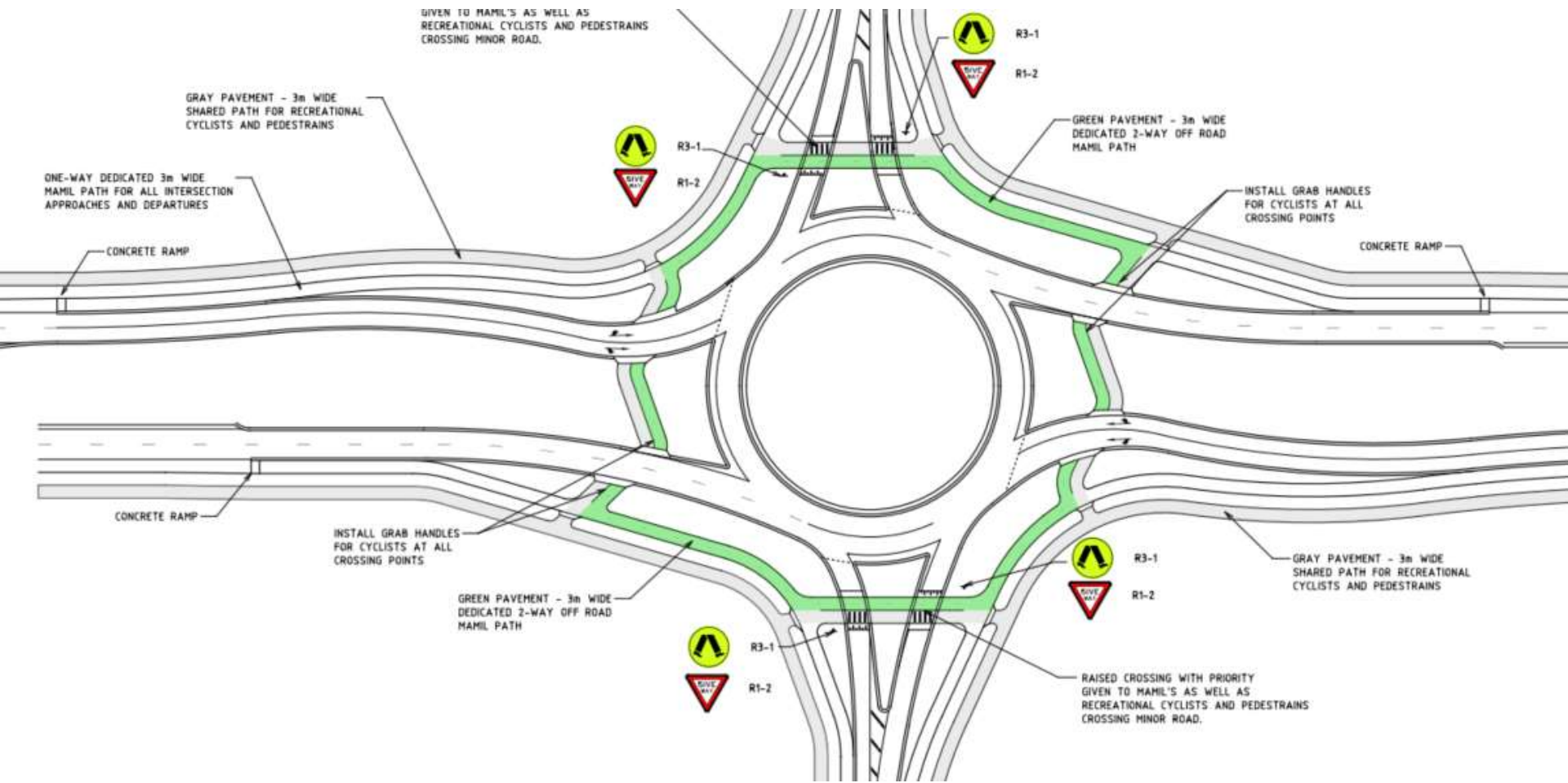


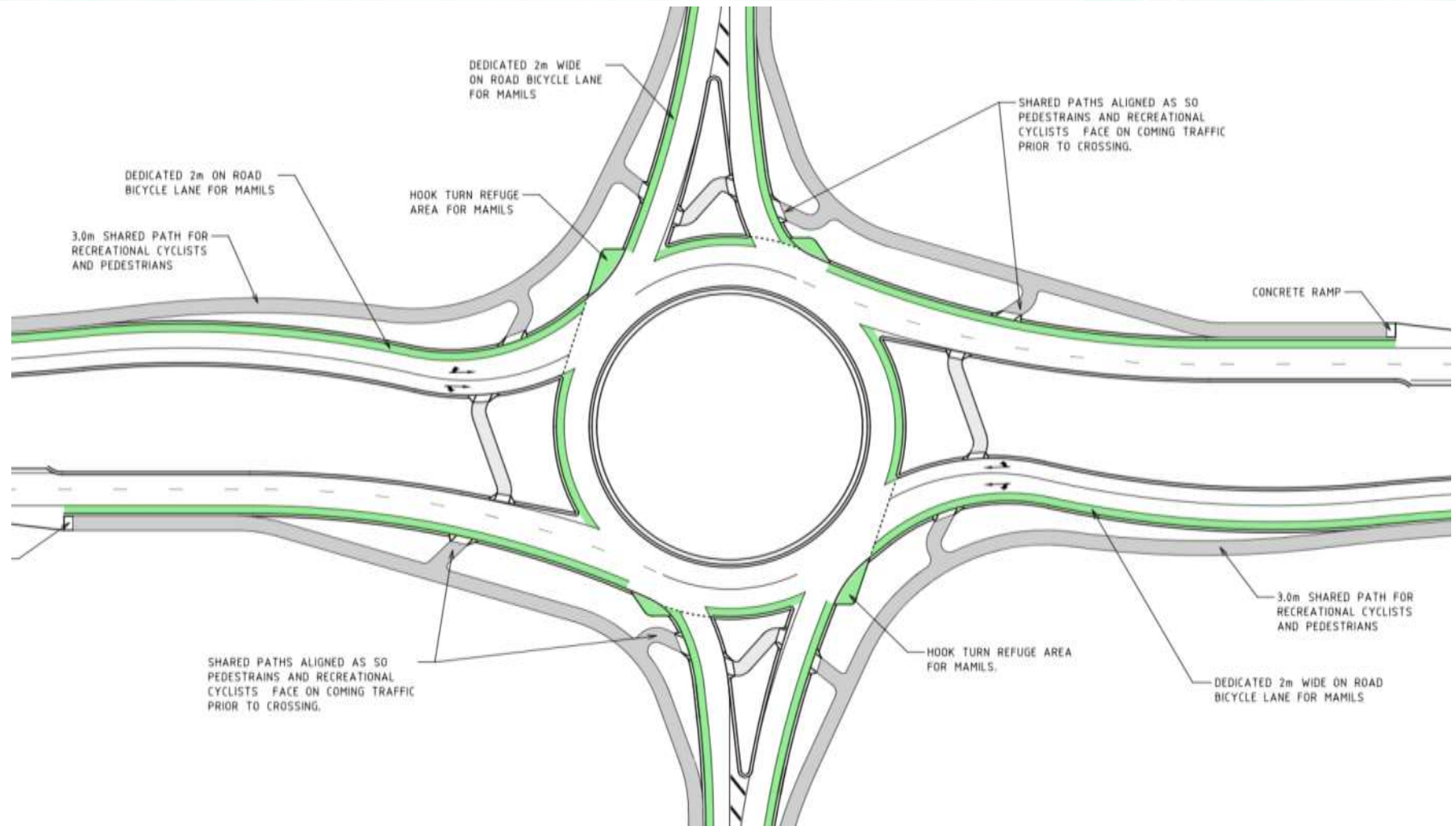
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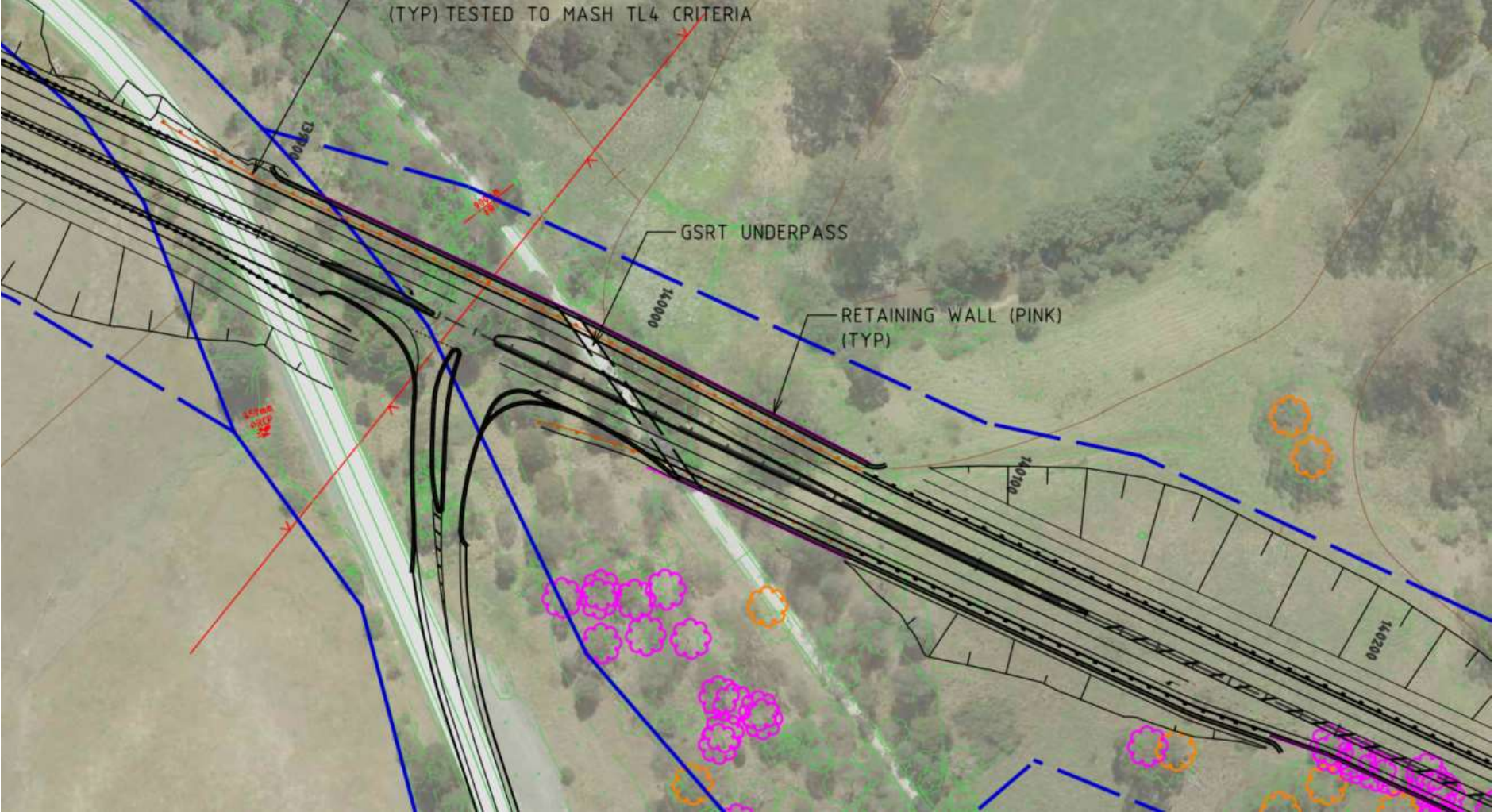














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Source: CASR



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