

Crossings: Design elements of signalised crossings

SIGN/ MARKING	FEATURE	DIMENSIONS AND LOCATION
<p>Traffic signal equipment (refer to Specification P43 for more detailed information)</p>	Signal poles	<ul style="list-style-type: none"> • Drivers must be able to see the signal displays on their approach to the crossing. If needed, consider the following to improve the conspicuity of the crossing for drivers: <ul style="list-style-type: none"> ○ Overhead mast arm (considering over-dimension routes/wind loading, maintenance) ○ Tall poles and dual primary poles (considering over-dimension routes) ○ Kerb buildouts • Signal poles should generally be yellow. Where overhead signals are being used, a minimum height of 6.5m should be provided on over-dimension routes. Alternatively, they can be either hinged or able to be swung away to provide clearance.
	Signal lanterns	<ul style="list-style-type: none"> • The nominal size of signal lanterns is 200mm, and 300mm for extended range signals. The extended range signals are used on overhead mast arm displays, high speed approaches and on cycle routes with directional cycle signals. • On two stage crossings, visors (cowls) should be installed on each set of pedestrian signal displays so that pedestrians do not mistake one set for another.
	Signal controller cabinet	<ul style="list-style-type: none"> • The largest element of traffic signal infrastructure is the controller cabinet. • Intervisibility between the approaching driver and a person waiting to cross is required. The cabinet should not be placed so that it obstructs people accessing the crossing or blocking the view of people waiting at the crossing including children. • It should be placed so maintenance teams can work on the controller cabinet without obstructing pedestrians. • The controller is an expensive and critical part of the traffic signals. When locating the cabinet on a new installation, care should be taken to install the cabinet in a location where it is least likely to be struck by an errant vehicle.
	Push buttons	<ul style="list-style-type: none"> • Pedestrian push buttons are usually mounted on traffic signal poles. Further information is provided in RTS14.
<p>Road markings</p>	<p>Pedestrian crossing lines (Crosswalk lines)</p>	<ul style="list-style-type: none"> • Typical details for crosswalk lines should be continuous white lines extending entirely across the road and there should be no longitudinal lines such as edge lines, centre-lines or turning guide lines continue through the crosswalk area. Refer to the TCD Manual Part 5 for marking specifications. • The width between crosswalk lines is usually determined by the widths of the footpaths and the number of pedestrians using the crossing and should match the location and width of the kerb

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		<p>ramps. The desirable width is 2.5m but may need to be wider for higher pedestrian volumes.</p> <ul style="list-style-type: none"> Note the crossing lines for cyclists should be at least 3.0m apart as per the Cycling Network Guidance to accommodate cyclists in both directions.
	Limit lines	<ul style="list-style-type: none"> Limit lines at signalised pedestrian crossings should be located at least 6m clear of the nearest crosswalk line, but not less than 10m in advance of the secondary signal. The primary traffic signal should be located as close as possible to the limit line.
	No stopping lines	<ul style="list-style-type: none"> Should be marked in advance of signalised mid-block pedestrian crossings to ensure signal conspicuity. Kerb extensions are a good option to improve visibility. If kerb extensions are not feasible then at least 30m of broken yellow line on the upstream approach to the crossing should be provided. It will be location dependent as to whether no stopping lines are required on the downstream side.
	Lane lines	<ul style="list-style-type: none"> On multi-lane roads, lane lines should be marked.
Other elements	Kerb ramps	<ul style="list-style-type: none"> Kerb ramps provide access to the crossing point. PNG: Kerb ramp design These should be installed so that adjacent drainage infrastructure collects water from the waiting area and excess water does not collect at crossing point. Raised crossings can reduce ability for ponding to occur and makes it easier for people to walk out at the same level.
	Tactile indicators	<ul style="list-style-type: none"> Warning indicators are required and directional indicators may be necessary if the crossing point is outside the continuous accessible path of travel. PNG: Designing for blind and low vision people. Audible tactile devices for pedestrians are to be provided at all new and upgraded installations.
	Warning signage	<ul style="list-style-type: none"> W10-4, Traffic Signals Ahead, signage can be provided as advance warning and can be used on both approaches in advance of the crossing. This is more important where the signals are out of context with the road network. Temporary warning signs (new road layout) will be required for new facilities and remain in place for 2 weeks after opening to inform road users of the change.
	Hazard free	<ul style="list-style-type: none"> It is preferable that all surface obstructions associated with the traffic signals (access covers, grates etc) are outside of the footpath, the path of travel for pedestrians, and the waiting area.

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	Pedestrian fencing	<ul style="list-style-type: none"> • Pedestrian fencing, may be used on the side of a road or on the median to restrict pedestrian access to the carriageway at traffic signal crossings. However, fencing can have an adverse effect on the convenience for pedestrians particularly if they are placed on pedestrian desire lines. They can also reduce the attractiveness of the street and place. • Fencing can also be used to direct pedestrians to the signal-controlled crossing, which could be helpful particularly at nearside crossings with on crossing detection as it is essential for detecting the pedestrian wanting to cross the street. A similar outcome could be sought with good street design and the placement of street planting and furniture. • It is important that the fencing does not block the view of the pedestrian waiting for the crossing signal either on the kerb or in a two stage waiting area, either through the material or the placements of the upright rails that can create a more solid view and restrict the intervisibility of people and traffic. • The fence height, placement and construction material should be designed/selected to minimise any potential sight obstruction between vehicles and pedestrians about to cross the road. • Further information can be found in fencing guidance in PNG: Supporting infrastructure.
	Lighting	<ul style="list-style-type: none"> • Designers should check existing lighting levels and where required recommend an assessment to determine if an upgrade to the street lighting is required. PNG: Street lighting at crossings. • At appropriate locations it is possible to combine street lights and traffic signal poles.