

Design for safe and healthy communities:

# The matrix of like design considerations for Tasmania



	Physical activity	Shade	Safer design	Access design	Road user safety
<b>Sightlines and Surveillance</b>	Provide clear sightlines for safety and visibility for pedestrians and cyclists	Ensure shade structures and trees allow clear sightlines	People should be able to see, to be seen and to interpret their surroundings	Ensure continuous accessible paths of travel are clearly defined	Ensure approach speeds and road conditions are consistent with sightlines for all road users
<b>Lighting</b>	Ensure lighting meets the visibility needs of pedestrians and cyclists Highlight crossing points	Light shade structures if required (for example bus shelters)	Use lighting to designate safe paths and places Lighting can encourage or discourage use (for example effective lighting at crossovers, public transport shelter/stops) Light safe connections from shops to public transport	Provide a safe, comfortable visual environment for pedestrian and wheeled transport movement at night Refer Australia Standard (AS)1158.3.1	All road users should be considered when providing overhead lighting Provide higher levels of lighting at crossing points, roundabouts, and intersections Light standards within the clear zone to be frangible
<b>Signage</b>	Provide clear orientation to places of interest for pedestrians and cyclists Signage should be clear, concise and consistent Signage should complement the overall landscape/streetscape design	Identify communal shaded areas on maps and community information boards Use of symbols/pictograms should follow Australian Standards	Provide clear signage of paths, connections and destinations Design sign hierarchies to show information from most to least important Use vandal and graffiti resistant material Enter asset on maintenance system schedule	All signage to be large, clear and adjacent to continuous accessible paths of travel. Refer (AS) 1428. 1 and 2 Signage should include information in tactile and Braille forms Refer Building Code of Australia D3.6	Signage must be clearly visible and understood for all road users The location of signage and posts should not be a hazard to road users Minimize the number of signs as sign clutter can be distracting
<b>Maintenance</b>	Ensure foot and cycle paths are free of obstructions. For example, free from overgrown vegetation or fallen branches	Do not plant trees that require frequent watering and pruning Ensure regular maintenance of built shade structures	Ensure adequate and timely asset management and maintenance. A rundown or vandalised appearance can suggest an area is unsafe Use vandal and graffiti resistant materials and design features Develop a maintenance system schedule for public and commercial areas	Ensure adequate maintenance for continuous accessible paths of travel Rough surfaces and puddles are not accessible to wheeled transport users	Provide safe access for maintenance vehicles Provide call out phone numbers for hazard removal
<b>Concealment and Entrapment</b>	Locate paths away from potential hiding places and entrapment spots	Ensure vegetation does not create hiding places or entrapment spots	Design out potential entrapment spots and hiding places Avoid blank walls, loading docks off walkways and recessed entrances	Design spaces to ensure that users, particularly women, children, older people and people with disabilities can see a safe route, day and night	Locate car parking away from potential entrapment spots
<b>Landscaping and Open Space</b>	Ensure equitable distribution of open space across walkable neighbourhoods Promote local active recreation using landscaping to delineate routes and destinations	Provide shade through planting broad canopy trees and installing shade structures	Ensure clear sightlines Use landscaping to designate public and private space boundaries Use robust and vandal-proof finishes and fixtures including fencing, seating and signage	Provide continuous accessible paths of travel to and within all parks, playgrounds and gardens Refer to AS 1428 standards Provide accessible furniture and equipment and manoeuvring space for mobility aid users	Appropriate landscaping to avoid being a roadside hazard Maintain clear sightlines at intersections, conflict points and roundabouts
<b>Trees and Vegetation</b>	Provide trees for shade and aesthetics along access routes and places where people gather	Provide broad canopy, deciduous, tall trunk trees to ensure shade during times of peak UV radiation Plant vegetation to minimise reflected UV rays (for example climbing plants on walls)	Low vegetation up to 700mm and broad canopy trees with sightlines clear to 2400mm above ground level Use vandal resistant treatments (for example tree guards)	Remove tree debris from paths Trim foliage to a height of 2400mm and at the sides of paths	Ensure that tree plantings do not obstruct driver visibility of any other road users particularly at conflict points such as intersections and accesses Ensure that vegetation, particularly within 'clear zones' on roads with speed limits over 50 km/h, are forgiving for any errant motorists Trees should not be planted in clear zones in high speed zones, so that a vehicle recovery area is available
<b>Fencing and Walls</b>	Use low walls or transparent fencing along street frontages and open space	Ensure shade structures cannot be accessed by climbing nearby fences, walls, buildings or trees Avoid surfaces that reflect UV radiation	Keep fences low or transparent for clear sightlines Provide front fences and walls no more than 1.2 metre high if solid or up to 1.8 metres if at least 50% transparent Avoid high fences backing onto public space, roads or parks Plant thorny creepers to discourage climbing or graffiti on walls	Don't use turnstiles Bollards, gates and chicanes must provide access for wheeled transport	Avoid "back fence" lot orientations on collector and arterial roads by providing service roads or boulevards Fences should not obstruct sight lines for any road users particularly at intersections and accesses Fences should be avoided in clear zones, but if necessary, ensure materials do not constitute a hazard to errant motorists

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Seating	<p>Ensure frequent and accessible seating for pedestrians and cyclists</p> <p>Arrange seating to facilitate social interaction</p>	<p>Provide shade to seating and picnic areas</p>	<p>Place seating in well connected areas to allow clear sightlines of paths, play areas and toilets</p> <p>Ensure vandal and graffiti resistant materials are used</p>	<p>Provide seats with backrests and arm rests regularly along the continuous accessible paths of travel</p> <p>Drinking fountains be wheelchair accessible and adjacent to continuous accessible paths of travel</p> <p>Refer AS 1428.2</p>	<p>Seats made out of solid materials that could damage errant vehicles and occupants should be located outside the clear zone</p>
Shelter	<p>Provide shelter for protection from weather extremes</p>	<p>Avoid locating shelter on or near surfaces that reflect UV radiation</p>	<p>Shelter interiors should be visible from paths, placed near areas of high activity and well lit</p> <p>Use vandal and graffiti resistant materials</p>	<p>All constructed shelter to comply with the Building Code of Australia and AS 1428 standards</p> <p>Approaches must be continuous accessible paths of travel</p>	<p>Shelter should not be built of materials that could constitute a hazard to road users</p> <p>Shelters (for example at bus stops) should not block the sight requirements for road users at intersections and access points</p>
Street Design	<p>Provide safe, comfortable and accessible routes to homes, shops, businesses and community facilities linked to pedestrian and cycle paths</p>	<p>Plan shade provision to maximise sun protection without compromising sightlines or access to people with disabilities</p> <p>Provide street trees wherever possible and practical</p>	<p>Design streets to balance the needs of all users</p> <p>Ensure active frontages and use buildings to frame spaces</p> <p>Design streets that encourage walking to put more ‘eyes on the streets’</p> <p>Maximum on-street parking to maximise re-use and general availability</p>	<p>Property and fence lines must be clear and barrier free to enable continuous accessible paths of travel</p> <p>Required facilities, including car parks and public toilets must be linked by continuous accessible paths of travel, including circulation spaces for people using mobility aids</p> <p>Refer VicRoads and (AS) 1428 suite of standards</p>	<p>Design local streets and high pedestrian use streets to moderate traffic speeds and make it clear that these are pedestrian and cyclist friendly environments</p> <p>Design roundabouts to slow vehicles down and provide for pedestrian visibility and safe movement</p> <p>On the pedestrian desire line (eg. path to path), as a minimum, kerb cut outs and splitter island breaks should be provided across all road legs. Where pedestrian volumes are significant and/or traffic speeds are high, pedestrian crossing facilities should be provided in accordance with Australian Standards</p> <p>Avoid creating new cross intersections</p>
Building Design	<p>Design buildings to facilitate a variety of uses within a neighbourhood (for example schools used after hours as community facilities, public libraries for educational and training sessions)</p>	<p>Be aware of daily and seasonal shade patterns created by surrounding structures to maximise effectiveness of supplementary shade</p> <p>Build and use materials to minimise both direct and reflected UV radiation</p>	<p>Design windows and activities to overlook streets, pedestrian routes, open spaces and carparks to support natural surveillance</p> <p>Ensure entrances are clearly defined, face the street and provide clear sightlines</p>	<p>Buildings must conform to the access requirements of the Disability Discrimination Act 1992 and the Building Code of Australia</p>	<p>Loading bays should be separated from pedestrian paths/routes</p> <p>Design to facilitate forward vehicular movements between buildings and arterial roads</p> <p>Give priority to pedestrians/ cyclists and public transport modes</p> <p>Locate car parks to the rear of buildings</p>
Active Frontages	<p>Promote more active and lively streets that encourage people to interact</p>	<p>Provide tree plantings and encourage the use of verandas to provide shade and amenity for shoppers</p>	<p>Active frontages add interest, life and vitality to the public domain</p> <p>Frequent doors and windows, with few blank walls</p> <p>Encourage lively internal uses visible from the outside, or spilling on to the street</p> <p>Articulate facades with projections such as porticos/ verandas</p>	<p>Property and fence lines must be clear and barrier free to enable continuous accessible paths of travel</p> <p>Refer to AS1428 suite of standards</p>	<p>Encourage active frontages along shopping strips (but not on freeways)</p> <p>Slow traffic speeds to between 40 km/h and 60 km/h near active frontages</p> <p>Road networks to be more permeable and less hierarchical</p> <p>Traffic calming features where appropriate will promote ‘liveable’ residential streets</p> <p>Design streets to encourage lower speeds</p>
Mixed Use	<p>Provide local focal points to support walkable neighbourhoods</p> <p>Increase mixed use development through the provision of housing, shops, services, parks and commercial spaces that facilitate active transport</p>	<p>Do a shade audit</p> <p>Consider tree height, growth, seasonal effects, root system and maintenance</p> <p>Highlight when built structure may be more appropriate</p>	<p>Provide a mix of uses in neighbourhood centres to create activity and increase vitality</p> <p>Provide ‘eyes on the street’ day and night</p> <p>Encourage uses compatible with residential areas</p>	<p>Avoid evergreen trees that may obstruct solar access in winter</p> <p>All development should meet the requirements of the Disability Discrimination Act 1992</p>	<p>Design safe access for all road users</p>

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Connections	Plan for permeable street networks to provide both direct and leisurely paths to neighbourhood destinations	Maximise shade over paths, cycle routes with consideration for road user safety	Provide clear sightlines to enable natural navigation to destinations Avoid movement predictor routes (such as underpasses) and allow for multiple routes, if possible	Provide safe and convenient transitions from street to destination	On local streets, avoid straight uninterrupted road sections longer than 400 metres to discourage excessive speed by drivers Use traffic management measures to slow motor vehicles where local route straight sections exceed 400 metres
Walking and Cycling Routes	Design safe and attractive routes Design wide footpaths, adequate lighting, calmed traffic and crossing points adjacent to neighbourhood destinations	Maximise shade over paths and cycle lanes and at rest stations Ensure shade structures do not obstruct access	Achieve clear and safe connections through signage, landscaping, lighting and edge treatments Integrate cycle lanes into the road and open space networks Provide appropriate lighting for pedestrians and cyclists in addition to road/street lighting Do not separate walking and cycle paths from street networks unless there are clear sightlines, opportunities for natural surveillance and no entrapment spots	Make paths and trails continuous accessible paths of travel to enable safe sharing by cyclist and pedestrians. Refer to AS1428 suite of standards Kerb ramps to comply with specifications Paths, ramps and walkways to comply with AS1428.1, 1428.4 and 4586	Provide paths and safe crossing points along predictable pedestrian and cyclist desire lines, and at locations such as approaches to schools, parks and shopping precincts Align kerb cut-outs and ramps with pedestrian and cyclist access requirements and desired lines of travel Minimise and/or control conflict points with vehicular traffic Where possible, separate shared pathways away from the road edge Provide low gradient of vehicular driveways at crossing points with walkways and cycle paths Road cross overs to be designed in accordance with Austroads Guide to Road Design Part 6A: Pedestrian and Cyclist Paths
Public Transport	Provide accessible public transport stops to encourage dual mode journeys	Provide useful and appropriate shade at transport stops (for example, bus shelters)	Locate bus/taxi stops in active locations Ensure stops are clearly visible from surrounding development and houses, and are not located in isolated places Ensure well used movement routes between transport stops are designated and designed for safe movement with clear, well lit and visible signage and emergency call points	Public transport infrastructure to comply with National Accessible Public Transport Standards	Connection points must be clear to and from both sides of the road and should take into consideration 'desire lines' for convenient crossing Reduction of vehicle speed around connection points should also be considered on all roads On high speed roads, provide appropriate tapers to allow buses to enter and leave the bus stop

#### Acknowledgements

The Matrix of Like Design Considerations was jointly produced by Crime Prevention Victoria, the Department of Sustainability and Environment, VicRoads, the Heart Foundation (Victorian Division) and The Cancer Council Victoria.

It was adapted by the Heart Foundation in Tasmania to meet the needs of the Tasmanian planning and urban design community.

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ABN: 98 008 419 761

STOCK CODE: PRO-120

ISBN: 978-1-921748-38-7

