251 North Bridge Road Singapore 179102
Email: LTA-DBC_Registry@lta.gov.sg

Our Ref: LTA/DBC/F20.033.005
Date: 10 July 2025

CIRCULAR TO PROFESSIONAL INSTITUTES

Effective date
11 August 2025

Who should know

Developers, building owners, tenants and Qualified Persons (QPs).

EXPANSION OF LODGEMENT SCHEME FOR VEHICLE PARKING PROPOSALS

1. We are pleased to inform you that as part of our pro-enterprise efforts to reduce regulatory burden on private developers, the Vehicle Parking Proposal and Plans Lodgement Scheme has been expanded to include **Additions & Alterations (A&A) works in existing residential, commercial, and mixed developments**.

2. This enhancement to the existing Lodgement Scheme aims to further streamline the approval process and reduce the time required for submissions. The expanded scheme will take effect from **11 August 2025**.

3. Qualified Persons (QPs) may submit these proposals through the existing CORENET platform, following the same procedures as the current lodgement submission for Vehicle Parking proposals. To ensure smooth implementation, please note that:

    - QPs must ensure that all submissions comply with the prevailing parking requirements and standards.
    - QPs remain responsible for ensuring compliance with all relevant regulations.
    - Regular audits will be conducted to maintain quality submission standards.
    - Should audits reveal deviations from standards, QPs will be required to amend and re-lodge the proposals and pay the relevant submission fees.

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4. To help ensure high-quality submissions, LTA and SIA have collaborated and developed a Quick Guide on Eliminating Design Errors and Determining Accurate Parking Requirements. This guide will assist Qualified Persons (QPs) in avoiding common design errors and correctly interpreting requirements. The Quick Guide is attached to this circular for your reference.

5. We would appreciate if you can convey the contents of this circular to the members of your organisation. Should you have any further clarification, please email LTA at LTA-DBC_Registry@lta.gov.sg.

Thank You

ALEX ANG
DIRECTOR
DEVELOPMENT & BUILDING CONTROL (ROADS)
LAND TRANSPORT AUTHORITY

QUICK QUIDE FOR
DEVELOPMENT PROPOSALS

Eliminating Design Errors and Determining Accurate Parking Requirements

July 2025
ISSUE 17

Land Transport Authority
We Keep Your World Moving

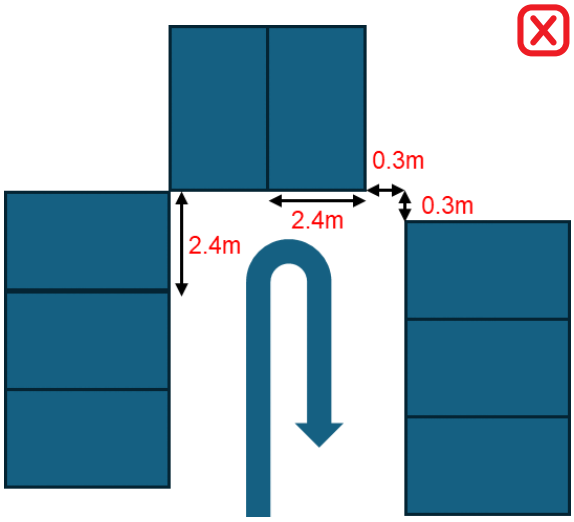
OBJECTIVES

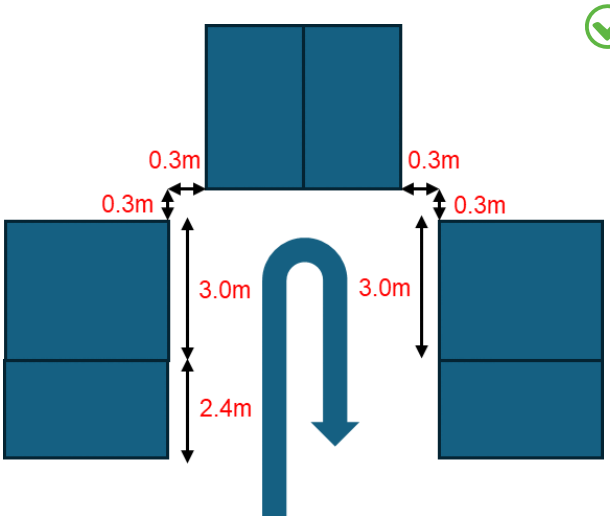
This quick guide aims to provide Architects, Engineers and Builders with clear guidance on avoiding common design errors and misinterpretations of requirements in the design of parking layout, ensuring safe, functional and efficient parking layout that facilitate smooth passage for motorists. It also provides samples on the correct method of computing parking requirements for development proposals.

COMMON DESIGN ERRORS

1. Dead-end Aisle

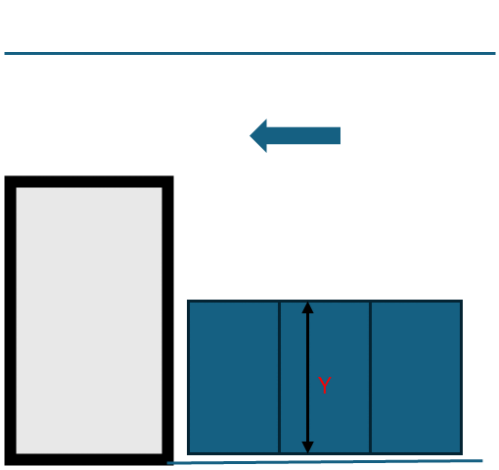
In a dead-end aisle situation, the end-lot shall be widened to 3.0m to facilitate parking maneuvers. Where parking lots are designed perpendicular to each other, a minimum 300mm gap shall be provided both horizontally and vertically between adjacent car lots so that both lots can be occupied if cars protrude or do not park completely inside the parking lot.



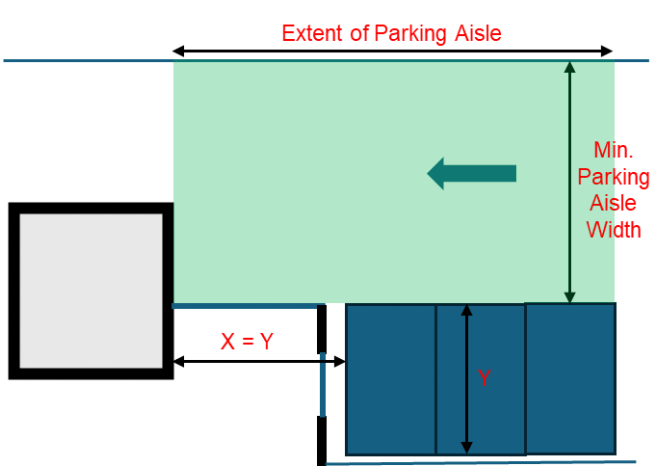


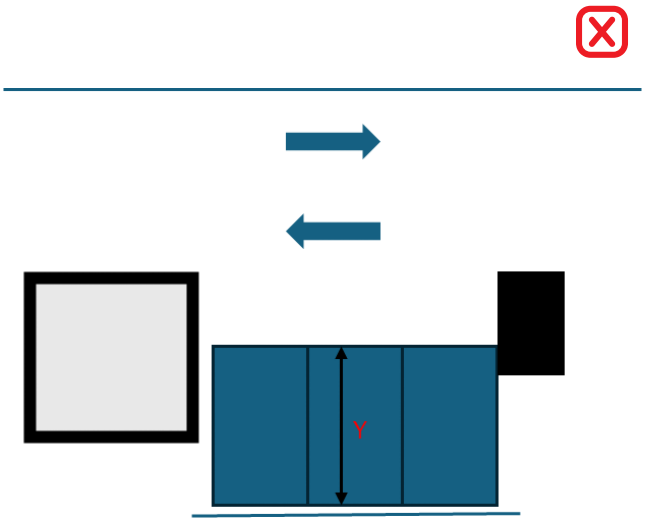
2. Extent of Parking Aisle

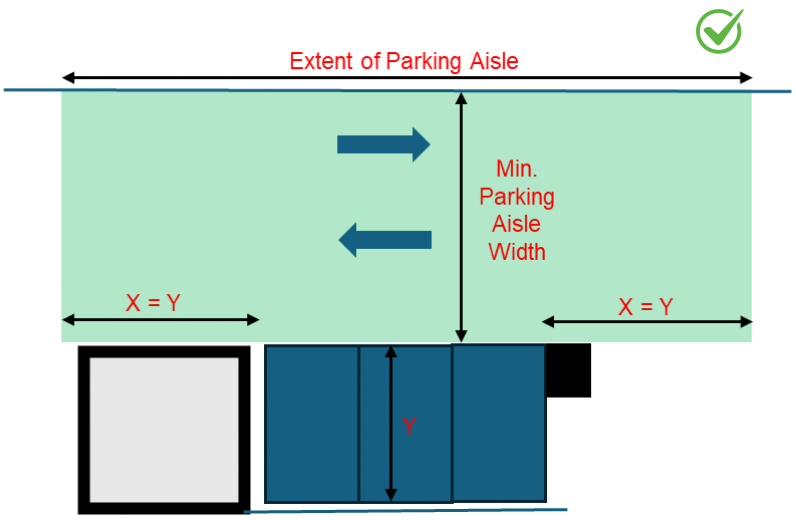
The required parking aisle width should not only be measured perpendicular to the parking lot but should also be extended to minimum 1 parking lot length.



Example of 1-way traffic



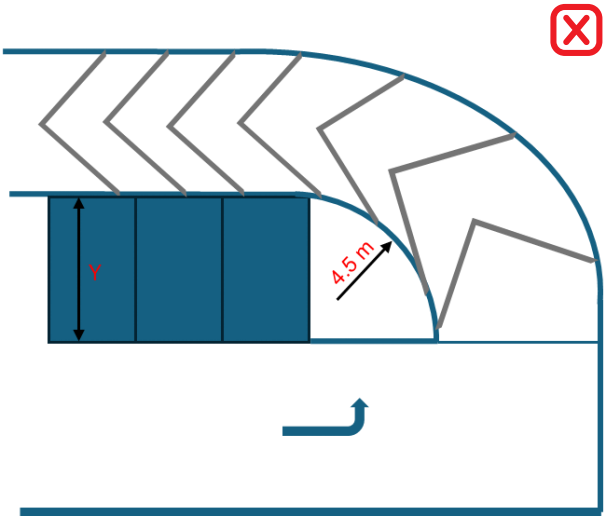


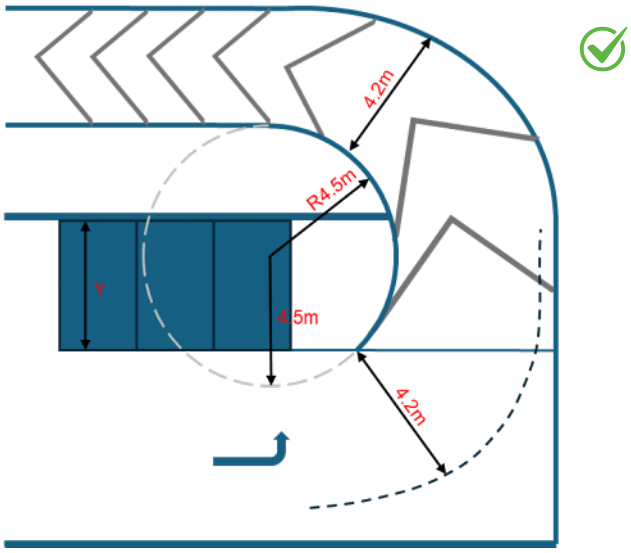


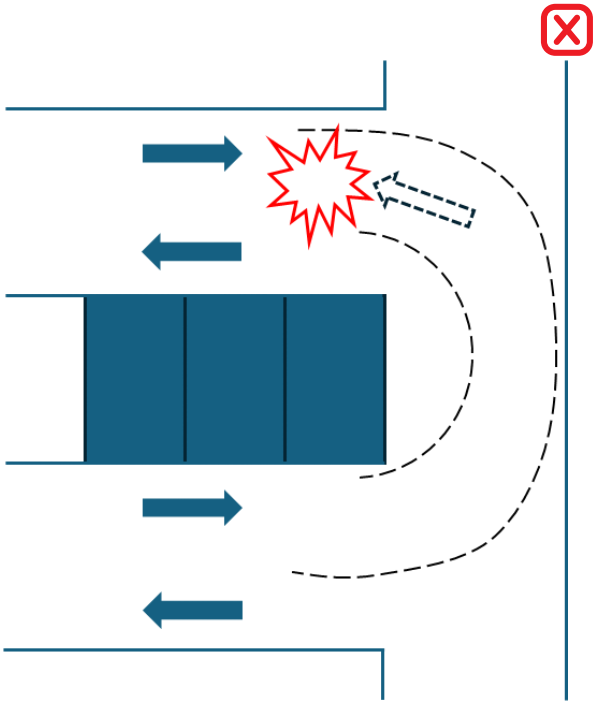
Example of 2-way traffic

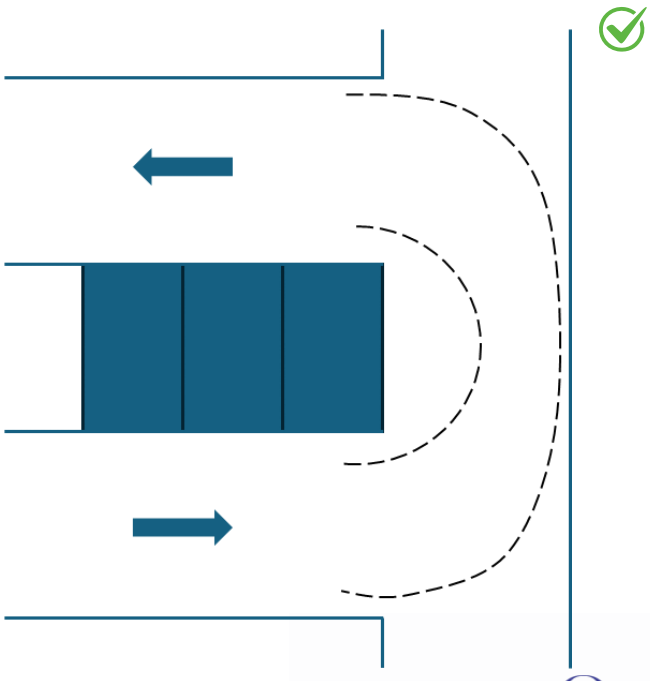
3. U-turn Situations

Designing a proper U-turn that complies with the minimum turning radius prevents head-on collisions, improves traffic flow and circulation, and enhances the safety of motorists driving in confined spaces with limited visibility. The layout will be considered acceptable if the minimum inner turning radius and minimum turning path width is maintained consistently throughout the U-turn.



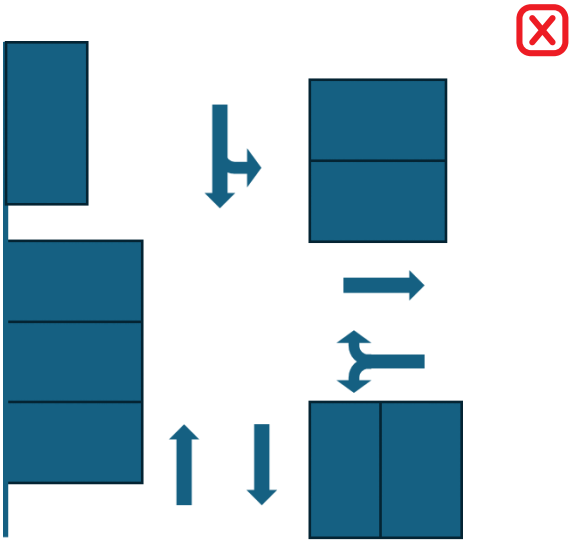


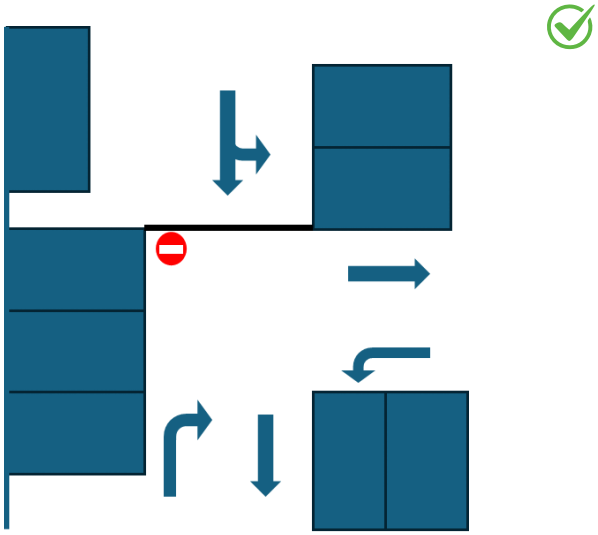




4. Conflicting Traffic Flow

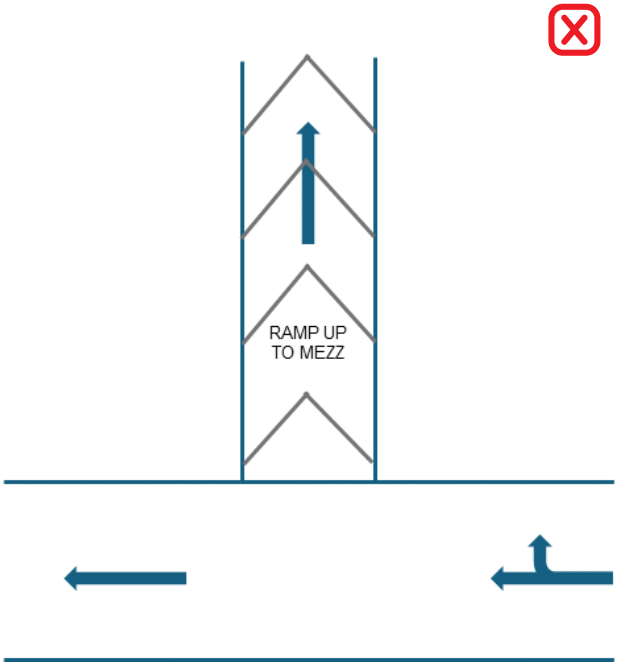
To enhance traffic flow, implement one-way circulation systems and separate entry and exit points to minimise traffic conflicts. Provide clear signage and precautionary measures, including left/right turn signs, no-entry signs, give-way signs, stop lines, chevron marking lines, centre continuous white lines and convex mirrors. Incorporate dedicated pedestrian walkways or footpaths, and integrate speed control measures.

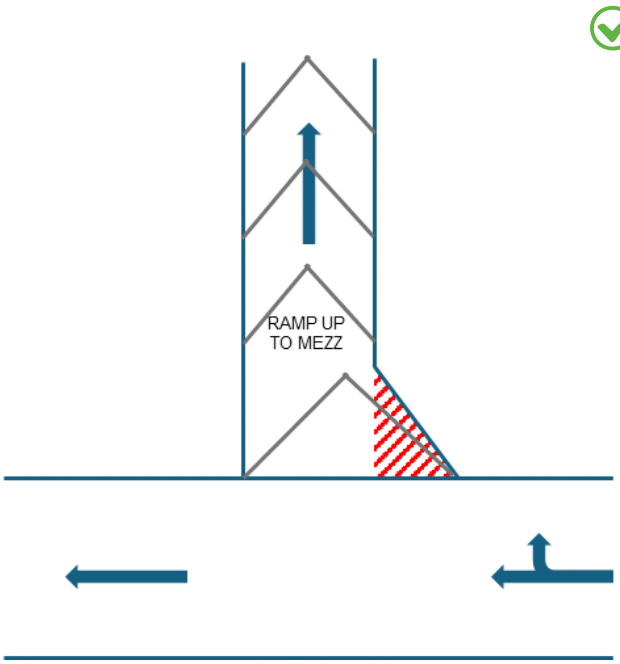




5. Splay Corners

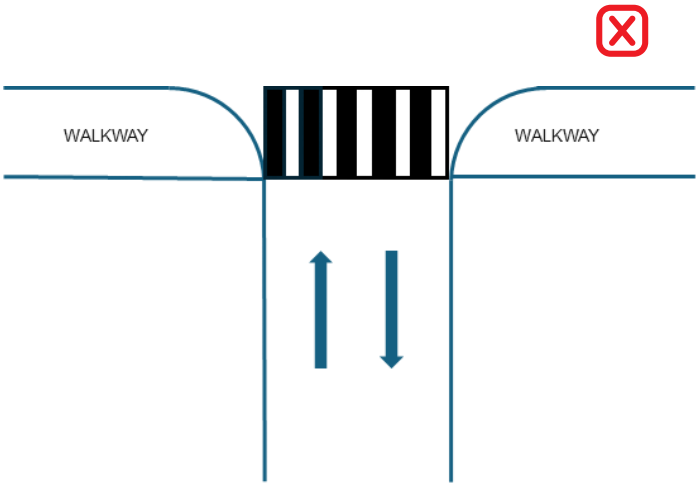
In situations where there is a bend or turn, a splay or curved corner should be provided to widen the manoeuvring space. This allows vehicles to turn smoothly and safely without undue concern about accidentally hitting walls or other obstructions. A splay corner of at least 1m x 1m is recommended.

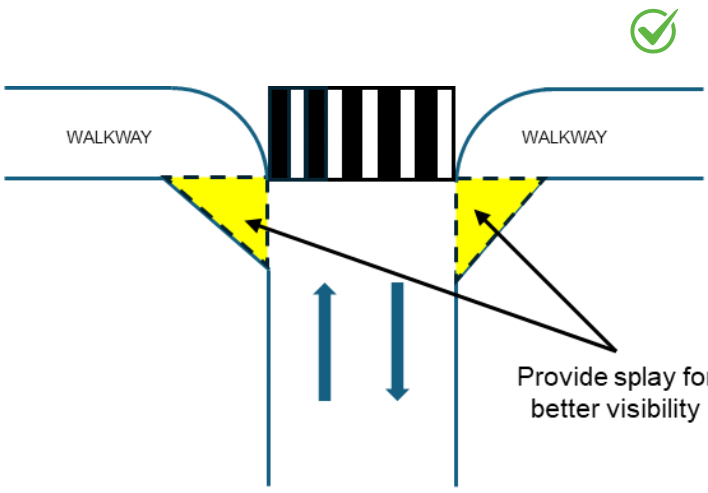


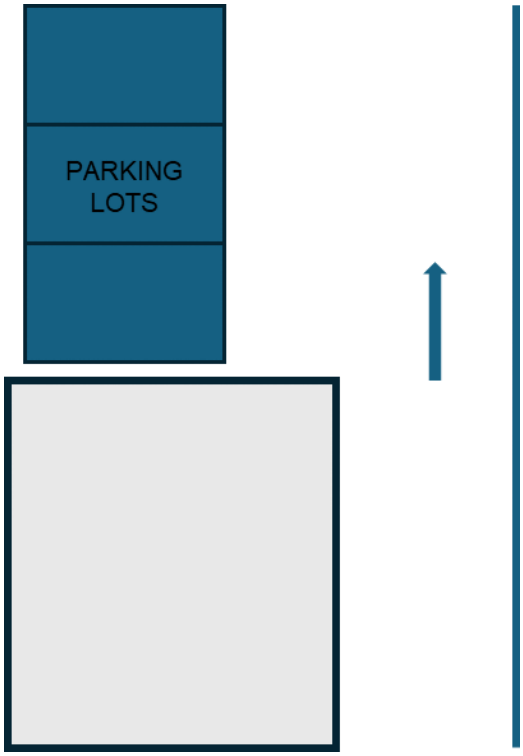


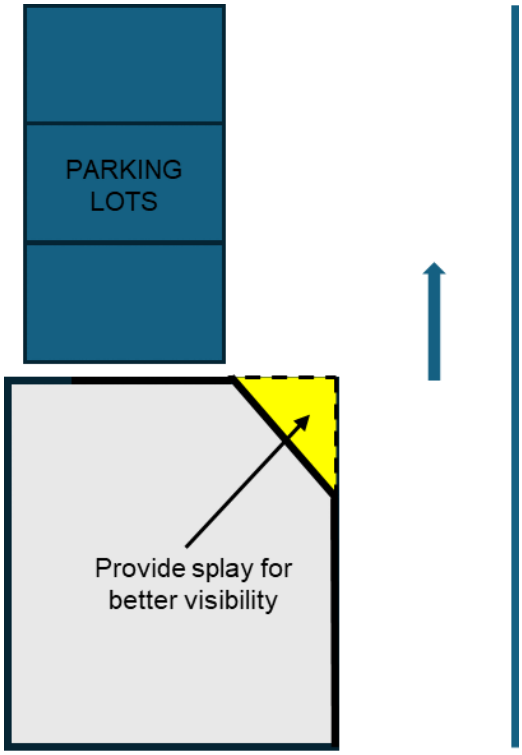
6. Inadequate Sight Distance

Adequate sight distance is essential for safe stopping, decision-making and good visibility at road junctions and pedestrian crossings. Insufficient sight distance can reduce drivers' reaction time and contribute to an increase in accidents at intersections. The design process should prioritize the incorporation of splay corners. As an additional safety measure, convex mirrors may be installed. A splay corner of at least 1m x 1m is recommended.



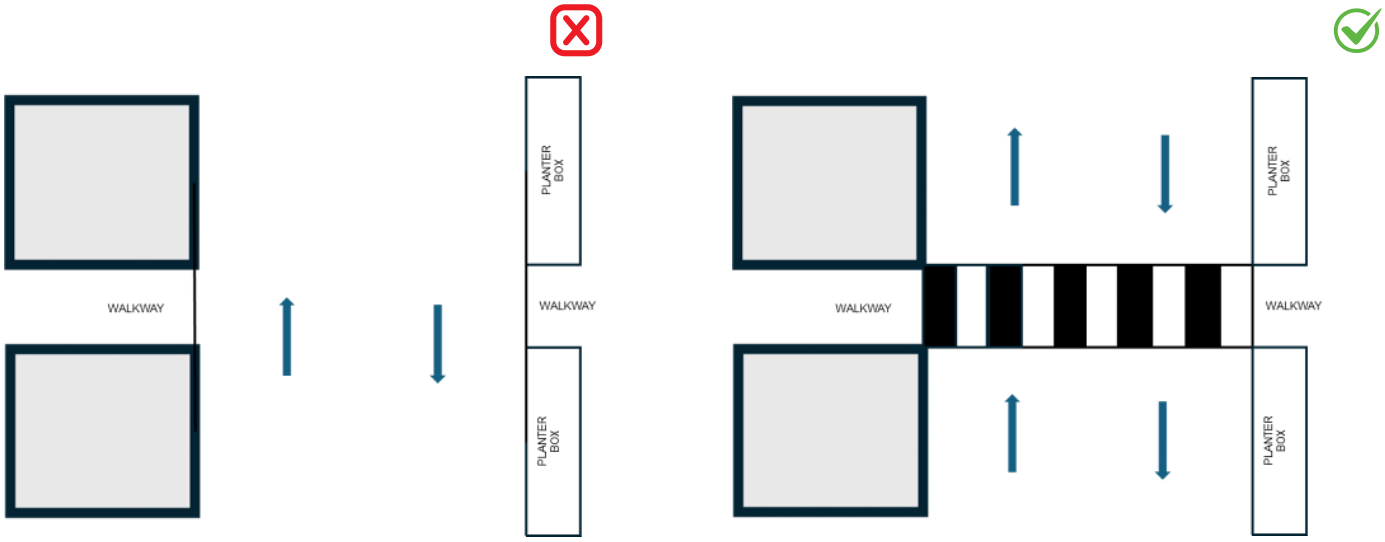






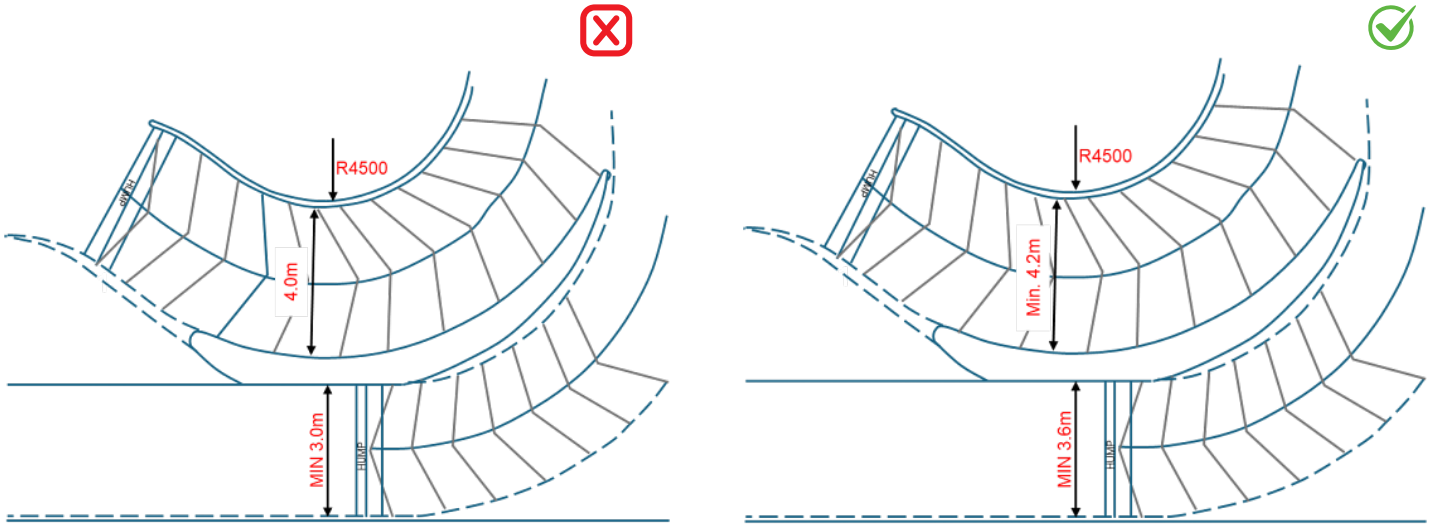
7. Vehicle Conflicts with Other Users

At the intersection of vehicle, cyclist, and pedestrian movements, separating these user groups through the provision of special paths or walkways is recommended. The parking network should be designed to reduce conflict in terms of exposure to risk, relative speed, and vulnerability of different user groups. Pedestrian and cyclist movement should be minimised on circulation roads and driveways, as these primarily involve vehicular traffic. It is also recommended to reduce the flow of vehicles in areas where pedestrian flow is high.



8. Width for Straight and Curved Single-lane Ramps/Accessways

Min. width of single-lane ramp/accessway (on straight): 3.6m clear (for cars)
Min. width of single-lane ramp/accessway (on curve): 4.2m clear (for cars)



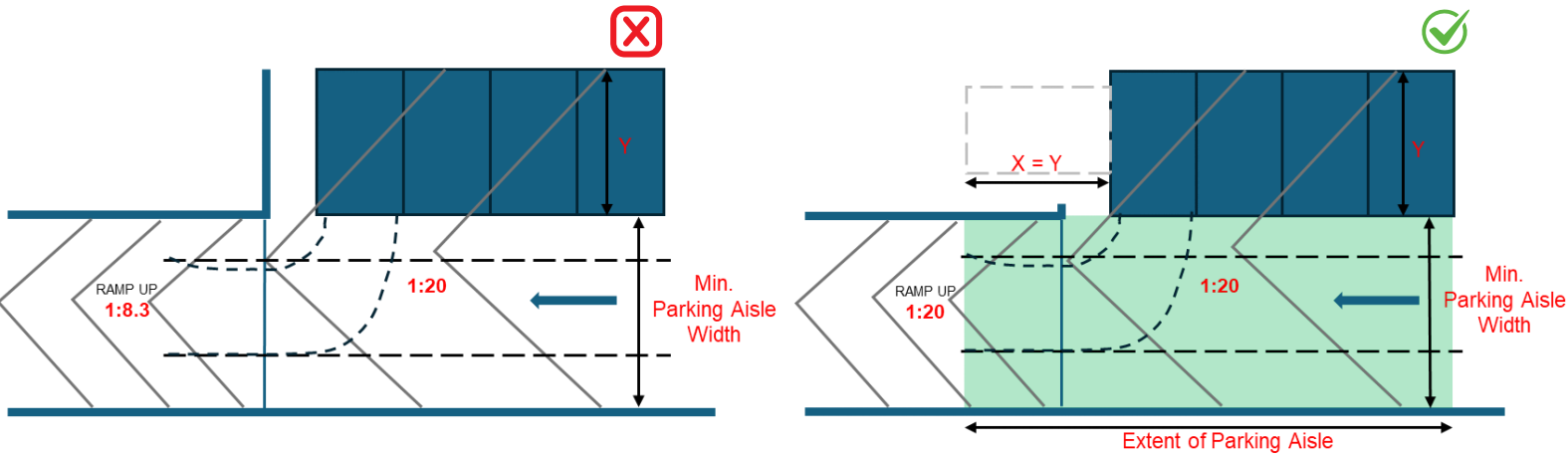
9. Inadequate Blending of Ramps at Floor Level

When designing a vehicular access ramp, it is essential to ensure proper blending of ramp grades at floor levels. This blending is crucial for safety and comfort, providing smooth transitions that minimise the risk of accidents, comply with inclusive design standards, and improve the overall experience for motorists. After reviewing past implementation challenges, we have adopted a more flexible approach that allows designers to exercise their professional judgment whilst meeting the fundamental design intention.

Whilst we no longer mandate strict specifications, we recommend a transition ramp length of 1-1.5m with a gradient of 1:20 as a general guide. These dimensions have proven effective in practice, but designers may propose alternative solutions that adequately address the transition requirements based on site conditions,

10. Steep Gradient for Parking Ramps/Aisle

Ramps that form part of the parking aisle for car lots should not be steeper than 1:20 to facilitate parking maneuvers. The car lots and the adjacent parking ramp should be of the same level and hatching of the ramp on plan should include the car lots.



Computation of Parking Requirement

Common errors:

1. The GFA stated in LTA-VP-FORM does not match URA-approved GFA.

2. Ancillary or common areas defined as GFA should be included in the parking computation.

3. Ancillary or common areas shared by two or more uses should be computed together with the main use of the development.

4. The parking provision standard used is incorrect. The parking standard for the different uses can be found in Appendix A of the Code of Practice on Vehicle Parking Provision in Development Proposals.

5. The applied parking zone is incorrect. Please check in OneMap (go to Nearby > Transport > LTA Parking Standards Zone).

6. The number of parking lots required should be rounded to the nearest integer. The rounding off is done for each use before adding up to obtain the total requirement for the development.

7. The total number of parking lots provided should be within the specified range, defined by the lower and upper bound requirement. Developers who wish to deviate from the specified range (i.e. provide parking provision below the lower bound or above the upper bound) will be subjected to a process of waiver evaluation.

8. For industrial developments, the GFA for ancillary office (up to max. 25% of total GFA) and ancillary storage space should be added to the factory GFA and computed under factory standard. Ancillary office in excess of 25% should be computed separately based on office standard.

9. For places of worship, only the GFA or seating capacity of the main praying area should be considered. Other ancillary praying areas, childcare centres, etc. which are treated as non-simultaneous uses are excluded from computation. For columbarium in places of worship are also excluded from computation.

Sample Computations

1. Commercial Developments

BREAKDOWN OF GROSS FLOOR AREA (SQM)									
Floor	Shops (sqm)	Supermarket (sqm)	Amusement Centre (sqm)	Office (sqm)	Restaurant (sqm)	Library (sqm)	Cinema (sqm)	Common Areas (sqm)	Total GFA (sqm)
Basement	3,665.68	1,200.00	0	-	1,300	0	0	729.19	6,894.87
1st Storey	3,665.68	0	0	-	1,500	0	0	729.19	5,894.87
2nd Storey	3,665.68	0	0	56	1,500	3,000	0	729.19	8,950.87
3rd Storey	3,665.68	0	317.69	100.65	446.28	0	1,844.08 (780 seats)	729.19	7,103.57
Total	14,662.74	1,200.00	317.69	156.65	4,746.28	3,000	1,844.08	2,916.74	28,844.18

			Number of Parking Lots Required											
			Computed Lower Bound Requirement							Computed Upper Bound Requirement				
Proposed Usage	GFA (m²)	Parking Standard (Zone 2)	Car	Motor-cycle	Bicycle	Lorry / Loading bay	Coach	Others ( )		Car	Motor-cycle	Bicycle	Lorry / Loading bay	Coach	Others ( )
Shops + Supermarket + Common Areas	18,779.48	Lower Bound Car: 1 lot per 420m² M/Cycle: 1 lot per 8,000m² Bicycle: 75 lots plus 1 lot for every subsequent 600m² HV: 1 lorry/loading and unloading per 4,000m² Upper Bound Car: 1 lot per 210m² M/Cycle: 1 lot per 4,000m²	(44.71) 45	(2.34) 2	(6.29) 75+6	(4.69) 5	-	-		(89.42) 89	(4.69) 5	-	-	-	-
Amusement Centre	317.69	Lower Bound Car: 1 lot per 200m² M/Cycle: 1 lot per 3,750m² Bicycle: 0 (<1000m²) Upper Bound Car: 1 lot per 160m² M/Cycle: 1 lot per 3,000m²	(1.58) 2	(0.08) 0	0	-	-	-		(1.98) 2	(0.10) 0	-	-	-	-
Office	156.65	Lower Bound Car: 1 lot per 530m² M/Cycle: 1 lot per 10,000m² Bicycle: 0 (<1000m²) HV: 1 lorry/loading and unloading per 10,000m² up to 50,000m² Upper Bound Car: 1 lot per 330m² M/Cycle: 1 lot per 6,250m²	(0.29) 0	(0.01) 0	0	(0.01) 0	-	-		(0.47) 0	(0.02) 0	-	-	-	-
Restaurant	4746.28	Lower Bound Car: 1 lot for the first 160m² then 1 lot per subsequent 130m² M/Cycle: 1 lot for the first 160m² then 1 lot per subsequent 2,400m² Bicycle: 1 lot per 200m² Upper Bound Car: 1 lot for the first 160m² then 1 lot per subsequent 60m² M/Cycle: 1 lot for the first 160m² then 1 lot per subsequent 1,200m²	(35.27) 1+35	(1.91) 1+2	(23.74) 24	-	-	-		(76.43) 1+76	(3.82) 1+4	-	-	-	-
Cinema (780 seats)	1844.08	Lower Bound Car: 1 lot per 16 seats M/Cycle: 1 lot per 300 seats Bicycle: 0 (<1000m²) Upper Bound Car: 1 lot per 13 seats M/Cycle: 1 lot per 240 seats	(48.75) 49	(2.6) 3	0	-	-	-		60	(3.25) 3	-	-	-	-
Library	3000	Lower Bound Car: 1 lot per 260m² M/Cycle: 1 lot per 5,000m² Bicycle: 15 lots (1000m² -3000m²) Upper Bound Car: 1 lot per 210m² M/Cycle: 1 lot per 4,000m²	(11.53) 12	(0.6) 1	15	-	-	-		(14.28) 14	(0.75) 1				
Total	28,844.18		144	9	120	5	-	-		242	14	-	-	-	-

2. Places of Worship

BREAKDOWN OF GROSS FLOOR AREA (SQM)						
Floor	**Prayer Hall (sqm)**	**Office (sqm)**	**Common Areas (sqm)**	**Pantry (sqm)**	**Others (Utility) (sqm)**	**Total GFA (sqm)**
1st Storey	180 (200 seats)	-	50	30	40	300
2nd Storey	-	120	40	-	40	200
Total	180	120	90	30	80	500

			Number of Parking Lots Required											
			Computed Lower Bound Requirement						Computed Upper Bound Requirement					
Proposed Usage	**GFA (m^2)**	**Parking Standard (Zone 3)**	**Car**	**Motor-cycle**	**Bicycle**	**Lorry / Loading bay**	**Coach**	**Others ( )**	**Car**	**Motor-cycle**	**Bicycle**	**Lorry / Loading bay**	**Coach**	**Others ( )**
Prayer Hall	180 (200 seats)	Lower bound Car: Prayer areas with seats; 1 lot per 13 seats Prayer areas without seats; 1 lot per 70 seats M/cycle: Prayer areas with seats; 1 lot per 250 seats Prayer areas without seats; 1 lot per 1250 seats Bicycle: 0 (<1000m^2) Upper bound Car: Prayer areas with seats; 1 lot per 11 seats Prayer areas without seats; 1 lot per 50 seats M/cycle: Prayer areas with seats; 1 lot per 200 seats Prayer areas without seats; 1 lot per 1000 seats	(15.38) 15	(0.8) 1	-	-	-	-	(18.18) 18	1	-	-	-	-
Office	120	Excluded from parking computation	-	-	-	-	-	-	-	-	-	-	-	-
Common Areas	90		-	-	-	-	-	-	-	-	-	-	-	-
Pantry	30		-	-	-	-	-	-	-	-	-	-	-	-
Others	80		-	-	-	-	-	-	-	-	-	-	-	-
Total	**500**	**0**	**15**	**1**	**-**	**-**	**-**	**-**	**18**	**1**	**-**	**-**	**-**	**-**

3. Industrial/Factory Developments

BREAKDOWN OF GROSS FLOOR AREA (SQM)					
Floor	**Industrial (sqm)**	**Ancillary Office (sqm)**	**Canteen (sqm)**	**Others (sqm)**	**Total GFA (sqm)**
1st Storey	1650	100	1500	150	3400
2nd Storey	250	-	-	180	430
3rd Storey	600	30	-	150	780
Roof	-	-	-	40	40
Total	2500	130	1500	520	4650

			Number of Parking Lots Required											
			Computed Lower Bound Requirement						Computed Upper Bound Requirement					
Proposed Usage	**GFA (m^2)**	**Parking Standard (Zone 3)**	**Car**	**Motor-cycle**	**Bicycle**	**Lorry / Loading bay**	**Coach**	**Others ( )**	**Car**	**Motor-cycle**	**Bicycle**	**Lorry / Loading bay**	**Coach**	**Others ( )**
10 Factories (c) Detached factories / single-user factories (including areas used as offices up to a maximum of 25% of total floor area and ancillary storage space)	3150	Lower Bound Car: 1 lot per 790m^2 M/Cycle: 1 lot per 15,000m^2 Bicycle: 1 lot per 300m^2 HV: 1 lorry/loading and unloading per 1500m^2 up to 13500m^2 Upper Bound Car: 1 lot per 630m^2 M/Cycle: 1 lot per 12,000m^2	(3.98) 4	(0.21) 0	(10.5) 11	(2.1) 2	-	-	5	(0.26) 0	-	-	-	-
Canteen	1500	Lower Bound Car: 1 lot for the first 160m^2 then 1 lot per subsequent 70m^2 M/Cycle: 1 lot for the first 160m^2 then 1 lot per subsequent 1,250m^2 Bicycle: 10 lots (<1000m^2) Upper Bound Car: 1 lot for the first 160m^2 then 1 lot per subsequent 50m^2 M/Cycle: 1 lot for the first 160m^2 then 1 lot per subsequent 1,000m^2	(19.14) 1+19	(1.07) 1+1	10	-	-	-	(26.8) 1+27	(1.34) 1+1	-	-	-	-
Total	**4650**		24	2	21	2	-	-	33	2	-	-	-	-

4. Warehouse Developments

BREAKDOWN OF GROSS FLOOR AREA (SQM)					
Floor	**Warehouse (sqm)**	**Office (sqm)**	**Gym (sqm)**	**Others (sqm)**	**Total GFA (sqm)**
1st Storey	4000	200	-	300	4500
2nd Storey	1000	250	30	350	1630
Total	5000	450	30	650	6130

			Number of Parking Lots Required											
			Computed Lower Bound Requirement						Computed Upper Bound Requirement					
Proposed Usage	**GFA (m^2)**	**Parking Standard (Zone 3)**	**Car**	**Motor-cycle**	**Bicycle**	**Lorry / Loading bay**	**Coach**	**Others**	**Car**	**Motor-cycle**	**Bicycle**	**Lorry / Loading bay**	**Coach**	**Others**
Warehouse + Gym + Others	5680	Lower Bound HV: 1 lorry/loading and unloading bay per 800m²	-	-	-	(7.1) 7	-	-	-	-	-	-	-	-
Office	450	Lower Bound Car: 1 lot per 260m² M/Cycle: 1 lot per 5,000m² Bicycle: 0 (<1000m²) HV: 1 lorry/loading and unloading per 10,000m² up to 50,000m² Upper Bound Car: 1 lot per 210m² M/Cycle: 1 lot per 4,000m²	(1.73) 2	(0.09) 0	-	(0.04) 0	-	-	(2.14) 2	(0.11) 0	-	-	-	-
Total	6130	-	2	0	-	7	-	-	2	-	-	-	-	-