

Chapter 12

Parking Structure Guidelines

12.1 INTRODUCTION

All development and redevelopment within the City of Santa Ana is required to satisfy on-site and off-site parking regulations, per the City’s Municipal Code. This Chapter should be referenced for additional guidance for parking structure design and placement.

Parking structures are an efficient economical option to providing parking without acquiring additional land for surface parking. Parking structure design must consider architectural compatibility size, scale, and bulk as it relates to adjacent properties and the overall design of the project.

- a. Parking structures shall meet the minimum landscape and setback standards applicable to the zone in which the structure is located.
- b. Complete and uninterrupted vehicle circulation is required on all levels of the parking structure.
- c. Parking structure design shall utilize horizontal beam construction that avoids column supports adjacent to parking spaces and aisle areas.
- d. For public protection, parking structures shall provide natural surveillance by providing maximum visibility into the structure from adjacent activity and public areas.
- e. Exterior elevations shall incorporate design components and materials utilized and compatible with the primary building(s).
- f. Retail or other uses are encouraged at the ground level of the parking structure where appropriate.



Figure 12-1: Parking structure located in downtown Santa Ana



Figure 12-2: The ground floor should be used for retail or other appropriate use and be articulated in a manner to lessen the appearance or mass and bulk

12.2 GENERAL GUIDELINES

12.3 SITE ORGANIZATION

- a. Parking structure design shall consider architectural compatibility size, scale and bulk and its relationship to adjacent structures.
- b. Parking structures should generally not be located adjacent to sensitive receptors such as residential uses, schools, or parks, unless appropriate setback, massing, screening and other mitigation is incorporated.



Figure 12-3: Setback parking structures on street sides

12.4 SETBACKS

- a. Parking structures shall maintain the established setback for the area and all of the following applicable setbacks, whichever is greater:
 - The minimum setbacks required in the zoning district where the structure is located.
 - The prevailing setback.
 - Structures adjacent to a street shall provide an additional 5-foot setback for each parking level above 3.
 - Setbacks for side and rear yards shall be a minimum of 10 feet wide.

- b. Structures that abut property zoned, used or designated on the General Plan for residential purposes shall provide a 15-foot minimum landscape setback adjacent to that use.
- c. All setbacks shall be landscaped. Berms and slopes may be used to give more dimensions to the setback.
- d. Structures with staggered setbacks shall provide landscape planters at each level with sufficient width and depth to support shrubs, groundcovers and vines.
- e. Any subterranean levels shall use offset sloping ramps to allow for open and unobstructed visibility for floor surveillance.



Figure 12-4: Landscaping along setback areas is encouraged



Figure 12-6: Use landscaping to screen mechanical equipment

12.5 SCREENING

- a. All appurtenances (i.e., transformers, ventilation shafts, etc.) shall be located outside any required setback and shall be screened from public view.

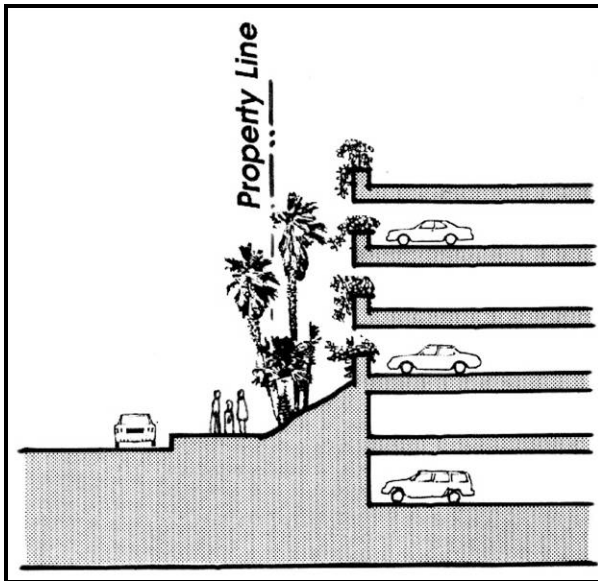


Figure 12-5: Screen parking structures as much as possible

12.6 PARKING STRUCTURE DESIGN - EXTERIOR

- a. Exterior walls of parking structures should have an open-air design with the first floor (ground level) walls being a maximum of 3 feet high (except for sheer panels). Decorative grillwork should be placed between such a wall and the flooring for the second parking level.
- b. The exterior elevations of the parking structure should exhibit horizontal rather than sloping design elements.
- c. Exterior elevations should be designed to minimize untreated facades. Long expanses of sheer walls are not permitted.
- d. Exterior walls of parking structures should be finished with the same material to match the architectural character of the principal building.

- e. Exterior elevations should replicate the window pattern and other architectural elements of adjacent buildings.

12.7 PARKING STRUCTURE DESIGN - INTERIOR

- a. Interior walls and ceilings should be painted a light color to improve illumination.
- b. Parking structures should provided a minimum floor to ceiling height of 8'-0" exclusive of structural elements and appurtenances. Additional heights should be considered based on unique site conditions.
- c. All mechanical equipment and piping must be painted to match the interior of the structure.
- d. Elevators shall be located where the door and open cab are visible to the public using the facility. The shaft and elevator cab should have glass facing the public view. Any glass tinting should be minimal to ensure daytime and nighttime visibility.
- e. Where possible, elevators and stairs should be located on the perimeter of the structure to provide natural surveillance from exterior public areas.



Figure 12-7: Elevators and stairs should be visible from public areas

- f. Stairwells must be integrated into the design and footprint of the parking structure and shall be more than just open air railings attached to the exterior of the structure.
- g. All solid stairwell doors shall provide viewing panels. Blind corners in stairwells shall be eliminated through the use of convex mirrors.
- h. Garage stairwells at ground level should be fully enclosed and designed to provide maximum interior visibility of the stairwell. The enclosure should be equipped with a control in/free out form of access control.
- i. To provide maximum visibility, stairwells must be open to the interior and at least partially open at the exterior of the structure.
- j. Stairwells should exit out to the street.

- k. A minimum of 5 foot-candles of illumination shall be provided inside the structure and a minimum of 3 foot-candles for exterior parking areas. Higher levels are recommended for remote areas subject to security considerations (e.g., stairways, elevators, and other pedestrian access points). Minimum illumination, levels measured from the adjacent finished floor, shall be as follows:

Location	Illumination Level
Stairways and exits	5 ft-candles
Interior drive aisles, centerline	5 ft-candles
Interior parking at barrier railings	0.5 ft-candles
Roof parking areas	0.5 ft-candles

12.8 LANDSCAPING AND AMENITIES

- a. A 5- to 10-foot landscape planter should be provided around the base of the parking structure.
- b. Landscaping should not obstruct ventilation or other required openings on the exterior of the structure. Where the landscaping is adjacent to ventilation openings, shrubs should be maintained at a height of no greater than 3 feet. Trees placed in front of ventilation openings should be trimmed up to a height of 6 feet.
- c. A plaza/courtyard area should be provided and should include

amenities that encourage pedestrian use such as seating areas, objects of art, water features, decorative lighting, and landscape planters providing annual color.

- d. The area of the plaza/courtyard should be at least 1/3 of the area of the parking structure footprint calculated at the ground level. Additional plaza/courtyard area should be provided if the structure is 4 levels or higher. The minimum width of the plaza/courtyard shall be 50% of the parking structure dimension measured adjacent to the plaza/courtyard. (Refer to Figure 12-8)

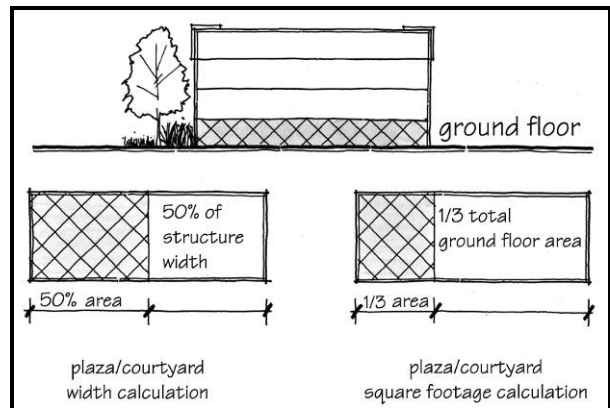


Figure 12-8: Plaza/courtyard width and area calculation.



Figure 12-9: Use landscaping to mitigate visual impacts

e. If landscaping is provided on various levels of the parking structure, the minimum planter dimensions should be equal to or greater than 4-feet wide and 4-feet deep. An internal drainage system and waterproofing of the planters should be provided along with a drip-type irrigation system. A proper soil planter mix should be specified on the landscape plan.



Figure 12-10: The use of trees, shrubs, and vines are encouraged along the perimeter of the structure

f. A trellis may be incorporated into the building design where blank walls occur on the structure. The trellis material should be constructed of decorative and durable materials to enable vines to attach themselves for support. The trellis area should cover a minimum of 60% of the blank wall.

g. Water conservation should be an important consideration when selecting a plant palette. Plant materials should be of California origin or from sub-tropical or Mediterranean type climates similar to that of southern California. An automatic irrigation system should be designed to provide deep watering for trees, shrubs and vines along with moisture sensors to monitor and minimize water usage.

12.9 CIRCULATION

a. Interior function and appearance are as important as facade compatibility. The following standards apply to circulation design:

- All vehicle travel aisles should be designed so that all turning movements can be made by a large passenger vehicle without crossing over the centerline of any travel aisle.
- Pedestrian paths should be visible (site lines) and delineated from vehicle travel aisles.
- Maximum vehicle ramp grade should be 12 percent with minimum 12-foot long transitions at the top and bottom of the ramp.
- A maximum ramp grade of 5 percent when parking on the ramp is permitted.
- Avoid designs that require queuing on slopes.

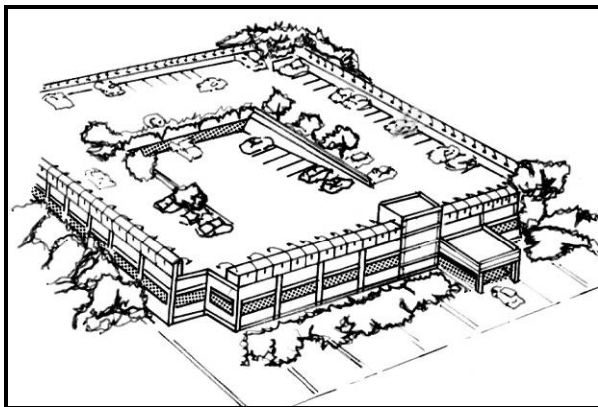


Figure 12-11: Functional plan: Straight ramp garage

- b. Entrances and exits should be located so that vehicles do not enter or exit onto residential streets or busy intersections.
- c. Vehicle circulation within the parking structure shall be continuous and uninterrupted at all levels. Dead-end parking aisles or “hammerhead” type parking is not an acceptable solution to parking circulation. Fully integrated parking and/or a turning radius are acceptable methods to achieve proper circulation.
- d. Elevator and stair shafts, mechanical rooms and similar visual disruptions located on the interior of parking levels shall be minimized. Pedestrian and vehicle vertical circulation elements should be placed on the periphery of the floor area to obtain the maximum amount of level floor areas.
- e. The number of pedestrian and vehicular access points shall be minimized. A minimum 4-foot wide pedestrian sidewalk shall be provided along side every vehicular access location. All entrances and exits should be capable of closure after hours.
- f. Pedestrian circulation should be clearly delineated and separated from automobile circulation. The use of landscaping, walkways and decorative hardscape is encouraged to emphasize pedestrian areas.

- g. Pedestrian routes from the parking structure lobby to the principal building should provide an aesthetic transition compatible with the quality of the building.
- h. Trash enclosures should not be placed adjacent to points of pedestrian or vehicular access. Any trash enclosures located within the footprint of the parking structure should be fully enclosed and lockable.
- i. Any subterranean levels should use offset sloping ramps to allow for open and unobstructed visibility for floor surveillance.

12.10 SIGNAGE

- a. All signage must comply with the City of Santa Ana sign code.
- b. Signs and graphics for parking structures should be consistent, harmonious and visually related through the incorporation of common design elements.
- c. Exterior signs shall be consistent and match to main building’s signage.
- d. Directional arrows and signage indicating exits, elevators, and emergency buzzers/telephones should be visibly displayed on walls.
- e. Directional signage should be provide at the egress to parking

structures indicating directions to primary transportation routes.

- f. Directional signage in stairwells should be provided to orient the pedestrian to adjacent activities and facilities.

12.11 MISCELLANEOUS

- a. Activities such as shops, offices, or other commercial space should be incorporated along the ground level of the parking structure, where appropriate.



Figure 12-12: Parking structure with retail on ground level

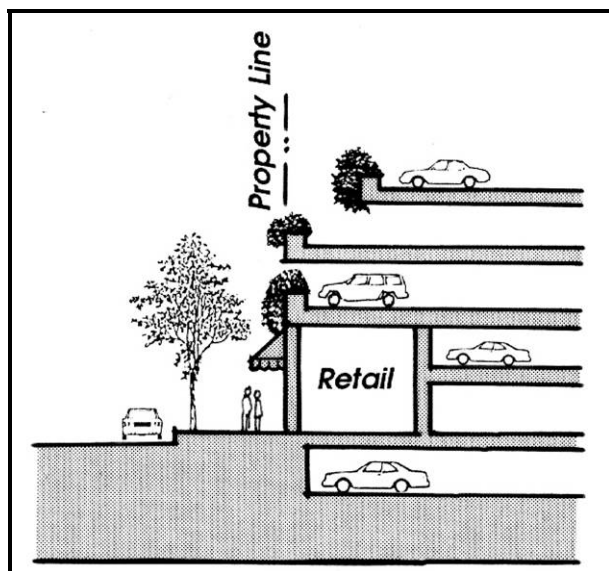


Figure 12-13: The use of retail or appropriate uses along the ground level is encouraged

- b. Parking structures shall be equipped with lighting devices that will provide a minimum maintained one foot-candle of light on the parking surface during hours of darkness. Subterranean parking lots should maintain lighting 24 hours a day. Vandal-resistant covers shall protect lighting devices.

- c. Public or semi-private bathrooms are prohibited in parking structures. Private bathrooms for the parking attendant shall be located where the doors are immediately adjacent to the parking attendant office or station and where they are visible to the attendant on duty.