

Design Guidelines Summary

Item	Reference	Description														
Type of Stall (Standard)	LUO Sec. 21-6.30 (d)	All stalls shall be standard sized.														
Number of loading stalls	LUO Sec 21-6.100	Chart based on land use and square footage.														
Stall Dimensions	LUO Sec. 21-6.50 (a) LUO Sec. 21-6.120	Minimum Standard Stalls 18' long 8' 3" wide Minimum Loading Stall For one required loading space, 19' by 8' 6" For two or more required loading spaces, half shall be 12' by 35'. The other half shall be 19' x 8'6"														
Aisle widths	LUO Sec.21-6.50 (d) Turning Templates	<table><thead><tr><th><u>Parking Angle</u></th><th><u>Aisle Width</u></th></tr></thead><tbody><tr><td>0° - 44°</td><td>12 ft.</td></tr><tr><td>45° - 59°</td><td>13.5 ft.</td></tr><tr><td>60° - 69°</td><td>18.5 ft.</td></tr><tr><td>70° - 79°</td><td>19.5 ft.</td></tr><tr><td>80° - 89°</td><td>21 ft.</td></tr><tr><td>90°</td><td>22 ft.</td></tr></tbody></table> Accommodate Passenger Car (P Design Vehicle) and Single Unit Truck (SU Design Vehicle), See Turning Templates	<u>Parking Angle</u>	<u>Aisle Width</u>	0° - 44°	12 ft.	45° - 59°	13.5 ft.	60° - 69°	18.5 ft.	70° - 79°	19.5 ft.	80° - 89°	21 ft.	90°	22 ft.
<u>Parking Angle</u>	<u>Aisle Width</u>															
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80° - 89°	21 ft.															
90°	22 ft.															
Driveway Dimensions	City Std. R-30	Driveway width 12' to 50' wide (excluding flares) 20' wide minimum for two way traffic Sum of driveway widths shall not exceed 30' or 45% of property frontage on that street, whichever is greater. No limit on number of driveways (as long as meet 30' or 45% requirement)														

Item	Reference	Description																								
Landscaping	LUO Sec. 21-4.70 (a) LUO Sec. 21-4.70 (b)	For parking lots with 5 or more spaces, a 5' minimum landscape strip adjacent to street right-of-way is required. Hedge, minimum 36" high, spaced at 18" on center within landscape strip. For parking lots with 10 or more spaces, a min. 2" caliper tree for every 6 stalls or a min. 6" caliper tree for every 12 stalls. Each tree to be in a 9 sq. ft. planting area or tree well. If using wheel stops, tree well may be located within the 3' overhang area, See Figure 21.4-4.																								
Number of Accessible spaces	ADA 4.1.2 (5)(a)	<table><thead><tr><th><u>Total Parking in Lot</u></th><th><u>Required Min. # of Accessible Spaces</u></th></tr></thead><tbody><tr><td>1 to 25</td><td>1</td></tr><tr><td>26 to 50</td><td>2</td></tr><tr><td>51 to 75</td><td>3</td></tr><tr><td>76 to 100</td><td>4</td></tr><tr><td>101 to 150</td><td>5</td></tr><tr><td>151 to 200</td><td>6</td></tr><tr><td>201 to 300</td><td>7</td></tr><tr><td>301 to 400</td><td>8</td></tr><tr><td>401 to 500</td><td>9</td></tr><tr><td>501 to 1000</td><td>2% of total</td></tr><tr><td>1001 and over</td><td>20 plus 1 for each 100 over 1000</td></tr></tbody></table>	<u>Total Parking in Lot</u>	<u>Required Min. # of Accessible Spaces</u>	1 to 25	1	26 to 50	2	51 to 75	3	76 to 100	4	101 to 150	5	151 to 200	6	201 to 300	7	301 to 400	8	401 to 500	9	501 to 1000	2% of total	1001 and over	20 plus 1 for each 100 over 1000
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401 to 500	9																									
501 to 1000	2% of total																									
1001 and over	20 plus 1 for each 100 over 1000																									
Location of accessible spaces	ADA 4.6.2	Located on the shortest accessible route to facility entrance																								
Accessible Space Dimensions	ADA 4.6.3	96" (8') wide																								
Access Aisles	ADA 4.1.2 (5)(a) ADA 4.1.2 (5)(b) ADA 4.6.3 ADA 4.6.6	Except as provided in (5)(b), access aisles adjacent to accessible spaces shall be 60"(5') wide Minimum of 1 aisle or 1 aisle per 8 accessible stalls shall have an access aisle of 96" (8') Two accessible spaces may share a common access aisle See Figure-Access Aisle For passenger loading zone, access aisle 60" (5') by 20' See Figure-Access Aisle for Parallel																								
Symbols of Accessibility	ADA 4.30.7	See Figure 43(a) See Figure 43(b)																								

Item	Reference	Description
Traffic Signs	MUTCD	
	Section 2B.06	STOP Sign
	Section 2B.11	YIELD/STOP FOR PEDESTRIAN Signs
	Section 2B.18	MOVEMENT PROHIBITION Signs
	Section 2B.40	ONE WAY Signs
	Section 2B.46	PARKING, STANDING AND STOPPING Signs
		The MUTCD rules for sign placement do not necessarily apply to private parking lots (per their FAQ), but the signs can be used at the lots.

Figures

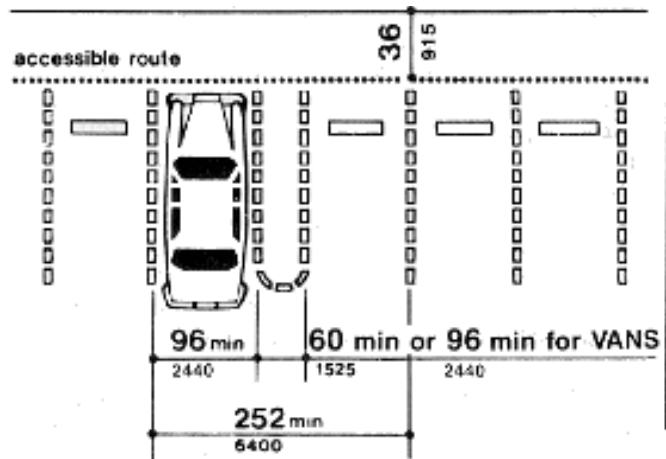


Figure-Access Aisle

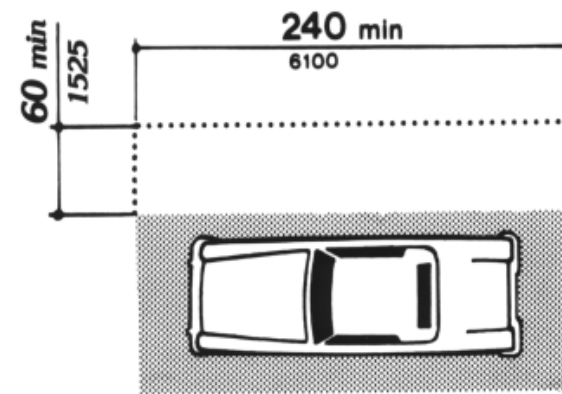


Figure-Access Aisle for Parallel



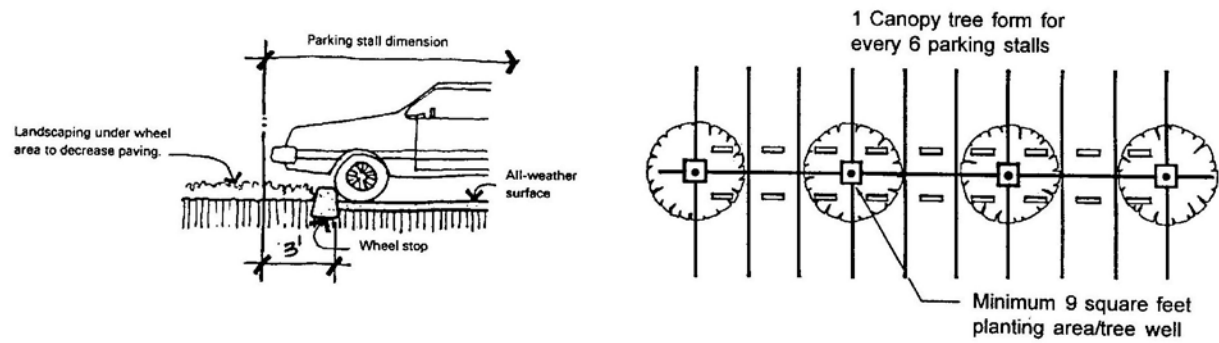
Figure 43(a)



Figure 43(b)

Figures

Figure 21-4.4
PARKING LOT LANDSCAPING



References

Land Use Ordinances (LUO)

<http://www1.honolulu.gov/council/ocs/roh/rohchapter21art46.pdf>

Americans with Disabilities Act (ADA), Accessibility Guidelines for Buildings and Facilities

<http://www.access-board.gov/adaag/html/adaag.htm#4.30.7>

*See sections 4.1 and 4.6

Manual on Uniform Traffic Control Devices (MUTCD), 2009 Edition

http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/pdf_index.htm

*See Chapter 2B

Standard Details for Public Works Construction (City Std.), September 1984

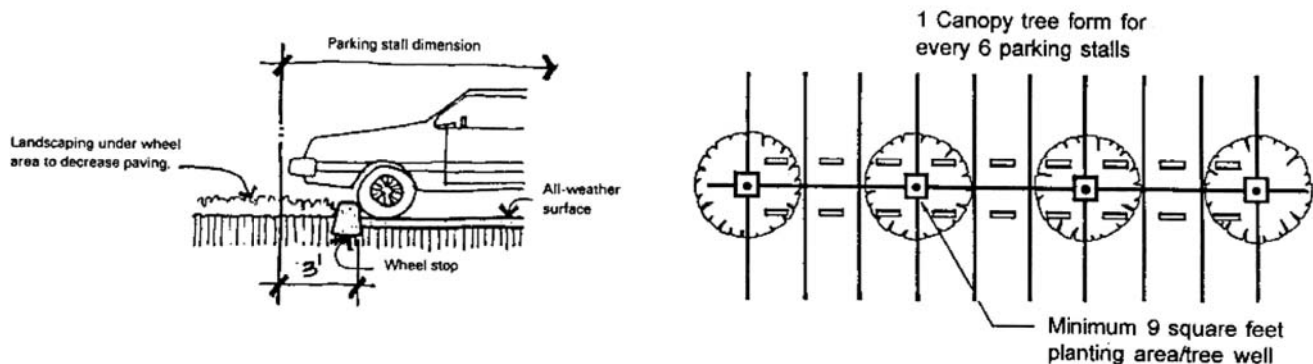
<http://www.usspecbook.com/files/specs/standard-details-public-works-construction.pdf>

Sec. 21-4.70 Landscaping and screening.

Parking lots, automobile service stations, service and loading spaces, trash enclosures, utility substations and rooftop machinery shall be landscaped or screened in all zoning districts as follows:

- (a) Parking lots of five or more spaces and automobile service stations shall provide a minimum five-foot landscape strip adjacent to any adjoining street right-of-way. This five-foot strip shall contain a continuous screening hedge not less than 36 inches in height with plantings no more than 18 inches on center. If the landscape strip is wider than five feet, the hedge may be placed elsewhere in the strip. A minimum 36-inch high wall or fence may be placed behind the setback line in lieu of a hedge. If a wall or solid fence is erected, either a vine or shrub shall be planted at the base of the wall or solid fence on the side fronting the property line. One canopy form tree a minimum of two inch caliper shall be planted in the landscape strip for each 50 feet or major fraction of adjacent lineal street frontage.
- (b) To provide shade in open parking lots and minimize visibility of paved surfaces, parking lots with more than 10 parking stalls shall provide one canopy form tree a minimum of two-inch caliper for every six parking stalls or major fraction thereof, or one canopy form tree of six-inch caliper or more for every 12 parking stalls or major fraction thereof. Each tree shall be located in a planting area and/or tree well no less than nine square feet in area. If wheel stops are provided, continuous planting areas with low ground cover, and tree wells with trees centered at the corner of parking stalls may be located within the three foot overhang space of parking stalls. Hedges and other landscape elements, including planter boxes over six inches in height, are not permitted within the overhang space of the parking stalls. Trees shall be sited so as to evenly distribute shade throughout the parking lot (see Figure 21-4.4).

**Figure 21-4.4
PARKING LOT LANDSCAPING**



- (c) Parking structures with open or partially open perimeter walls which are adjacent to zoning lots with side or rear yard requirements shall meet the following requirements:
 - (1) An 18-inch landscaping strip along the abutting property line shall be provided. This strip shall consist of landscaping a minimum of 42 inches in height. A solid wall 42 inches in height may be substituted for this requirement.
 - (2) A minimum two-inch caliper tree shall be planted for every 50 linear feet of building length, abutting a required yard.
 - (3) Each parking deck along the abutting property line shall have a perimeter wall at least two feet in height to screen vehicular lights otherwise cast onto adjacent property.
- (d) All outdoor trash storage areas, except those for one-family or two-family dwelling use, shall be screened on a minimum of three sides by a wall or hedge at least six feet in height. The wall shall be painted, surfaced or otherwise treated to blend with the development it serves.
- (e) All service areas and loading spaces shall be screened from adjoining lots in country, residential, apartment and apartment mixed use districts by a wall six feet in height.
- (f) Within country, residential, apartment, apartment mixed use and resort districts, utility substations, other than individual transformers, shall be enclosed by a solid wall or a fence with a screening hedge a minimum of five feet in height, except for necessary openings for access. Transformer vaults for underground utilities and similar uses shall be enclosed by a landscape hedge, except for access openings.
- (g) All plant material and landscaping shall be provided with a permanent irrigation system.
- (h) All rooftop machinery and equipment, except for solar panels, antennas, plumbing vent pipes, ventilators and guardrails, shall be screened from view from all directions, including from above, provided that screening from above shall not be required for any machinery or equipment whose function would be impaired by such screening. Rooftop machinery and equipment in the strictly industrial districts and on structures or portions of structures less than 150 feet in height shall be exempt from this subsection.

(Added by Ord. 99-12)

Sec. 21-4.70-1 Screening wall or buffering.

- (c) Any application for a zoo shall be accompanied by a landscape plan for the area outside the wall required in subsection (b) and shall be subject to the approval of the director.
(Added by Ord. 99-12)

Article 6. Off-street Parking and Loading

Sections:

21-6.10	Off-street parking and loading--Intent.
21-6.20	Off-street parking requirements.
21-6.30	Method of determining number.
21-6.40	Arrangement of parking spaces.
21-6.50	Minimum dimensions.
21-6.60	Improvement of off-street parking spaces, parking lots and driveways.
21-6.70	Parking spaces and required yards.
21-6.80	Mechanical parking and storage garages.
21-6.90	Required parking spaces located off premises.
21-6.100	Off-street loading requirements.
21-6.110	Method of determining number.
21-6.120	Dimensions of loading spaces.
21-6.130	Location and improvement of loading spaces.
21-6.140	Exceptions to off-street parking and loading requirements.

Tables:

21-6.1	Off-street Parking Requirements.
21-6.2	Off-street Parking Requirements BMX-4 Central Business Mixed Use.
21-6.3	Off-street Parking Requirements Waikiki Special District.

Sec. 21-6.10 Off-street parking and loading--Intent.

- (a) Parking and loading standards are intended to minimize street congestion and traffic hazards, and to provide safe and convenient access to residences, businesses, public services and places of public assembly. Parking standards are not intended to satisfy maximum parking demand.
- (b) Off-street parking and loading spaces shall be provided in such numbers, at such locations and with such improvements as required by the provisions of this article.

(Added by Ord. 99-12)

Sec. 21-6.20 Off-street parking requirements.

Except as otherwise provided in this chapter, the minimum number of required off-street parking spaces shall be as shown on Tables 21-6.1, 21-6.2 and 21-6.3 which follow. When there is a change in use, the number of off-street parking spaces shown on Tables 21-6.1, 21-6.2 and 21-6.3 for the new use shall be provided, except as provided under Section 21-4.110(e) relating to nonconforming parking and loading. (Added by Ord. 99-12)

Sec. 21-6.30 Method of determining number.

- (a) To determine the required number of off-street parking spaces, floor area shall be as defined in Article 10 of this chapter, except that for the purposes of this section, basement floor area shall be included as floor area for parking purposes when it is devoted to uses having a parking requirement specified in Tables 21-6.1, 21-6.2 and 21-6.3.
- (b) When computation of the total required parking spaces for a zoning lot results in a fractional number with a major fraction (i.e., 0.5 or greater), the number of spaces required shall be the next highest whole number.
- (c) In stadiums, sports arenas, meeting facilities, and other places of assembly in which patrons or spectators occupy benches, pews or other similar seating facilities, each 24 inches of width shall be counted as a seat for the purpose of determining requirements for off-street parking.
- (d) All required parking spaces shall be standard-sized parking spaces, except that duplex units, detached dwellings and multifamily dwellings may have up to 50 percent compact spaces.
- (e) All spaces, other than for one- and two-family dwellings, shall be individually marked if more than four spaces are required. Compact spaces shall be labeled "compact only."
- (f) When a building or premises include uses incidental or accessory to a principal use, the total number of spaces shall be determined on the basis of the parking requirements of the principal use(s).
- (g) Parking requirements for conversion or development of hotels to condominium ownership other than in the resort district shall be as follows:
- (1) One parking space per dwelling unit or lodging unit.
 - (2) One parking space per 800 square feet for any accessory uses.
 - (3) This subsection shall not apply so long as the structure continues in hotel use.

(Added by Ord. 99-12)

**Table 21-6.1
Off-street Parking Requirements**

Use ¹	Requirement ²
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Table 21-6.1
Off-street Parking Requirements

Use ¹	Requirement ²										
AGRICULTURE											
Agricultural products processing (major or minor); animal products processing; centralized bulk collection, storage and distribution of agricultural products to wholesale and retail markets; sale and service of machinery used in agricultural production; sawmills; and storage and sale of seed, feed, fertilizer and other products essential to agricultural production.	1 per 1,500 square feet										
ANIMALS											
Kennels, commercial	1 per 400 square feet, but no less than 4										
COMMERCE AND BUSINESS											
Automotive and boat parts and services, but not storage and repair; automobile and boat sales and rentals; catering establishments; dance or music schools; financial institutions; home improvement centers; laboratories (medical or research); medical clinics; offices, other than herein specified; personal services; photographic processing; photography studios; plant nurseries; retail establishments other than herein specified; and veterinary establishments	1 per 400 square feet										
Bowling alleys	3 per alley										
Business services	1 per 500 square feet										
Convenience stores; and sales: food and grocery stores (including neighborhood grocery stores)	1 per 300 square feet										
Data processing facilities	1 per 800 square feet										
Drive-thru facilities (window or machine)	5 stacking spaces										
Eating and drinking establishments (including bars, nightclubs, taverns, cabarets, and dance halls)	1 per 300 square feet, provided the total floor area of all eating and drinking establishments comprises 50 percent or more of the floor area developed on the zoning lot. Otherwise, 1 per 400 square feet, including outdoor dining areas.										
Laundromats, cleaners: coin operated	1 per 2 washing machines										
Sales: appliance, household and office furniture; machinery; and plumbing and heating supply	1 per 900 square feet										
Self-storage facilities	1 per 2,000 square feet										
Shopping centers ³	1 per 300 square feet										
Skating rinks	1 for each 4 skaters of the rink's maximum capacity or 1 per 1,500 square feet of skating surface, whichever is greater.										
DWELLINGS AND LODGINGS											
Boarding facilities	2 plus 0.75 per unit										
Consulates	1 per dwelling or lodging unit, plus 1 per 400 square feet of office floor area, but not less than 5										
Dwellings, detached, duplex and farm	2 per unit plus 1 per 1,000 square feet over 2,500 square feet (excluding carport or garage)										
Dwellings, multifamily	<table> <tr> <th>Floor Area of Dwelling or Lodging Units</th><th>Required Parking per Unit</th></tr> <tr> <td>600 sq. ft. or less</td><td>1</td></tr> <tr> <td>More than 600 but less than 800 sq. ft.</td><td>1.5</td></tr> <tr> <td>800 sq. ft. and over</td><td>2</td></tr> <tr> <td colspan="2">Plus 1 guest parking stall per 10 units for all projects</td></tr> </table>	Floor Area of Dwelling or Lodging Units	Required Parking per Unit	600 sq. ft. or less	1	More than 600 but less than 800 sq. ft.	1.5	800 sq. ft. and over	2	Plus 1 guest parking stall per 10 units for all projects	
Floor Area of Dwelling or Lodging Units	Required Parking per Unit										
600 sq. ft. or less	1										
More than 600 but less than 800 sq. ft.	1.5										
800 sq. ft. and over	2										
Plus 1 guest parking stall per 10 units for all projects											
Hotels: dwelling units	1 per unit										
Hotels: lodging units; and lodging units	0.75 per unit										
INDUSTRIAL											
Food manufacturing and processing; freight movers; heavy equipment sales and rentals; linen suppliers; manufacturing, processing and packaging (light or general); maritime-related sales, construction, maintenance and repairing; motion picture and television studios; petroleum processing; port facilities; publishing plants for newspapers, books and magazines; salvage, scrap and junk storage and processing; storage yards; warehousing; waste disposal and processing; and wholesale and retail establishments dealing primarily in bulk materials delivered by or to ship, or by ship and truck in combination	1 per 1,500 square feet										
Repair establishments, major	1 per 300 square feet										
Repair establishments, minor	1 per 500 square feet										

Table 21-6.1
Off-street Parking Requirements

Use¹	Requirement²
Wholesaling and distribution	1 per 1,000 square feet
OUTDOOR RECREATION	
Boat launching ramps	10 per launching ramp
Golf driving ranges	2 per tee stall
Marinas	1 per 2 moorage stalls
Recreation facilities, outdoor and indoor, involving swimming pools and sports played on courts	1 per 200 square feet of seating area, plus 3 per court, e.g., racquetball, tennis or similar court, and 12 per outdoor playfield
SOCIAL AND CIVIC SERVICE	
Art galleries, museums and libraries	1 per 400 square feet
Auditoriums, funeral homes/mortuaries, meeting facilities, gymnasiums, sports arenas, and theaters	1 per 75 square feet of assembly area or 1 per 5 fixed seats, whichever is greater
Day-care facilities	1 per 350 square feet of classroom area, meeting area, and/or gathering space, plus 1 per 400 square feet of office floor space
Schools: elementary and intermediate	1 per 400 square feet of classroom area, plus 1 per 400 square feet of office floor space
Schools: high, language, vocational, business, technical, and trade; business colleges	1 per 200 square feet of high school, language school, business school, or business college classroom area; 1 per 500 square feet of vocational, technical, or trade school classroom area; plus 1 per 400 square feet of office floor space
TRANSPORTATION AND PARKING	
Automobile service stations	3 per repair stall
Car washing, mechanized	10 standing spaces for waiting vehicles for each car wash rack
UTILITIES AND COMMUNICATIONS	
Broadcasting stations	1 per 400 square feet
PARKING TO BE DETERMINED BY THE DIRECTOR	As determined by the director
Agriculture - aquaculture; composting (major or minor); crop production; forestry; and roadside stands. Animals - game preserves; livestock grazing; livestock production (major or minor); livestock veterinary services; and zoos. Commerce and business - amusement and recreation facilities, indoor and outdoor; home occupations; plant nurseries; and trade or convention centers. Dwellings and lodgings - group living facilities. Industrial - base yards; explosive and toxic chemical manufacturing, storage and distribution; and resource extraction. Outdoor recreation - amusement facilities, outdoor (motorized and not motorized); botanical gardens; golf courses; recreation facilities, outdoor and indoor, other than as herein specified; and marina facilities. Social and civic service - cemeteries and columbaria; hospitals; prisons; public uses and structures; universities and colleges. Transportation and parking - airports; heliports; helistops; and truck terminals. Utilities and communications - broadcasting antennas; receive-only antennas; utility installations (Type A or B); and wind machines. Miscellaneous - All other uses not herein specified	

(Added by Ord. 99-12; Am. Ord. 10-19)

Table 21-6.2
Off street Parking Requirements
BMX 4 Central Business Mixed Use

Use⁴	Requirement⁵
Amusement and recreation facilities, indoor, other than herein specified	1 per 300 square feet, or 1 per 10 fixed seats, whichever is greater
Auditoriums	1 per 300 square feet, or 1 per 10 fixed seats, whichever is greater

Automotive equipment and boat sales and service	1 per 1,200 square feet
Bowling alleys	1 per alley
Business services	1 per 500 square feet
Consulates	1 per dwelling or lodging unit, plus 1 per 400 square feet of office floor area, but no less than 5
Dwellings, multifamily	1 per dwelling unit
Eating and drinking establishments	1 per 300 square feet of dining area over 1,500 square feet, plus 1 per 400 square feet of kitchen and other areas
Financial institutions	1 per 600 square feet over 4,000 square feet
Hotels	1 per 4 units
Kennels (other than as an accessory use)	1 per 600 square feet over 4,000 square feet
Medical clinics	1 per 600 square feet over 4,000 square feet
Medical laboratories	1 per 600 square feet over 4,000 square feet
Meeting facilities	1 per 300 square feet, or 1 per 10 fixed seats, whichever is greater
Offices, other than herein specified	1 per 600 square feet over 4,000 square feet
Personal services, other than herein specified	1 per 600 square feet over 4,000 square feet
Repair establishments, minor	1 per 600 square feet over 4,000 square feet
Retail, other than herein specified	1 per 600 square feet over 4,000 square feet
Sales: appliance, household and office furniture	1 per 1,200 square feet
Sales: machinery	1 per 1,200 square feet
Self storage facilities	1 per 2,000 square feet

(Added by Ord. 99-12)

Table 21-6.3
Off street Parking Requirements
Waikiki Special District

Use⁶	Requirement⁵
Art galleries, museums, libraries	1 per 300 square feet or fraction thereof in excess of 1,000 square feet, but no less than 10
Day-care facilities	1 per 10 enrollment capacity
Dwellings, detached, duplex, and multifamily	1 per dwelling or lodging unit
Group living facilities	1 per 4 patient beds
Hotels	0.25 per dwelling or lodging unit
Meeting facilities	1 per 10 seats, or where the number of seats cannot be reliably estimated or determined, at least 1 space per 200 square feet
Schools: elementary and intermediate	1 per 15 seats in the main auditorium
Schools: high	1 per 5 seats in the main auditorium or 5 spaces per classroom, whichever is greater
All other permitted uses except in the public precinct	1 per 800 square feet
All permitted uses in the public precinct	With respect to projects requiring a major special district permit, as determined by the council by resolution as appropriate for the particular use and its location; with respect to all other projects, as determined by the director as appropriate for the particular use and its location

Notes:

1. Where a proposed use is not specifically listed above, or it falls under more than one use listed above, the director will review the proposed use and, based on the characteristics of the use, determine its equivalent and applicable off-street parking and loading requirements.
2. All references to square feet refer to floor area.
3. Parking standards for individual uses shall prevail if they are not part of a commercial use that meets the definition of "shopping center."
4. Where a proposed use is not specifically listed above, or it falls under more than one use listed above, the director will review the proposed use and, based on the characteristics of the use, determine its equivalent and applicable off street parking and loading requirements for the BMX-4 district.
5. All references to square feet refer to floor area.
6. Where a proposed use is not specifically listed above, or it falls under more than one use listed above, the director will review the proposed use and, based on the characteristics of the use, determine its equivalent and applicable off street parking and loading requirements for the Waikiki special district.

(Added by Ord. 99-12; Am. Ord. 03-38)

- (a) Except for landscaping elements as provided under Section 21-4.70(b), all spaces shall be unobstructed, provided that building columns may extend a maximum total of six inches into the sides of the parking space. A wall is not considered a building column.
- (b) Where four or more parking spaces are required, other than for one-family and two-family dwellings, the parking lot or area shall be designed or arranged in a manner that no maneuvering into or from any street, alley or walkway is necessary in order for a vehicle to enter or leave a space, and which allows all vehicles to enter the street in a forward manner.
- (c) All spaces shall be arranged so that any automobile may be moved without moving another except that tandem parking shall be permissible in any of these instances:
 - (1) Where two or more parking spaces are assigned to a single dwelling unit.
 - (2) For use for employee parking, except that at no time shall the number of parking spaces allocated for employees exceed 25 percent of the total number of required spaces. Also, for employee parking, "tandem" parking shall be limited to a configuration of two stacked parking stalls.
 - (3) Where all parking is performed by an attendant at all times, and vehicles may be moved within the lot without entering any street, alley or walkway.
 - (4) For public assembly facilities and temporary events when user arrivals and departures are simultaneous and parking is attendant directed.

(Added by Ord. 99-12)

Sec. 21-6.50 Minimum dimensions.

- (a) Standard sized automobile parking spaces shall be at least 18 feet in length and eight feet three inches in width, with parallel spaces at least 22 feet in length.
- (b) Compact spaces shall be at least 16 feet in length and seven and one-half feet in width, with parallel spaces at least 19 feet in length.
- (c) Parking spaces for boat launching ramps shall have a minimum dimension of 40 feet in length and 12 feet in width.
- (d) Minimum aisle widths for parking bays shall be provided in accordance with the following:

Parking Angle	Aisle Width
0° - 44°	12 ft.
45° - 59°	13.5 ft.
60° - 69°	18.5 ft.
70° - 79°	19.5 ft.
80° - 89°	21 ft.
90°	22 ft.

Notwithstanding the foregoing, with a parking angle of 90 degrees, the minimum aisle width may be reduced by one foot for every six inches of additional parking space width above the minimum width of eight feet three inches, to a minimum aisle width of 19 feet.

- (e) Ingress and egress aisles shall be provided to a street and between parking bays, and no driveway leading into a parking area shall be less than 12 feet in width, except that driveways for detached dwellings and duplex units shall be no less than 10 feet in width.

(Added by Ord. 99-12)

Sec. 21-6.60 Improvement of off-street parking spaces, parking lots and driveways.

- (a) All off-street parking spaces, parking lots and driveways shall be provided and maintained with an all weather surface except in preservation, agriculture and country districts where parking lots and driveways may be surfaced with crushed rock or limestone, or as determined by the director under the provisions of Article 2.
- (b) Parking lots or areas, if illuminated, shall be shielded to prevent any direct illumination toward any zoning lot within a country, residential, apartment or apartment mixed use district.
- (c) All parking lots shall be landscaped as specified in Section 21-4.70.
- (d) Required off-street parking stalls may be converted to bicycle or motorcycle parking areas of equivalent or larger area.

(Added by Ord. 99-12)

Sec. 21-6.70 Parking spaces and required yards.

Parking spaces may overlap three feet of required yards, open spaces or required landscaping, if wheel stops are installed, except in special districts and as may be allowed in Article 3, under optional yard siting provisions. (Added by Ord. 99-12)

Sec. 21-6.80 Mechanical parking and storage garages.

Mechanical means of providing parking spaces or access to these parking spaces are permitted, provided the following conditions are met:

- (a) The director shall determine that adequate waiting and maneuvering space is provided on the zoning lot in order to minimize on-street traffic congestion.
- (b) All mechanical parking systems shall be visually screened by providing a solid wall or facade a minimum of 42 inches in height at each level of the mechanical parking system.

(Added by Ord. 99-12)

Sec. 21-6.90 Required parking spaces located off premises.

Off-street parking spaces required for any use may be permitted off the premises as joint use of parking facilities or off-site parking facilities but shall be subject to compliance with the provisions of Articles 2 and 5, conditional uses. (Added by Ord. 99-12)

Sec. 21-6.100 Off-street loading requirements.

Off-street loading requirements shall apply to all zoning lots exceeding 5,000 square feet in area for the class or kind of uses indicated below. The minimum number of off street loading spaces shall be as follows:

Use or Use Category	Floor Area in Square Feet	Loading Space Requirements
A. Retail stores, eating and drinking establishments, shopping centers, wholesale operations, warehousing, business services, personal services, repair, manufacturing, and self-storage facilities	2,000 - 10,000	1
	10,001 - 20,000	2
	20,001 - 40,000	3
	40,001 - 60,000	4
	Each additional 50,000 or major fraction thereof	1
B. Hotels, hospitals or similar institutions, and places of public assembly	5,000 - 10,000	1
	10,001 - 50,000	2
	50,001 - 100,000	3
	Each additional 100,000 or major fraction thereof	1
C. Offices or office buildings	20,000 - 50,000	1
	50,001 - 100,000	2
	Each additional 100,000 or major fraction thereof	1
D. Multifamily dwellings	Number of Units	
	20 - 150	1
	151 - 300	2
	Each additional 200 or major fraction thereof	1

Sec. 21-6.110 Method of determining number.

- To determine the required number of loading spaces, floor area shall be as defined in Article 10, except that when a basement is devoted to a use having a loading requirement, loading spaces shall be required as specified in Section 21-6.100.
- When a building is used for more than one use, and the floor area for each use is below the minimum requiring a loading space, and the aggregate floor area of the several uses exceeds the minimum floor area of the use category requiring the greatest number of loading spaces, at least one loading space shall be required.

(Added by Ord. 99-12)

Sec. 21-6.120 Dimensions of loading spaces.

- When only one loading space is required and total floor area is less than 5,000 square feet, the horizontal dimensions of the space shall be 19 x 8 1/2 feet. It shall have a vertical clearance of 10 feet.
- When more than one loading space is required or total floor area is more than 5,000 square feet, the minimum horizontal dimension of at least half of the required spaces shall be 12 x 35 feet and have a vertical clearance of at least 14 feet. The balance of required spaces may have horizontal dimensions of 19 x 8 1/2 feet and vertical clearance of at least 10 feet.
- Access to loading spaces shall have the same vertical clearance as required for the loading spaces.

(Added by Ord. 99-12)

Sec. 21-6.130 Location and improvement of loading spaces.

- No required loading space shall be in any street or alley but shall be provided within the building or adjacent to the building.
- Where loading areas are illuminated, all sources of illumination shall be shielded to prevent any direct illumination toward any country, residential, apartment or apartment mixed use districts.
- Each required loading space shall be identified as such and shall be reserved for loading purposes.
- No loading space shall occupy required off-street parking spaces or restrict access.
- All loading spaces and maneuvering areas shall be paved or covered with an all-weather surface.
- Except in front and side yards in agricultural, country and residential districts, no loading space or maneuvering area shall be located within a required yard, except if the area displaced by the loading space or maneuvering area is provided as open space immediately abutting the required yard, and the design is approved by the director.

(Added by Ord. 99-12)

Sec. 21-6.140 Exceptions to off-street parking and loading requirements.

- In connection with planned development-housing projects, cluster housing, and conditional use permits, and within special districts, the director may impose special parking and loading requirements.
- All buildings and uses, except multifamily dwellings and hotels, which are located within the boundaries of any improvement district for public off-street parking and which have been assessed their share of the cost of the improvement district, shall be exempt from off-street parking requirements of this chapter.

(Added by Ord. 99-12)

4.0 Accessible Elements and Spaces: Scope and Technical Requirements.

Story. That portion of a building included between the upper surface of a floor and upper surface of the floor or roof next above. If such portion of a building does not include occupiable space, it is not considered a story for purposes of these guidelines. There may be more than one floor level within a story as in the case of a mezzanine or mezzanines.

Structural Frame. The structural frame shall be considered to be the columns and the girders, beams, trusses and spandrels having direct connections to the columns and all other members which are essential to the stability of the building as a whole.

TDD. (Telecommunication Devices for the Deaf). See text telephone.

TTY (Tele-Typewriter). See text telephone.

Tactile. Describes an object that can be perceived using the sense of touch.

Technically Infeasible. See 4.1.6(1)(j) EXCEPTION.

Teeing Ground. In golf, the starting place for the hole to be played.

Text Telephone (TTY). Machinery or equipment that employs interactive text based communications through the transmission of coded signals across the standard telephone network. Text telephones can include, for example, devices known as TDDs (telecommunication display devices or telecommunication devices for deaf persons) or computers with special modems. Text telephones are also called TTYS, an abbreviation for tele-typewriter.

Transfer Device. Equipment designed to facilitate the transfer of a person from a wheelchair or other mobility device to and from an amusement ride seat.

Transient Lodging.* A building, facility, or portion thereof, excluding inpatient medical care facilities and residential facilities, that contains

sleeping accommodations. Transient lodging may include, but is not limited to, resorts, group homes, hotels, motels, and dormitories.

Transition Plate. A sloping pedestrian walking surface located at the end(s) of a gangway.

Use Zone. The ground level area beneath and immediately adjacent to a play structure or equipment that is designated by ASTM F 1487 Standard Consumer Safety Performance Specification for Playground Equipment for Public Use (incorporated by reference, see 2.3.2) for unrestricted circulation around the equipment and on whose surface it is predicted that a user would land when falling from or exiting the equipment.

Vehicular Way. A route intended for vehicular traffic, such as a street, driveway, or parking lot.

Walk. An exterior pathway with a prepared surface intended for pedestrian use, including general pedestrian areas such as plazas and courts.

4.	ACCESSIBLE ELEMENTS AND SPACES: SCOPE AND TECHNICAL REQUIREMENTS.
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4.1 Minimum Requirements.

4.1.1* Application.

(1) General. All areas of newly designed or newly constructed buildings and facilities and altered portions of existing buildings and facilities shall comply with section 4, unless otherwise provided in this section or as modified in a special application section.

(2) Application Based on Building Use. Special application sections provide additional requirements based on building use. When a building or facility contains more than one use covered by a special application section, each

4.1.2 Accessible Sites and Exterior Facilities: New Construction.

portion shall comply with the requirements for that use.

(3)* Areas Used Only by Employees as Work Areas. Areas that are used only as work areas shall be designed and constructed so that individuals with disabilities can approach, enter, and exit the areas. These guidelines do not require that any areas used only as work areas be constructed to permit maneuvering within the work area or be constructed or equipped (i.e., with racks or shelves) to be accessible.

(4) Temporary Structures. These guidelines cover temporary buildings or facilities as well as permanent facilities. Temporary buildings and facilities are not of permanent construction but are extensively used or are essential for public use for a period of time. Examples of temporary buildings or facilities covered by these guidelines include, but are not limited to: reviewing stands, temporary classrooms, bleacher areas, exhibit areas, temporary banking facilities, temporary health screening services, or temporary safe pedestrian passageways around a construction site. Structures, sites and equipment directly associated with the actual processes of construction, such as scaffolding, bridging, materials hoists, or construction trailers are not included.

(5) General Exceptions.

(a) In new construction, a person or entity is not required to meet fully the requirements of these guidelines where that person or entity can demonstrate that it is structurally impracticable to do so. Full compliance will be considered structurally impracticable only in those rare circumstances when the unique characteristics of terrain prevent the incorporation of accessibility features. If full compliance with the requirements of these guidelines is structurally impracticable, a person or entity shall comply with the requirements to the extent it is not structurally impracticable. Any portion of the building or facility which can be made accessible shall comply to the extent that it is not structurally impracticable.

(b) Accessibility is not required to or in:

(i) raised areas used primarily for purposes of security or life or fire safety, including, but not limited to, observation or lookout galleries, prison guard towers, fire towers, or fixed life guard stands;

(ii) non-occupiable spaces accessed only by ladders, catwalks, crawl spaces, very narrow passageways, tunnels, or freight (non-passenger) elevators, and frequented only by service personnel for maintenance, repair, or occasional monitoring of equipment; such spaces may include, but are not limited to, elevator pits, elevator penthouses, piping or equipment catwalks, water or sewage treatment pump rooms and stations, electric substations and transformer vaults, and highway and tunnel utility facilities;

(iii) single occupant structures accessed only by a passageway that is below grade or that is elevated above standard curb height, including, but not limited to, toll booths accessed from underground tunnels;

(iv) raised structures used solely for refereeing, judging, or scoring a sport;

(v) water slides;

(vi) animal containment areas that are not for public use; or

(vii) raised boxing or wrestling rings.

4.1.2 Accessible Sites and Exterior Facilities: New Construction. An accessible site shall meet the following minimum requirements:

(1) At least one accessible route complying with 4.3 shall be provided within the boundary of the site from public transportation stops, accessible parking spaces, passenger loading zones if provided, and public streets or sidewalks, to an accessible building entrance.

(2) (a) At least one accessible route complying with 4.3 shall connect accessible buildings,

4.1.2 Accessible Sites and Exterior Facilities: New Construction.

accessible facilities, accessible elements, and accessible spaces that are on the same site.

(b)* Court Sports: An accessible route complying with 4.3 shall directly connect both sides of the court in court sports.

(3) All objects that protrude from surfaces or posts into circulation paths shall comply with 4.4.

EXCEPTION: The requirements of 4.4 shall not apply within an area of sport activity.

(4) Ground surfaces along accessible routes and in accessible spaces shall comply with 4.5.

EXCEPTION 1*: The requirements of 4.5 shall not apply within an area of sport activity.

EXCEPTION 2*: Animal containment areas designed and constructed for public use shall not be required to provide stable, firm, and slip resistant ground and floor surfaces and shall not be required to comply with 4.5.2.

(5) (a) If parking spaces are provided for self-parking by employees or visitors, or both, then accessible spaces complying with 4.6 shall be provided in each such parking area in conformance with the table below. Spaces required by the table need not be provided in the particular lot. They may be provided in a different location if equivalent or greater accessibility, in terms of distance from an accessible entrance, cost and convenience is ensured.

TOTAL PARKING IN LOT	REQUIRED MINIMUM NUMBER OF ACCESSIBLE SPACES
1 to 25	1
26 to 50	2
51 to 75	3
76 to 100	4
101 to 150	5
151 to 200	6
201 to 300	7
301 to 400	8
401 to 500	9
501 to 1000	2 percent of total
1001 and over	20 plus 1 for each 100 over 1000

Except as provided in (b), access aisles adjacent to accessible spaces shall be 60 in (1525 mm) wide minimum.

(b) One in every eight accessible spaces, but not less than one, shall be served by an access aisle 96 in (2440 mm) wide minimum and shall be designated "van accessible" as required by 4.6.4. The vertical clearance at such spaces shall comply with 4.6.5. All such spaces may be grouped on one level of a parking structure.

EXCEPTION: Provision of all required parking spaces in conformance with "Universal Parking Design" (see appendix A4.6.3) is permitted.

(c) If passenger loading zones are provided, then at least one passenger loading zone shall comply with 4.6.6.

(d) At facilities providing medical care and other services for persons with mobility impairments, parking spaces complying with 4.6 shall be provided in accordance with 4.1.2(5)(a) except as follows:

(i) Outpatient units and facilities: 10 percent of the total number of parking spaces provided serving each such outpatient unit or facility;

(ii) Units and facilities that specialize in treatment or services for persons with mobility impairments: 20 percent of the total number of parking spaces provided serving each such unit or facility.

(e)* Valet parking: Valet parking facilities shall provide a passenger loading zone complying with 4.6.6 located on an accessible route to the entrance of the facility. Paragraphs 5(a), 5(b), and 5(d) of this section do not apply to valet parking facilities.

(6) If toilet facilities are provided on a site, then each such public or common use toilet facility shall comply with 4.22. If bathing facilities are provided on a site, then each such public or common use bathing facility shall comply with 4.23.

4.1.3 Accessible Buildings: New Construction.

For single user portable toilet or bathing units clustered at a single location, at least five percent but no less than one toilet unit or bathing unit complying with 4.22 or 4.23 shall be installed at each cluster whenever typical inaccessible units are provided. Accessible units shall be identified by the International Symbol of Accessibility.

EXCEPTION: Portable toilet units at construction sites used exclusively by construction personnel are not required to comply with 4.1.2(6).

(7) Building Signage. Signs which designate permanent rooms and spaces shall comply with 4.30.1, 4.30.4, 4.30.5 and 4.30.6. Other signs which provide direction to, or information about, functional spaces of the building shall comply with 4.30.1, 4.30.2, 4.30.3, and 4.30.5. Elements and spaces of accessible facilities which shall be identified by the International Symbol of Accessibility and which shall comply with 4.30.7 are:

(a) Parking spaces designated as reserved for individuals with disabilities;

(b) Accessible passenger loading zones;

(c) Accessible entrances when not all are accessible (inaccessible entrances shall have directional signage to indicate the route to the nearest accessible entrance);

(d) Accessible toilet and bathing facilities when not all are accessible.

4.1.3 Accessible Buildings: New Construction.

Accessible buildings and facilities shall meet the following minimum requirements:

(1) (a) At least one accessible route complying with 4.3 shall connect accessible building or facility entrances with all accessible spaces and elements within the building or facility.

(b)* Court Sports: An accessible route complying with 4.3 shall directly connect both sides of the court in court sports.

(2) All objects that overhang or protrude into circulation paths shall comply with 4.4.

EXCEPTION: The requirements of 4.4 shall not apply within an area of sport activity.

(3) Ground and floor surfaces along accessible routes and in accessible rooms and spaces shall comply with 4.5.

EXCEPTION 1*: The requirements of 4.5 shall not apply within an area of sport activity.

EXCEPTION 2*: Animal containment areas designed and constructed for public use shall not be required to provide stable, firm, and slip resistant ground and floor surfaces and shall not be required to comply with 4.5.2.

(4) Interior and exterior stairs connecting levels that are not connected by an elevator, ramp, or other accessible means of vertical access shall comply with 4.9.

(5)* One passenger elevator complying with 4.10 shall serve each level, including mezzanines, in all multi-story buildings and facilities unless exempted below. If more than one elevator is provided, each passenger elevator shall comply with 4.10.

EXCEPTION 1: Elevators are not required in:

(a) private facilities that are less than three stories or that have less than 3000 square feet per story unless the building is a shopping center, a shopping mall, or the professional office of a health care provider, or another type of facility as determined by the Attorney General; or

(b) public facilities that are less than three stories and that are not open to the general public if the story above or below the accessible ground floor houses no more than five persons and is less than 500 square feet. Examples may include, but are not limited to, drawbridge towers and boat traffic towers, lock and dam control stations, and train dispatching towers.

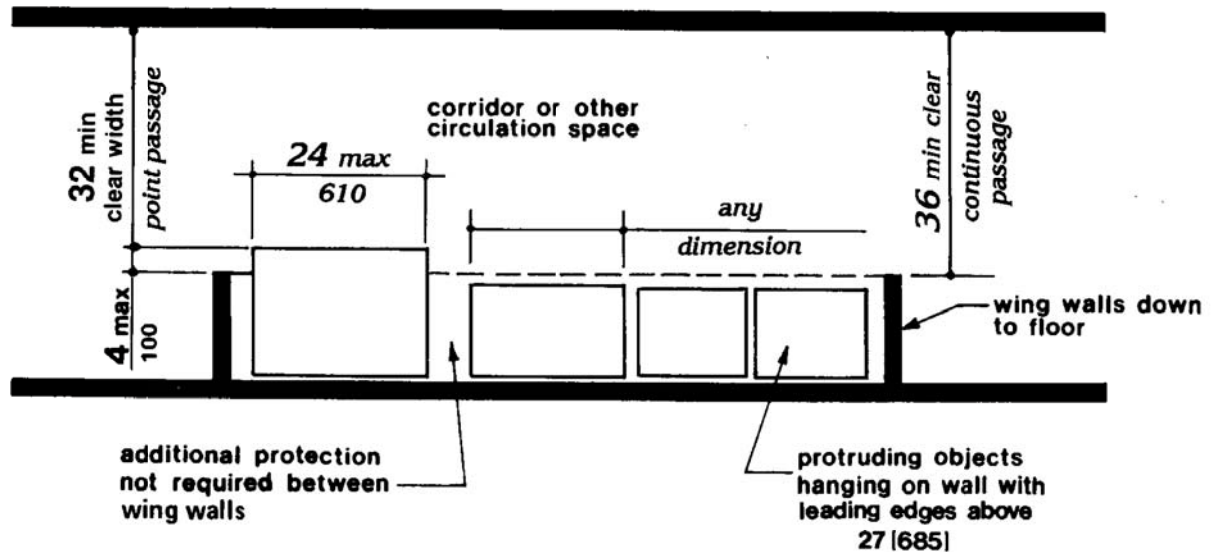


Fig. 8 (e)

Example of Protection around Wall-Mounted Objects and Measurements of Clear Widths

Fig. 8

Protruding Objects (Continued)

curb ramps, shall be stable, firm, slip-resistant, and shall comply with 4.5.

4.5.2 Changes in Level. Changes in level up to 1/4 in (6 mm) may be vertical and without edge treatment (see Fig. 7(c)). Changes in level between 1/4 in and 1/2 in (6 mm and 13 mm) shall be beveled with a slope no greater than 1:2 (see Fig. 7(d)). Changes in level greater than 1/2 in (13 mm) shall be accomplished by means of a ramp that complies with 4.7 or 4.8.

4.5.3* Carpet. If carpet or carpet tile is used on a ground or floor surface, then it shall be securely attached; have a firm cushion, pad, or backing, or no cushion or pad; and have a level loop, textured loop, level cut pile, or level cut/uncut pile texture. The maximum pile thickness shall be 1/2 in (13 mm) (see Fig. 8(f)). Exposed edges of carpet shall be fastened to floor surfaces and have trim along the entire length of the exposed edge. Carpet edge trim shall comply with 4.5.2.

4.5.4 Gratings. If gratings are located in walking surfaces, then they shall have spaces no greater than 1/2 in (13 mm) wide in one direction (see Fig.

8(g)). If gratings have elongated openings, then they shall be placed so that the long dimension is perpendicular to the dominant direction of travel (see Fig. 8(h)).

4.6 Parking and Passenger Loading Zones.

4.6.1 Minimum Number. Parking spaces required to be accessible by 4.1 shall comply with 4.6.2 through 4.6.5. Passenger loading zones required to be accessible by 4.1 shall comply with 4.6.5 and 4.6.6.

4.6.2 Location. Accessible parking spaces serving a particular building shall be located on the shortest accessible route of travel from adjacent parking to an accessible entrance. In parking facilities that do not serve a particular building, accessible parking shall be located on the shortest accessible route of travel to an accessible pedestrian entrance of the parking facility. In buildings with multiple accessible entrances with adjacent parking, accessible parking spaces shall be dispersed and located closest to the accessible entrances.

4.7 Curb Ramps.

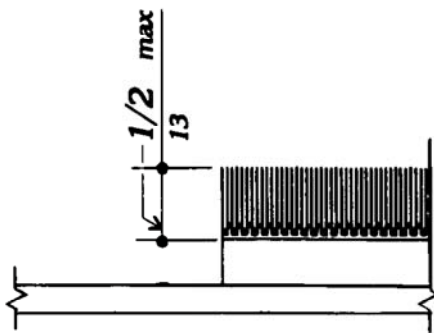


Fig. 8 (f)
Carpet Pile Thickness

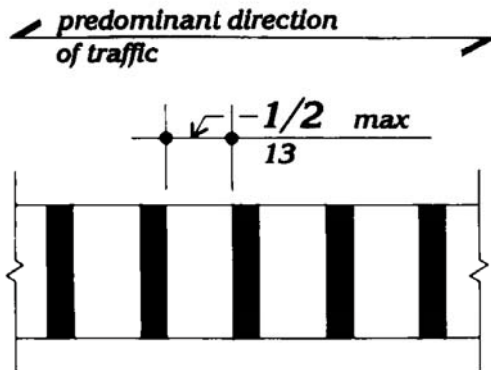


Fig. 8 (g)
Gratings

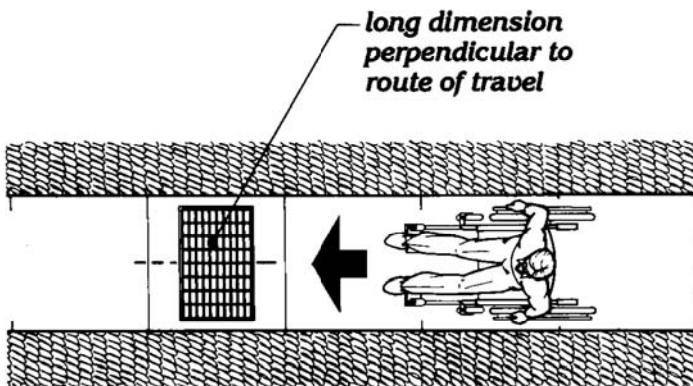


Fig. 8 (h)
Grating Orientation

4.6.3* Parking Spaces. Accessible parking spaces shall be at least 96 in (2440 mm) wide. Parking access aisles shall be part of an accessible route to the building or facility entrance and shall comply with 4.3. Two accessible parking spaces may share a common access aisle (see Fig. 9). Parked vehicle overhangs shall not reduce the clear width of an accessible route. Parking spaces and access aisles shall be level with surface slopes not exceeding 1:50 (2%) in all directions.

4.6.4* Signage. Accessible parking spaces shall be designated as reserved by a sign showing the symbol of accessibility (see 4.30.7). Spaces complying with 4.1.2(5)(b) shall have an additional sign "Van-Accessible" mounted below the symbol of accessibility. Such signs shall be located so they cannot be obscured by a vehicle parked in the space.

4.6.5* Vertical Clearance. Provide minimum vertical clearance of 114 in (2895 mm) at accessible passenger loading zones and along at least one vehicle access route to such areas from site entrance(s) and exit(s). At parking spaces complying with 4.1.2(5)(b), provide minimum vertical clearance of 98 in (2490 mm) at the parking space and along at least one vehicle access route to such spaces from site entrance(s) and exit(s).

4.6.6 Passenger Loading Zones. Passenger loading zones shall provide an access aisle at least 60 in (1525 mm) wide and 20 ft (240 in)(6100 mm) long adjacent and parallel to the vehicle pull-up space (see Fig. 10). If there are curbs between the access aisle and the vehicle pull-up space, then a curb ramp complying with 4.7 shall be provided. Vehicle standing spaces and access aisles shall be level with surface slopes not exceeding 1:50 (2%) in all directions.

4.7 Curb Ramps.

4.7.1 Location. Curb ramps complying with 4.7 shall be provided wherever an accessible route crosses a curb.

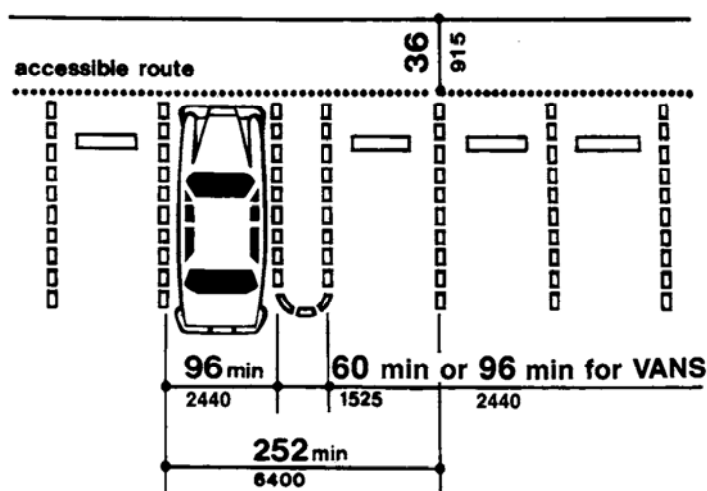


Fig. 9
Dimensions of Parking Space

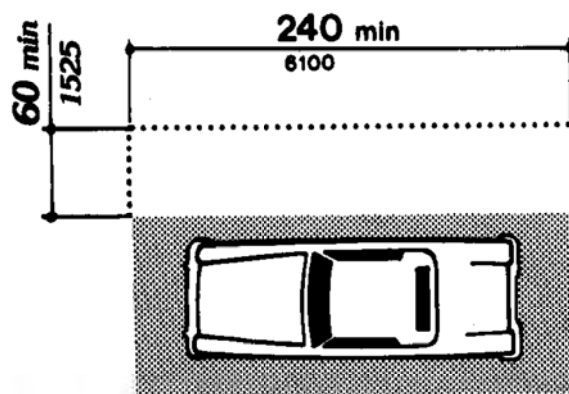


Fig. 10
Access Aisle at Passenger Loading Zones

4.7.2 Slope. Slopes of curb ramps shall comply with 4.8.2. The slope shall be measured as shown in Fig. 11. Transitions from ramps to walks, gutters, or streets shall be flush and free of abrupt changes. Maximum slopes of adjoining gutters, road surface immediately adjacent to the curb ramp, or accessible route shall not exceed 1:20.

4.7.3 Width. The minimum width of a curb ramp shall be 36 in (915 mm), exclusive of flared sides.

4.7.4 Surface. Surfaces of curb ramps shall comply with 4.5.

4.7.5 Sides of Curb Ramps. If a curb ramp is located where pedestrians must walk across the ramp, or where it is not protected by handrails or guardrails, it shall have flared sides; the maximum slope of the flare shall be 1:10 (see Fig. 12(a)). Curb ramps with returned curbs may be used where pedestrians would not normally walk across the ramp (see Fig. 12(b)).

4.7.6 Built-up Curb Ramps. Built-up curb ramps shall be located so that they do not project into vehicular traffic lanes (see Fig. 13).

4.7.7 Detectable Warnings. A curb ramp shall have a detectable warning complying with 4.29.2. The detectable warning shall extend the full width and depth of the curb ramp.

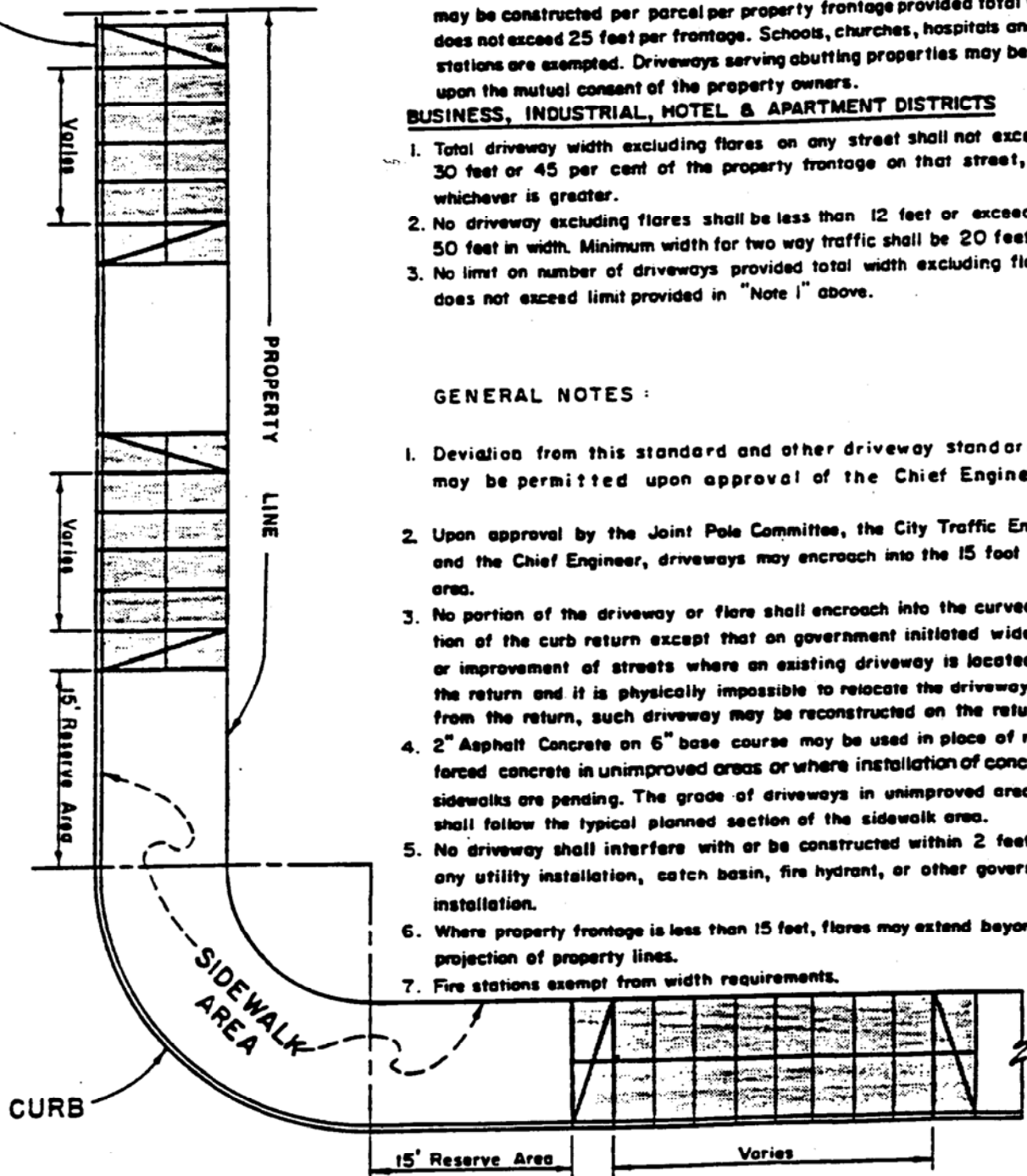
4.7.8 Obstructions. Curb ramps shall be located or protected to prevent their obstruction by parked vehicles.

4.7.9 Location at Marked Crossings. Curb ramps at marked crossings shall be wholly contained within the markings, excluding any flared sides (see Fig. 15).

4.7.10 Diagonal Curb Ramps. If diagonal (or corner type) curb ramps have returned curbs or other well-defined edges, such edges shall be parallel to the direction of pedestrian flow. The bottom of diagonal curb ramps shall have 48 in (1220 mm) minimum clear space as shown in Fig. 15(c) and (d). If diagonal curb ramps are provided at marked crossings, the 48 in (1220 mm) clear space shall be within the markings (see Fig. 15(c) and (d)). If diagonal curb ramps have flared sides, they shall also have at least a 24 in (610 mm) long segment of straight curb located on each side of the curb ramp and within the marked crossing (see Fig. 15(c)).

4.7.11 Islands. Any raised islands in crossings shall be cut through level with the street or have curb ramps at both sides and a level area at least 48 in (1220 mm) long between the curb ramps in the part of the island intersected by the crossings (see Fig. 15(a) and (b)).

Driveway flores not to extend beyond property line extension except where property frontage is less than 15 feet.



ALL RESIDENTIAL DISTRICTS

Single driveway width: maximum 25 feet, minimum 12 feet. Two driveways may be constructed per parcel per property frontage provided total width does not exceed 25 feet per frontage. Schools, churches, hospitals and fire stations are exempted. Driveways serving abutting properties may be combined upon the mutual consent of the property owners.

BUSINESS, INDUSTRIAL, HOTEL & APARTMENT DISTRICTS

1. Total driveway width excluding flores on any street shall not exceed 30 feet or 45 per cent of the property frontage on that street, whichever is greater.
2. No driveway excluding flores shall be less than 12 feet or exceed 50 feet in width. Minimum width for two way traffic shall be 20 feet.
3. No limit on number of driveways provided total width excluding flores does not exceed limit provided in "Note 1" above.

GENERAL NOTES :

1. Deviation from this standard and other driveway standards may be permitted upon approval of the Chief Engineer.
2. Upon approval by the Joint Pole Committee, the City Traffic Engineer, and the Chief Engineer, driveways may encroach into the 15 foot reserve area.
3. No portion of the driveway or flores shall encroach into the curved portion of the curb return except that on government initiated widening or improvement of streets where an existing driveway is located on the return and it is physically impossible to relocate the driveway away from the return, such driveway may be reconstructed on the return.
4. 2" Asphalt Concrete on 6" base course may be used in place of reinforced concrete in unimproved areas or where installation of concrete sidewalks are pending. The grade of driveways in unimproved areas shall follow the typical planned section of the sidewalk area.
5. No driveway shall interfere with or be constructed within 2 feet of any utility installation, catch basin, fire hydrant, or other government installation.
6. Where property frontage is less than 15 feet, flores may extend beyond the projection of property lines.
7. Fire stations exempt from width requirements.

STANDARD DRIVEWAY LAYOUT

R-30

STANDARD
DETAILS

DRIVEWAY LAYOUT

CITY & COUNTY OF HONOLULU

SEPTEMBER 1984

- 11 Except as provided in Section 2B.09, STOP signs and YIELD signs shall not be installed on different approaches to the same unsignalized intersection if those approaches conflict with or oppose each other.
- 12 Portable or part-time STOP or YIELD signs shall not be used except for emergency and temporary traffic control zone purposes.
- 13 A portable or part-time (folding) STOP sign that is manually placed into view and manually removed from view shall not be used during a power outage to control a signalized approach unless the maintaining agency establishes that the signal indication that will first be displayed to that approach upon restoration of power is a flashing red signal indication and that the portable STOP sign will be manually removed from view prior to stop-and-go operation of the traffic control signal.
- Option:
- 14 A portable or part-time (folding) STOP sign that is electrically or mechanically operated such that it only displays the STOP message during a power outage and ceases to display the STOP message upon restoration of power may be used during a power outage to control a signalized approach.
- Support:
- 15 Section 9B.03 contains provisions regarding the assignment of priority at a shared-use path/roadway intersection.

Section 2B.05 STOP Sign (R1-1) and ALL WAY Plaque (R1-3P)

Standard:

- 01 When it is determined that a full stop is always required on an approach to an intersection, a STOP (R1-1) sign (see Figure 2B-1) shall be used.
- 02 The STOP sign shall be an octagon with a white legend and border on a red background.
- 03 Secondary legends shall not be used on STOP sign faces.
- 04 At intersections where all approaches are controlled by STOP signs (see Section 2B.07), an ALL WAY supplemental plaque (R1-3P) shall be mounted below each STOP sign. The ALL WAY plaque (see Figure 2B-1) shall have a white legend and border on a red background.
- 05 The ALL WAY plaque shall only be used if all intersection approaches are controlled by STOP signs.
- 06 Supplemental plaques with legends such as 2-WAY, 3-WAY, 4-WAY, or other numbers of ways shall not be used with STOP signs.

Support:

- 07 The use of the CROSS TRAFFIC DOES NOT STOP (W4-4P) plaque (and other plaques with variations of this word message) is described in Section 2C.59.

Guidance:

- 08 Plaques with the appropriate alternative messages of TRAFFIC FROM LEFT (RIGHT) DOES NOT STOP (W4-4aP) or ONCOMING TRAFFIC DOES NOT STOP (W4-4bP) should be used at intersections where STOP signs control all but one approach to the intersection, unless the only non-stopped approach is from a one-way street.

Option:

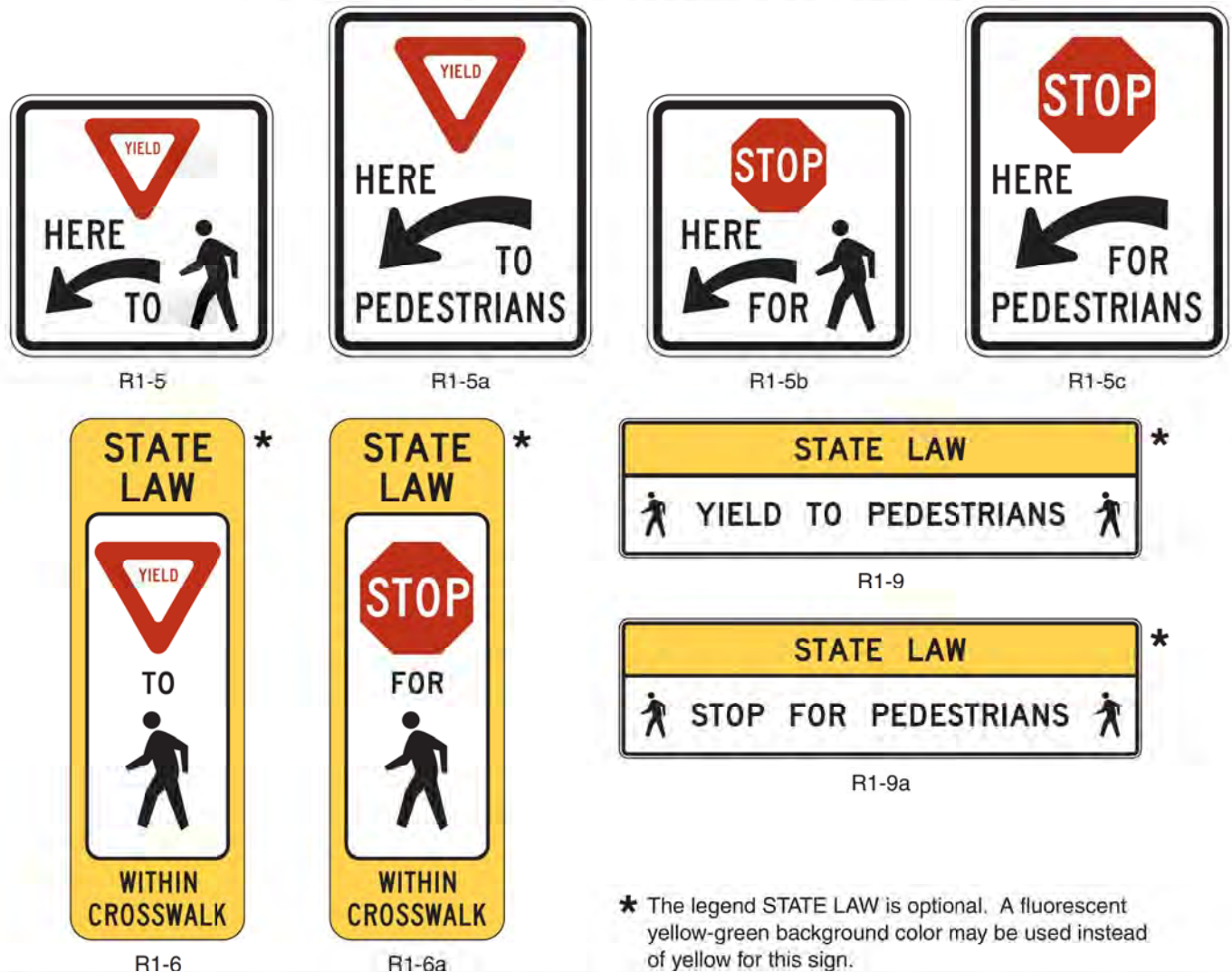
- 09 An EXCEPT RIGHT TURN (R1-10P) plaque (see Figure 2B-1) may be mounted below the STOP sign if an engineering study determines that a special combination of geometry and traffic volumes is present that makes it possible for right-turning traffic on the approach to be permitted to enter the intersection without stopping.

Support:

- 10 The design and application of Stop Beacons are described in Section 4L.05.

Figure 2B-1. STOP and YIELD Signs and Plaques



Figure 2B-2. Unsignalized Pedestrian Crosswalk Signs

- 05 A Pedestrian Crossing (W11-2) warning sign may be placed overhead or may be post-mounted with a diagonal downward pointing arrow (W16-7P) plaque at the crosswalk location where Yield Here To (Stop Here For) Pedestrians signs have been installed in advance of the crosswalk.

Standard:

- 06 If a W11-2 sign has been post-mounted at the crosswalk location where a Yield Here To (Stop Here For) Pedestrians sign is used on the approach, the Yield Here To (Stop Here For) Pedestrians sign shall not be placed on the same post as or block the road user's view of the W11-2 sign.

Option:

- 07 An advance Pedestrian Crossing (W11-2) warning sign with an AHEAD or a distance supplemental plaque may be used in conjunction with a Yield Here To (Stop Here For) Pedestrians sign on the approach to the same crosswalk.
- 08 In-Street Pedestrian Crossing signs and Yield Here To (Stop Here For) Pedestrians signs may be used together at the same crosswalk.

Section 2B.12 In-Street and Overhead Pedestrian Crossing Signs (R1-6, R1-6a, R1-9, and R1-9a)

Option:

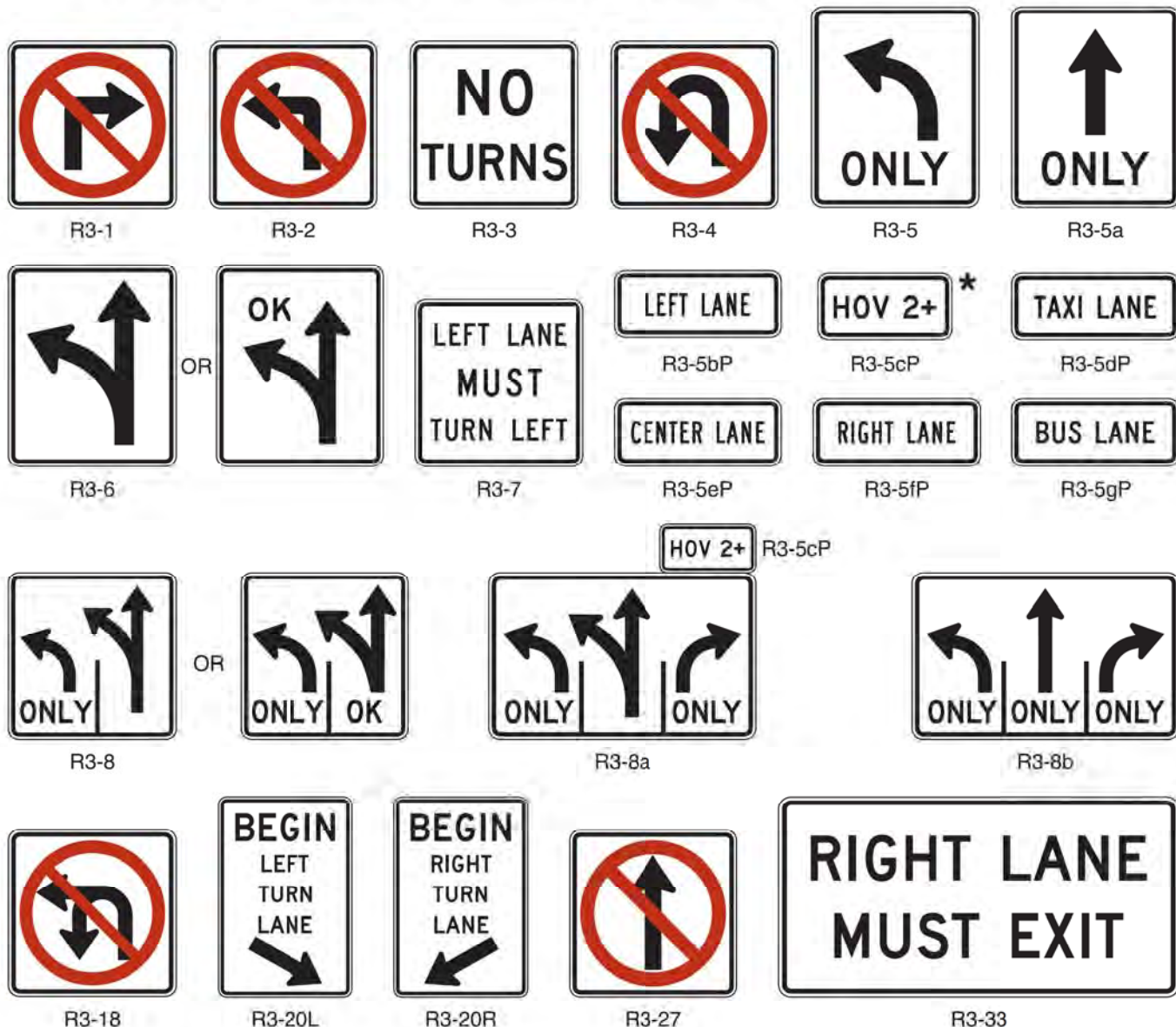
- 01 The In-Street Pedestrian Crossing (R1-6 or R1-6a) sign (see Figure 2B-2) or the Overhead Pedestrian Crossing (R1-9 or R1-9a) sign (see Figure 2B-2) may be used to remind road users of laws regarding right-of-way at an unsignalized pedestrian crosswalk. The legend STATE LAW may be displayed at the top of the R1-6, R1-6a, R1-9, and R1-9a signs, if applicable. On the R1-6 and R1-6a signs, the legends STOP or YIELD may be used instead of the appropriate STOP sign or YIELD sign symbol.

Section 2B.18 Movement Prohibition Signs (R3-1 through R3-4, R3-18, and R3-27)**Standard:**

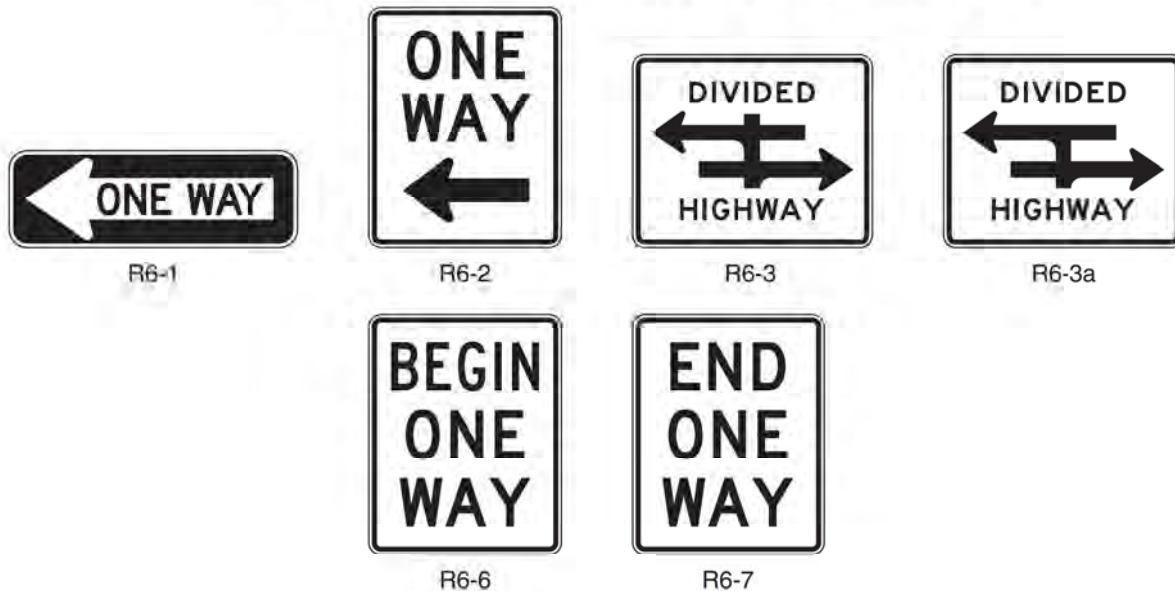
- 01 Except as provided in Paragraphs 11 and 13, where specific movements are prohibited, Movement Prohibition signs shall be installed.

Guidance:

- 02 Movement Prohibition signs should be placed where they will be most easily seen by road users who might be intending to make the movement.
- 03 If No Right Turn (R3-1) signs (see Figure 2B-4) are used, at least one should be placed either over the roadway or at a right-hand corner of the intersection.
- 04 If No Left Turn (R3-2) signs (see Figure 2B-4) are used, at least one should be placed over the roadway, at the far left-hand corner of the intersection, on a median, or in conjunction with the STOP sign or YIELD sign located on the near right-hand corner.

Figure 2B-4. Movement Prohibition and Lane Control Signs and Plaques

* The diamond symbol may be used instead of the "HOV" word message. The minimum vehicle occupancy level may vary, such as 2+, 3+, 4+. The words "LANE" or "ONLY" may be used with this sign when appropriate.

Figure 2B-13. ONE WAY and Divided Highway Crossing Signs**Standard:**

- 07 If used at unsignalized intersections with one-way streets, ONE WAY signs shall be placed on the near right and the far left corners of the intersection facing traffic entering or crossing the one-way street (see Figure 2B-14).
- 08 If used at signalized intersections with one-way streets, ONE WAY signs shall be placed near the appropriate signal faces, on the poles holding the traffic signals, on the mast arm or span wire holding the signals, or at the locations specified for unsignalized intersections.
- 09 At unsignalized T-intersections where the roadway at the top of the T-intersection is a one-way roadway, ONE WAY signs shall be placed on the near right and the far side of the intersection facing traffic on the stem approach (see Figure 2B-14).
- 10 At signalized T-intersections where the roadway at the top of the T-intersection is a one-way roadway, ONE WAY signs shall be placed near the appropriate signal faces, on the poles holding the traffic signals, on the mast arm or span wire holding the signals, or at the locations specified for unsignalized intersections.
- Option:
- 11 Where the central island of a roundabout allows for the installation of signs, ONE WAY signs may be used instead of or in addition to Roundabout Directional Arrow (R6-4 series) signs (see Section 2B.43) to direct traffic counter-clockwise around the central island.

Guidance:

- 12 Where used on the central island of a roundabout, the mounting height of a ONE WAY sign should be at least 4 feet, measured vertically from the bottom of the sign to the elevation of the near edge of the traveled way.

Support:

- 13 Using ONE WAY signs on the central island of a roundabout might result in some drivers incorrectly concluding that the cross street is a one-way street. Using Roundabout Directional Arrow signs might reduce this confusion. However, using ONE WAY signs might be necessary in States that have defined a roundabout as a series of T-intersections.

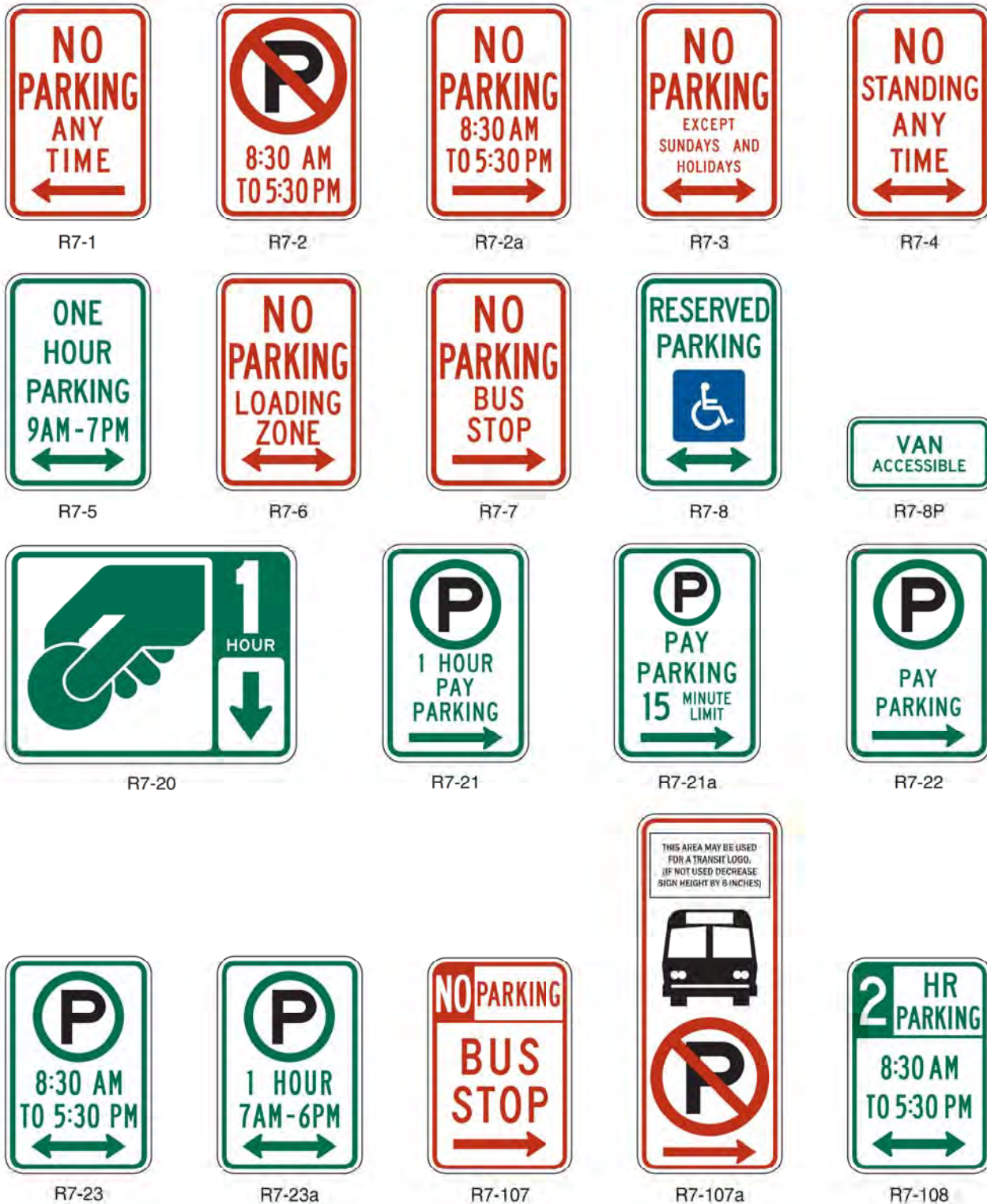
Option:

- 14 The BEGIN ONE WAY (R6-6) sign (see Figure 2B-13) may be used notify road users of the beginning point of a one direction of travel restriction on the street or roadway. The END ONE WAY (R6-7) sign (see Figure 2B-13) may be used notify road users of the ending point of a one direction of travel restriction on the street or roadway.

Section 2B.46 Parking, Standing, and Stopping Signs (R7 and R8 Series)

Support:

- 01 Signs governing the parking, stopping, and standing of vehicles cover a wide variety of regulations, and only general guidance can be provided here. The word “standing” when used on the R7 and R8 series of signs refers to the practice of a driver keeping the vehicle in a stationary position while continuing to occupy the vehicle. Typical examples of parking, stopping, and standing signs and plaques (see Figures 2B-24 and 2B-25) are as follows:

Figure 2B-24. Parking and Standing Signs and Plaques (R7 Series) (Sheet 1 of 2)

1. NO PARKING ANY TIME (R7-1);
2. NO PARKING X:XX AM TO X:XX PM (R7-2, R7-2a);
3. NO PARKING EXCEPT SUNDAYS AND HOLIDAYS (R7-3);
4. NO STANDING ANY TIME (R7-4);
5. XX HOUR PARKING X:XX AM – X:XX PM (R7-5);
6. NO PARKING LOADING ZONE (R7-6);
7. NO PARKING BUS STOP (R7-7, R7-107, R7-107a);
8. RESERVED PARKING for persons with disabilities (R7-8);
9. VAN ACCESSIBLE (R7-8P);
10. Pay Station (R7-20);
11. Pay Parking (R7-21, R7-21a, R7-22);
12. Parking Permitted X:XX AM TO X:XX PM (R7-23);
13. Parking Permitted XX HOUR(S) XX AM – XX PM (R7-23a);
14. XX HR PARKING X:XX AM TO X:XX PM (R7-108);
15. NO PARKING ANYTIME/XX HOUR PARKING X:XX AM – X:XX PM (R7-200, R7-200a);
16. TOW-AWAY ZONE (R7-201P, R7-201aP);
17. THIS SIDE OF SIGN (R7-202P);
18. EMERGENCY SNOW ROUTE NO PARKING IF OVER XX INCHES (R7-203);
19. NO PARKING ON PAVEMENT (R8-1);
20. NO PARKING EXCEPT ON SHOULDER (R8-2);
21. No Parking (R8-3, R8-3a);
22. EXCEPT SUNDAYS AND HOLIDAYS (R8-3bP);
23. ON PAVEMENT (R8-3cP);
24. ON BRIDGE (R8-3dP);
25. ON TRACKS (R8-3eP);
26. EXCEPT ON SHOULDER (R8-3fP);
27. LOADING ZONE (R8-3gP);
28. X:XX AM TO X:XX PM (R8-3hP);
29. EMERGENCY PARKING ONLY (R8-4);
30. NO STOPPING ON PAVEMENT (R8-5);
31. NO STOPPING EXCEPT ON SHOULDER (R8-6); and
32. EMERGENCY STOPPING ONLY (R8-7).

Figure 2B-24. Parking and Standing Signs and Plaques (R7 Series) (Sheet 2 of 2)



Section 2B.47 Design of Parking, Standing, and Stopping Signs

Support:

- 01 Discussions of parking signs and parking regulations in this Section apply not only to parking, but also to standing and stopping.

Standard:

- 02 The legend on parking signs shall state applicable regulations. Parking signs (see Figures 2B-24 and 2B-25) shall comply with the standards of shape, color, and location.

Figure 2B-25. Parking and Stopping Signs and Plaques (R8 Series)

03 Where parking is prohibited at all times or at specific times, the basic design for parking signs shall have a red legend and border on a white background (Parking Prohibition signs), except that the R8-4 and R8-7 signs and the alternate design for the R7-201aP plaque shall have a black legend and border on a white background, and the R8-3 sign shall have a black legend and border and a red circle and slash on a white background.

04 Where only limited-time parking or parking in a particular manner are permitted, the signs shall have a green legend and border on a white background (Permissive Parking signs).

Guidance:

05 *Parking signs should display the following information from top to bottom of the sign, in the order listed:*

- A. The restriction or prohibition;
- B. The times of the day that it is applicable, if not at all hours; and
- C. The days of the week that it is applicable, if not every day.

06 *If the parking restriction applies to a limited area or zone, the limits of the restriction should be shown by arrows or supplemental plaques. If arrows are used and if the sign is at the end of a parking zone, there should be a single-headed arrow pointing in the direction that the regulation is in effect. If the sign is at an intermediate point in a zone, there should be a double-headed arrow pointing both ways. When a single sign is used at the transition point between two parking zones, it should display a right and left arrow pointing in the direction that the respective restrictions apply.*

07 *Where special parking restrictions are imposed during heavy snowfall, Emergency Snow Route (R7-203) signs (see Figure 2B-24) should be installed. The legend will vary according to the regulations, but the signs should be vertical rectangles, having a white background with the upper part of the plate a red background.*

Standard:

08 Where parking spaces that are reserved for persons with disabilities are designated to accommodate wheelchair vans, a VAN ACCESSIBLE (R7-8P) plaque shall be mounted below the R7-8 sign. The R7-8 sign (see Figure 2B-24) shall have a green legend and border and a white wheelchair symbol on a blue square, all on a white background. The R7-8P plaque (see Figure 2B-24) shall have a green legend and border on a white background.

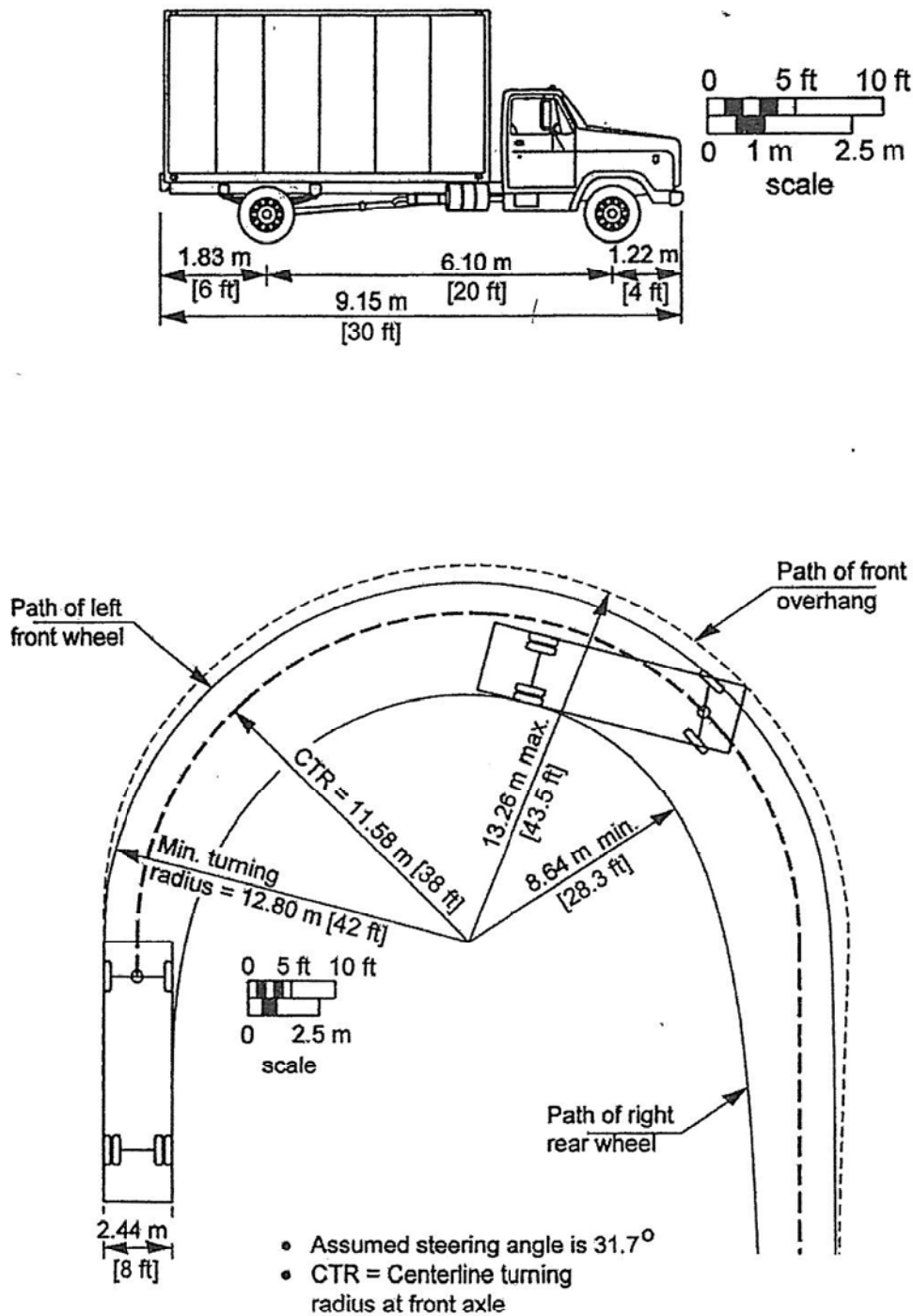


Exhibit 2-4. Minimum Turning Path for Single-Unit (SU) Truck Design Vehicle

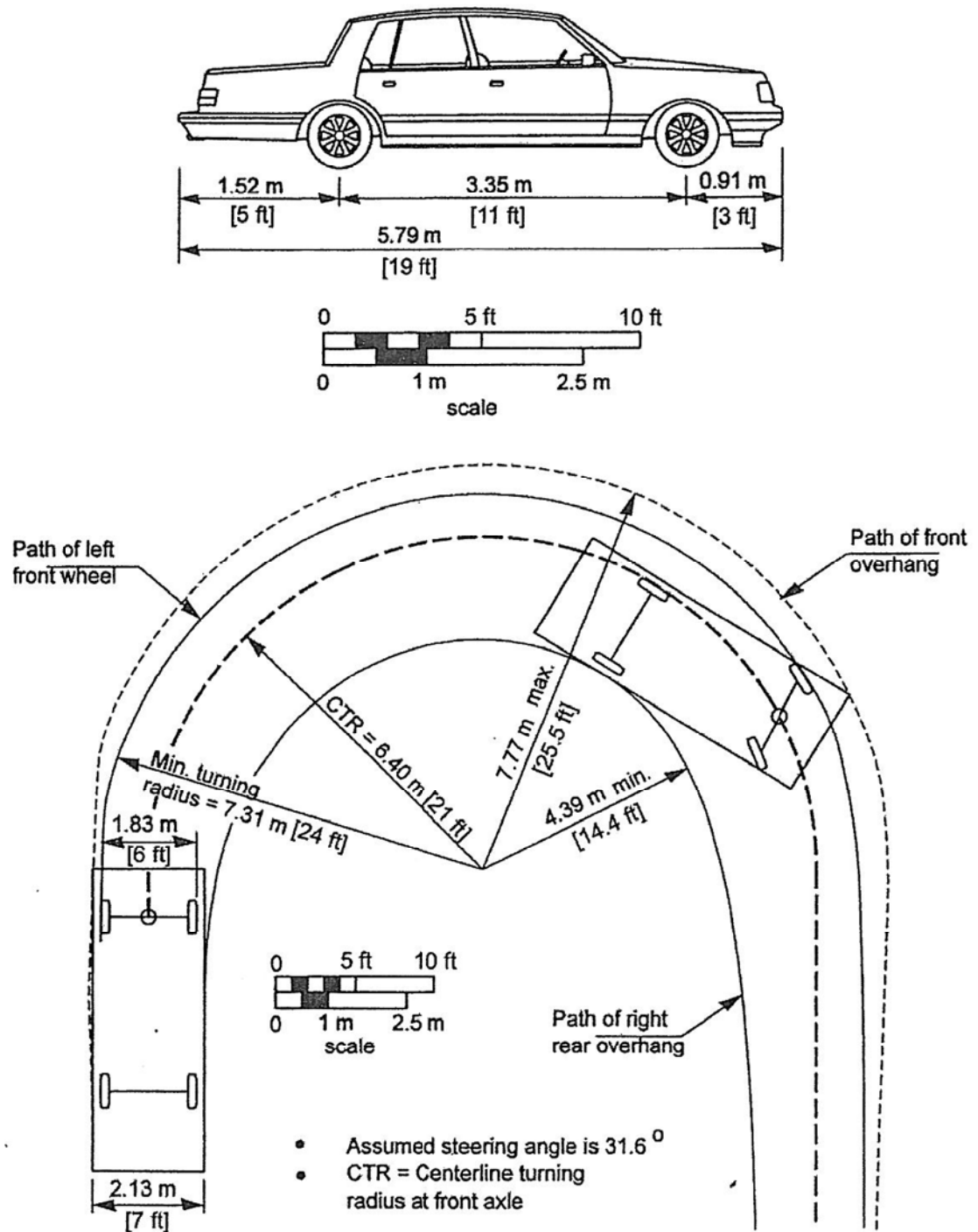
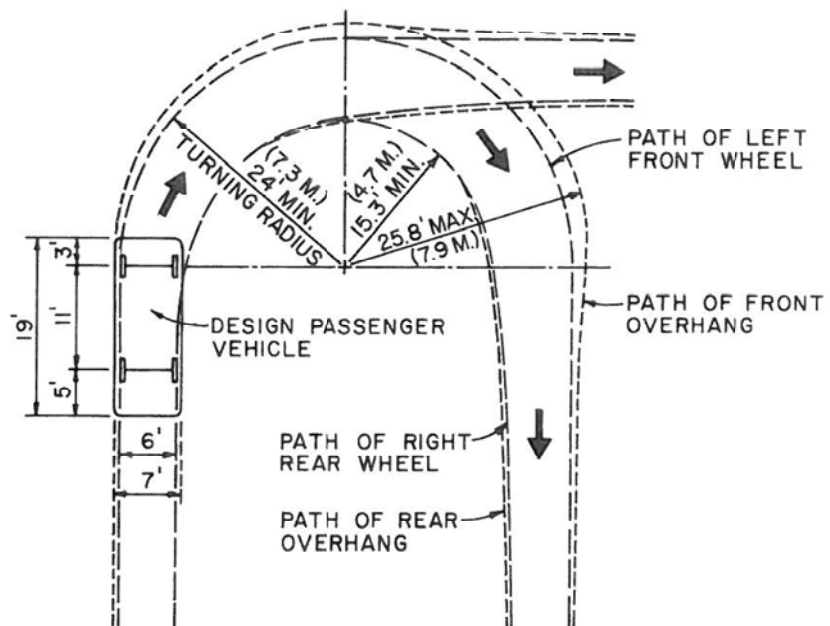
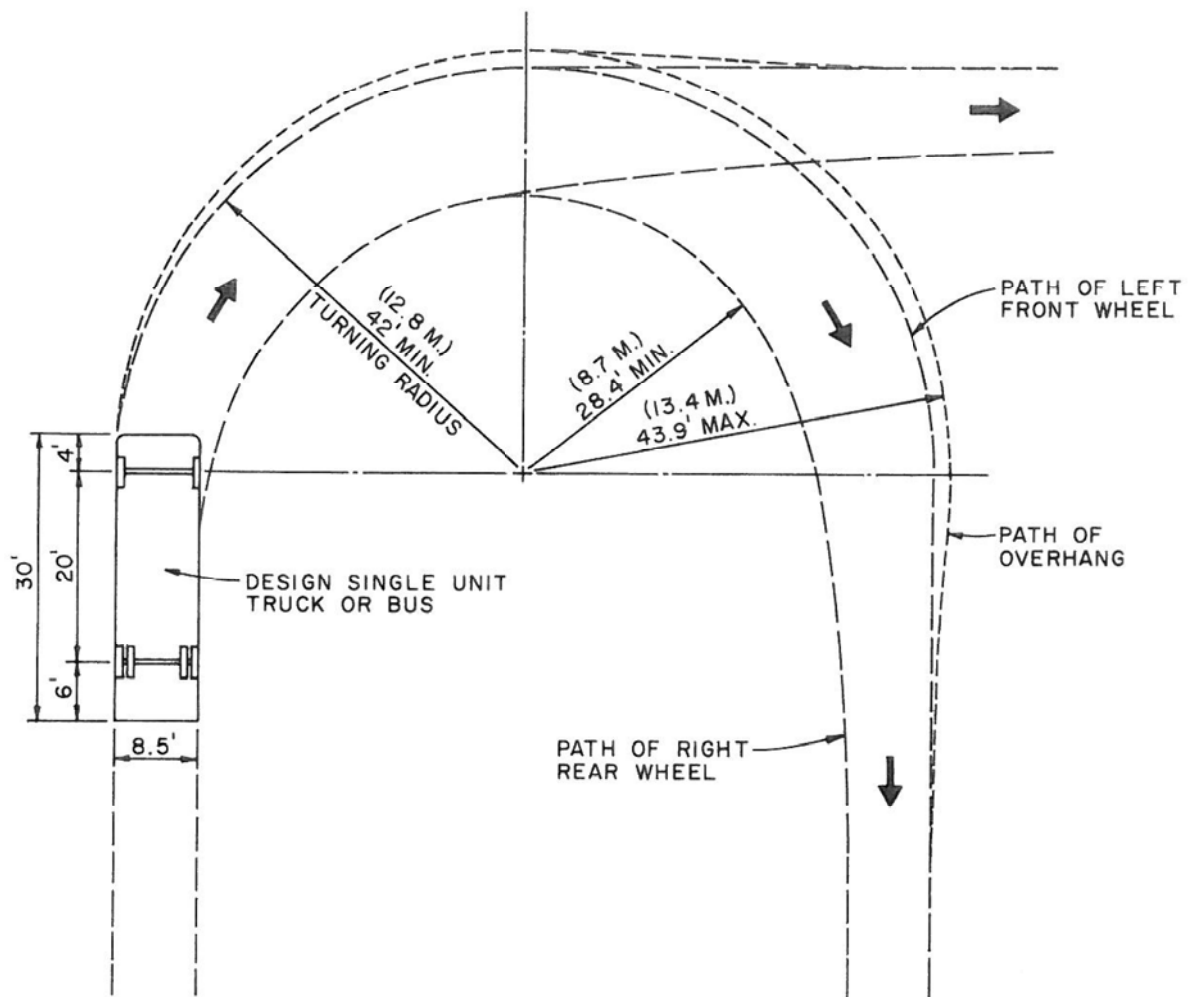


Exhibit 2-3. Minimum Turning Path for Passenger Car (P) Design Vehicle



MINIMUM TURNING PATH FOR
P DESIGN VEHICLE
SCALE: 1" = 20'



MINIMUM TURNING PATH FOR
SU DESIGN VEHICLE
SCALE: 1" = 20'