



# **RULES OF THUMB**

## **SPACE AND DIMENSION RECOMMENDATIONS**



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## **RULES OF THUMB**

### **SPACE AND DIMENSION RECOMMENDATIONS**

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**This document is based on requirements and recommendations for Southern Baptist Churches in America in general and may or may not apply in any given situation. To discuss your particular needs, contact Church Architecture.**

**Rules of Thumb** is intended to provide general guidelines for estimations of property, building space, and other needs prerequisite to actual planning. It is not a substitute for actual planning and design.

A rule of thumb is useful only in making approximations and should not be used dogmatically. Understanding the variables affecting the values is essential in the application to specific situations.

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## **SITE PLANNING**

Facilities for worship, education, fellowship, administration, parking:

- 1 acre per 100-125 in attendance on site at one time
- Outdoor recreation: 2 to 4 additional acres

*Note: These requirements are based on usable acres. Zoning regulations, storm water retention requirements, utility easements, irregular property shape, steep slopes, and low-lying areas may reduce usable acreage.*

## Parking

- One space for every 2.0 to 2.5 people in attendance on site at one time
- Parking Ground Coverage: 100-110 spaces per acre used for parking only (Assumes efficient layout with parking on both sides of driving lanes and allowing for some landscaping and general access.)

*Note: 90° parking on both sides of two-way driving lanes is generally the most efficient layout for parking.*

### Parking Space Dimensions:

- Standard: 9 feet by 18 feet
- Handicapped: 8 feet by 18 feet, with 5-foot access aisle
- Van accessible: 8 feet by 18 feet, with 8-foot access aisle (Access aisle can be shared by two parking spaces.)

*Handicapped parking requirements vary. Check local requirements.*

The following *requirements* from the Americans with Disabilities Act (ADA) may be used as guidelines.

Total Parking	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+	20 plus 1 for each 100 over 1000

*Note: One in every eight accessible spaces, but not less than one, must be van accessible.*

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## Worship Center

### General Building Size

- Up to 300 capacity: 15–17 sq ft per person
- Above 300 capacity: 12 – 24 sq ft per person

*Note: Rectangular buildings with straight row seating require less space per person than buildings with radial seating. In some instances, ten square feet per person is adequate in straight-row seating for buildings with capacity over 500.*

### Pulpit Platform

- Front to back depth: 7 feet minimum; larger buildings require 10 feet or more
- Height (based on flat floor in seating area): fewer than eleven rows of congregational seating, 2 feet maximum; up to eighteen rows of congregational seating, 3 feet maximum
- Distance from platform to front pew: 7 feet minimum; larger buildings require 8 feet or more

*Note: With a Lord's Supper table platform of 4 feet, 10 to 12 feet will be required*

## Worship Center, continued

### Choir Area

- Choir capacity: 10 – 12 percent of congregational capacity
- Choir rows: 3 feet minimum depth
- Back and front rows: 3 feet, 2 inches minimum depth
- Riser height: 6” minimum, 12” recommended
- Seating: Movable chairs at 24 inches width per person
- Surfaces: Acoustically reflective floor, walls, and ceiling surfaces recommended
- Floor covering: Hardwood, stone or vinyl; Carpet not recommended under piano or in choir area

### Band/Orchestra Area

- Preferred location in front of choir and at center rear of the platform
- Allow 20-25 square feet per instrument

### Video Projection Screen(s)

- Height equal to about .12 times the distance to the farthest seat in the congregation

### Congregational Seating

Local building codes and the National Life Safety Code adopted by the locality should be consulted for minimum requirements.

- Row spacing: 34 inches minimum, 36 inches or more recommended back-to-back
- Row lengths and seating: Average minimum space per person, 20 inches width; more realistic, 24 inches; 13 or 14 persons maximum on each row

*Note: Most building codes are based on 18 inches per person.*

- Aisle widths (check local codes): Center or main aisle, 4 feet minimum; 5 feet or more recommended

- Side aisles, 2 feet, 6 inches minimum; Some codes require 3 feet, 8 inches

*Note: A center aisle less than 6 feet wide is tight for weddings and funerals.*

### Handicapped seating:

Requirements vary by locality. The following requirements from the Americans with Disabilities Act (ADA) may be used as guidelines for worship centers with fixed seating:

Capacity of Seating in Assembly Area	Number of Required Wheelchair Locations
4 to 25	1
26 to 50	2
51 to 300	4
301 to 500	6
Over 500	6, plus 1 additional space for each total seating capacity increase of 100

### Vestibule/Lobby

- Serving worship center only: 1-1/2 to 2-1/2 square feet per seat in worship center
- Fellowship lobby serving worship center and education space: 15 to 25 percent of the worship center area

### Balcony

- Capacity: Less than 50 percent of main floor seating
- Riser depth: 3 feet 6 inches for first row, 3 feet 4 inches for the back row, 3 feet 2 inches for other rows
- Cross aisles: 4 feet minimum
- Other aisles: Same as aisle width on main floor
- Stairwells: Two minimum, exit to outside (One may be sufficient for less than 50-seat capacity). Additional stairs may be desired based on design.

## Worship Center, continued

Balcony locations: 45 feet minimum, platform to balcony; 35 feet minimum, between side balconies

*Note: Provide clear sight line from rear balcony rows to main floor Lord's Supper table and decision areas.*

### Baptistry

- Water depth: Between 3 feet 3 inches and 3 feet 6 inches

- Inside pool dimensions: 3 feet by 6 feet minimum, plus internal steps; larger sizes are recommended

Baptistry floor (above last choir row): 6 inches minimum, 18 inches to 36 inches is desirable

### Steeple Height

- Equal to distance between roof ridge and ground level

## Education Facility

### General Building Size

(Education, fellowship, administration, music, and media library, with some multi-purpose space)

- First unit building: 30 to 40 square feet per person
- Small churches: 40 to 45 square feet per person
- Large churches with extensive programs: 45 to 55 square feet per person
- Churches with school programs will have additional needs.

### Preschool

- Location: ground level
- Space per child: 35 square feet recommended
- Room size: 320 square feet recommended minimum; no walls less than 16 feet long
- Windowsills: 18 to 24 inches from floor
- Storage in rooms
- Sink at adult height in each room.
- Rest room with child size fixtures between each pair of preschool rooms: toilet 10" high, lavatory 24" high

### Preschool Room capacities:

Ages	Capacity
B, 1	7 to 9
2	9 to 12
3, 4	12 to 16
5	16 to 20

### Weekday Child Care

- Space per child: 35 square feet or as required by codes
- Play yard: 75 square feet per child minimum, or as required by codes.
- Rooms usually require ground level location, often with direct access to exits. Check codes
- Office, resource room, sick room, etc. as needed
- See preschool listing for additional requirements

*(Check state and local codes for detailed requirements.)*

### Children

- Space per child: 25 square feet recommended
- Room proportions: approximately 1 1/2 times as long as it is wide
- Windowsills: 18 to 30 inches from floor
- Room capacity: 24 maximum
- Sink at adult height in each room

### Adults

Space per person:

- Classrooms: 12-15 square feet recommended
- Department rooms: 10-12 square feet recommended

## Education Facility, continued

- Multi-use classrooms/department rooms: 18 to 22 square feet recommended
- Location: ground level for senior adults

### Corridors:

- Secondary corridors: minimum width, 6 feet 4 inches; recommended width, 8 feet

- Primary corridors: minimum width, 8 feet; recommended, 10 feet to 20 feet

### Youth

Space per person:

- Classrooms: 12-15 square feet recommended
- Department rooms: 10-12 square feet recommended
- Open room department: 18 to 22 square feet recommended

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## Church Recreation Building

### Overall Building Size

#### Junior High Gymnasium

(For most churches, a junior high court is not recommended, since it will not accommodate league play or cross-court play.)

- Court size: 42 feet by 74 feet
- Room size: 48 feet by 80 feet minimum  
62 feet by 94 feet preferred  
Plus 3 feet for each row of spectator seating
- Building size (with rest rooms, central desk and storage only):  
50 feet by 96 feet minimum  
64 feet by 110 feet preferred

#### High School Gymnasium

- Court size: 50 feet by 84 feet
- Room size: 56 feet by 90 feet minimum  
70 feet by 104 feet preferred  
Plus 3 feet for each row of spectator seating
- Building size (with rest rooms, central desk and storage only):  
58 feet by 106 feet minimum  
72 feet by 120 feet preferred
- With activities rooms, lounges, snack area, multi-purpose rooms, crafts rooms, locker rooms, central desk, exercise room, storage, etc.: 10,000 to 20,000 square feet.

### General Requirements

#### Basketball Court:

- Junior high, 42 feet by 74 feet
- High school, 50 feet by 84 feet
- Clear ceiling height, 20 feet minimum, 25 feet preferred
- Side and end lanes, 3 feet minimum, 10 feet preferred

Handball/Racquetball Court: 20 feet by 40 feet, 20 feet ceiling height

Game Rooms: 24 feet by 30 feet to 40 feet by 60 feet, or more

Group Meeting Rooms: 15 square feet per person

Storage: Direct access from the gymnasium, with double-wide doors for roll-in table/chair carts. Separate storage spaces for recreational equipment, crafts supplies, kitchen pantry, and janitorial supplies and equipment

Restrooms for gymnasium area are in addition to minimum number in preceding chart

*Note: The recreation building can be reduced in square footage and in height and still accommodate a broad recreational program for all age groups if space is not provided for basketball and volleyball.*

## Recreation Facilities, continued

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### Outdoor Recreation:

- Softball: Requires approximately 1 acre Diamond, 60 feet by 60 feet. Home plate to fence, 200 feet
- Football: Requires approximately 1.5 acres Field size, 160 feet by 360 feet
- Soccer: Requires approximately 1.5 to 2.0 acres. Field size, 195 feet by 330 feet minimum; 225 feet by 360 feet recommended
- Volleyball: Requires approximately 0.7 acre
  - Court, 30 feet by 60 feet, plus 6 feet at sides and ends
- Playgrounds: 75 square feet per child
  - Separate playgrounds for younger and older children

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## ADDITIONAL FACILITIES

### Administrative

- Pastor's Study: 250 to 325 square feet recommended; 140 square feet minimum
- Staff Offices: 150 to 200 square feet recommended; 120 square feet minimum
- Other office space, based on church needs: Offices for support staff, workroom(s), reception area, storage, restrooms, lounge, kitchenette

### Music

- Rehearsal Room: 15 to 20 square feet per person. Capacity at least 10 percent more than worship center choir area.
- Robing Rooms: 4 to 6 square feet per person
- Music Library: 1 to 2 square feet per choir member
- Orchestral Rehearsal Room: 25 square feet per person
- Handbell Rehearsal Room: 20 feet by 30 feet desirable (allows for a five-octave set of handbells with twelve ringers, 32 feet of tables).
- Individual Practice Rooms: 10 to 15 persons at 10 square feet per person
- Voice and Piano Practice Rooms: 8 feet by 10 feet minimum

### Media Library

- Size: 2 square feet per person based on capacity of educational building is recommended; minimum of 1 square foot per person

### Fellowship Hall

- Dining capacity: 1/3 to 1/2 educational building capacity recommended. Some rural and newer churches may require greater capacity.
- Space required for table seating: 12 square feet per person recommended, 10 square feet per person minimum, 15 square feet per person for round tables
- Stage requires additional space
- Institutional Kitchen: 1/4 to 1/3 size of dining area
- Storage for tables and chairs

### Rest Rooms

- Minimum number of fixtures must comply with local codes. The following chart contains recommended guidelines:

Building Capacity	Women		Men		
	WC	L	WC	U	L
Up to 50	2	1	1	1	1
51-100	3	1	2	1	1
101-200	4	2	2	2	2
201-400	5	2	3	2	2
401-650	7	3	4	3	3
651-900	10	4	5	5	4
901-1200	12	5	6	6	5

- Preschool rooms should have direct access to a rest room (which can be shared by two preschool rooms).
- Where space permits, for the convenience of parents, churches are encouraged to provide a diaper changing table in at least one rest room for each sex.
- Handicapped access must comply with codes, usually requiring at least one fixture of each type to be accessible to wheelchairs in each public rest room.

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## Other Building Issues

### Mechanical Equipment Rooms

- Space requirements vary with region and equipment type
- Consider equipment and air flow noise in the worship center
- Zone equipment so various program areas can be heated and cooled independently

(ANSI), the North Carolina Building Code, or the Americans with Disabilities Act (ADA)

Considerations include:

- Extra wide parking spaces (see Parking)
- Building entry: No steps (Provide ramp if steps are needed)

### Custodial Closets

- Provide one closet for each approximate 15,000 square feet of building
- No building area should be farther than 200 feet from a closet with a sink
- Provide a minimum of one closet for each major building area and each building level
- Preferred locations: between rest rooms, near heavy traffic areas, near elevators
- Do not combine custodial closets with utility rooms housing telephone switch gear, elevator equipment, electric panels, HVAC equipment, etc.

Clearances:

- 36 inches minimum door width
- 5 feet minimum hallway width for two wheelchairs to pass
- 5 feet, 6 inches minimum hallway width to allow for two persons on crutches
- Rest room dimensions to allow minimum 5 foot turning radius for wheelchair
- Slope of walks: Not more than 1 inch vertical in 20 inches horizontal
- Slope of ramps: Not more than 1 inch in 12 inches
- Handrails at ramps; grab bars in toilet stalls
- Wheelchair spaces distributed throughout the worship center
- Elevators may be required
- Post accessible route maps at handicap parking areas and building entrances
- Hearing assistance in worship center

### Provisions for Disabled Persons

- Requirements vary by state and locale. Many codes are based on standards developed by the American National Standards Institute

## Finances

### Maximum Debt:

(Total building debt excluding parsonage)

- Recommend no more than 25 to 30 percent of annual income go to debt retirement (fast growing churches may go as high as 35 percent)
- 2 to 3 times annual income of previous year

### Building Project Budget:

(Percent of Construction Cost)

Architect and other fees :	6 to 12 percent
Furnishings	5 to 15 percent
Landscaping	5 to 7 percent
Contingency	5 to 10 percent
Construction loan financing	varies
Financing closing costs	varies

*Note: Construction costs will usually be only 70 to 80 percent of total building project budget.*

### Capital Fund Raising:

(Results depend on commitment to project, the quality of the church's fellowship, the church's giving potential, and the need for the project.)

Typical fund raising results for building program and/or debt retirement:

- **Pledged:** One to three times (on occasions more) previous year's budget income, paid over a three-year period.
- **Receipts:** 90 to 110 percent of amount pledged

**To contact Church Architecture:  
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**For capital fund raising:  
Phone 800.251.4660**

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