

Accessible Faith:

A Technical Guide for Accessibility
in Houses of Worship



By

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for The Retirement Research Foundation

" Every valley shall be lifted up,
and every mountain and hill
be made low,
the uneven ground
shall become level,
and the rough places
a plain."

Isaiah 40:4

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Introduction

Churches, parishes, synagogues, temples, mosques, and other houses of worship are built not only for spiritual expression, but also to serve as indispensable centers for community involvement. For many of us, they are central to our public life. Unfortunately, many of these structures were built years before the issue of accessibility rose to the forefront of the national consciousness. Most older houses of worship were built on multiple levels and without elevators, making them partly or wholly inaccessible to a significant segment of the community. Such barriers prevent those with physical limitations from participating in a full life of faith and community. In turn, such barriers limit the richness and diversity of congregations.

Increasingly, congregations are striving to welcome all members of the community into fellowship, with opportunities for full participation in worship, study, service, and leadership. However, the challenge of creating inclusive congregations is great. Attitudinal, as well as architectural, barriers must be eliminated. In addition, the economic challenge of providing access can seem overwhelming, particularly for a congregation with declining membership and financial resources. This publication will guide congregations that are improving accessibility for persons with disabilities, including the growing number of older adults. The publication is designed to:

- help congregations navigate building-related code requirements regarding accessibility;
- identify user-friendly and aesthetically-satisfying design solutions for eliminating commonly-occurring physical, auditory, and visual barriers; and
- provide technical guidance on planning, financing, contracting, and incorporating access into houses of worship.

| *Who Is Affected?* |

The Americans with Disabilities Act of 1990 (ADA)¹ broadly defines the term “disability” to include: 1) a physical or mental impairment that substantially limits one or more major life activities of an individual; 2) a record of such impairment; or 3) being regarded as having such impairment. According to the National Organization on Disabilities (N.O.D.), the definition is broad enough to include “mobility and sensory impairments, mental illness, mental retardation, learning disabilities, diabetes, cancer, HIV/AIDS, arthritis, respiratory and cardiac conditions and chronic back pain.” N.O.D. reports that 54 million Americans—or one-fifth of the nation’s population—fall within the terms of the ADA definition.²



Figure 1: Even a few small steps can be challenging to those with limited mobility. Neal Vogel for Restoric, LLC

Given current demographic trends, the growing population of older Americans is likely to increase the ratio of people with disabilities in coming years. ***A Profile of Older Americans: 2000***, published by the U.S. Department of Health and Human Services Administration on Aging, reveals that the proportion of Americans 65 years or older more than tripled during the 20th century. Moreover, people 65 and older are disproportionately more likely to have a disability. In the 1990s, for example, more than half of Americans over age 65 reported having at least one disability; the number rose to 71.5% for Americans over age 80.³ [Figure 1]

People with disabilities are predominantly people of faith. The ***2000 N.O.D./Harris Survey of Americans with Disabilities*** found that eight of ten people with disabilities consider their faith to be important to them—the same ratio present in the population at large. Yet, people with disabilities are far less likely to attend religious services than those without disabilities. Only 47% of people with disabilities attend religious services at least once a month, compared with 65% of the total U.S. population.⁴ Although the survey did not address the reasons for this disparity, it is reasonable to conclude that physical barriers are partly to blame. Clearly, such barriers are common and widespread.

This fact was underscored in ***Accessible Faith: Serving the Needs of the Elderly***, a recent study funded by The Retirement Research Foundation in which 100 Chicago congregations were surveyed to determine the level of accessibility of their houses of worship. While more than three-quarters of the congregations reported that they had achieved or were planning for accessibility, only

1 The Americans with Disabilities Act of 1990, Pub.L. No. 101-306.

2 For an overview of various types of mobility, auditory, and visual impairments, see Kathy N. Reeves, editor, ***Accessibility Audit for Churches*** 2nd edition (New York: General Board of Global Ministries, The United Methodist Church, 1995), 7-9.

3 ***A Profile of Older Americans: 2000*** (Washington, D.C.: Administration on Aging, U.S. Department of Health and Human Services, 2000), 2, 11-13.

4 ***Access to Religious Services***, July 24, 2001.



6% of their buildings were found to be fully accessible when measured against the *Illinois Accessibility Code*. Further, over half of the facilities provided no access whatsoever for persons with disabilities.

Sacred Space and Accessibility



Because many of the congregations surveyed for *Accessible Faith: Serving the Needs of the Elderly* were housed in aging buildings, it is no surprise that so few of the buildings met modern accessibility standards. All of the houses of worship surveyed pre-date the laws that mandate accessibility.

Figure 2: This Classical church, designed by S.S. Beman of Chicago in 1913, featured an elevated portico and monumental stairs; a sensitive new ramp design is shown in the foreground. Courtesy of Gilbert Gorski, Architectural Illustration

Sacred space has long been built in ways that inherently limit access. For several millennia, sacred spaces and other buildings of civic importance have been set apart by elevating them above their surroundings. Mesopotamian ziggurats (ca. 3500-1200 B.C.E.) rose from stepped mud-brick platforms; three oversized steps ring the Parthenon atop Athens' acropolis (447-436 B.C.E.).⁵ The practice of elevating religious structures never fell from favor and was more popular than ever in the emerging cities of 19th and 20th century America. [Figure 2]

The significant rise above street level typically found in urban churches and synagogues resulted from an intentional design effort to demarcate sacred space from the outside world. Indeed, Ralph Adams Cram, renowned ecclesiastical architect and critic of American church design, identified the elevation of sacred space as central to the practice of faith. According to Cram, places of worship (especially those in urban settings) were to be spiritual oases, set apart from their pedestrian environment through substantial, soaring walls and monumental stairs approaching impressive entrances well above the street.⁶

Raising the sacred space above grade also had a number of practical benefits that reinforced this manner of construction. High land values motivated most urban congregations to maximize floor space by creating a basement social hall or program space below the sanctuary. Raising the worship space permitted

⁵ John Musgrove, editor, *Sir Banister Fletcher's A History of Architecture*. 19th Edition (London: Butterworths, 1987), 66-74, 112-116, 232-237.

⁶ Ralph Adams Cram, *Church Building: A Study of the Principles of Architecture in their Relation to the Church*. 3rd Edition (Boston: Marshall Jones Company, 1926), 7.

high ceilings and more natural light in the basement, while minimizing excavation costs. More importantly, it created a more pleasing and inspiring sacred space. It literally lifted worshippers above the street noise, providing a relatively quiet place for song and prayer. Windows raised high above street level afforded better natural light and ventilation, greater security, and safer placement of expensive stained glass.

A raised worship space resulted in a profusion of stairs. Each floor level was typically constructed a half-story above or below grade. Ancillary rooms and building additions were commonly placed at intermediate levels. Although passenger elevators date to the mid-19th century, they were considered a luxury and beyond the financial means of most congregations. The needs of people with mobility limitations were simply disregarded.

Architects also employed other devices that limit access in houses of worship. Massive exterior doors, in scale with monumental structures, emphasized the transition between secular and sacred space. [Figure 3] Floor levels were incrementally raised while approaching the most sacred area such as the altar, chancel, tabernacle, ark or bimah. Regardless of faith, these areas are virtually always at the end of a processional route from the entrance. Even for a small country church, Cram advocated “three steps at the entrance, one at the communion rail, and three to the foot pace of the altar.”⁷ Choir lofts were often raised well above the worship space. In Protestant churches of the late 19th to the mid-20th century, architects employed sloping floors from the narthex (foyer or lobby) to the chancel, emphasizing the height of the pulpit. While pews or theater seating were designed to counter the slope, a wheelchair at rest requires a level landing.

Restrooms also present a serious problem. Many 19th-century houses of worship were constructed with only minimal facilities. Toilets and sinks were later shoehorned into available space, often under staircases or in converted closets. Such restrooms rarely accommodate a wheelchair. Restrooms in 20th-century structures are only slightly more spacious and seldom hold an adequate number of standard fixtures to allow a reduction for larger accessible stalls.



Figure 3: This synagogue's steps and massive doors are not only insurmountable for those in wheelchairs, but also for many elderly congregants. Neal Vogel for Restoric, LLC

Accessibility Laws and Sacred Space

The

Americans

with

Disabilities

Act

(ADA)

prohibits

discrimination

against

persons with

disabilities in

four major

areas.

The last half-century has witnessed a growing awareness that architectural and attitudinal barriers keep people with disabilities from full participation in society. In the United States, the first significant step toward creating universal accessibility requirements for public buildings was the 1961 publication of the American National Standards Institute's (ANSI's) "Specifications for Making Buildings and Facilities Accessible to, and Usable by the Physically Handicapped." These standards set forth the physical requirements deemed necessary to make buildings used by the public accessible to those with disabilities. They are design standards only and have no legal force. Since their adoption, however, they have been incorporated by reference into many federal, state, and local accessibility laws.

Congress enacted the first federal accessibility requirements through the Architectural Barriers Act of 1968. This Act applied the ANSI standards to construction and major remodeling of federally owned, leased, or funded properties. Congress later enacted the Rehabilitation Act of 1973, which prohibits discrimination against persons with disabilities by federal agencies and organizations that are funded by the federal government. Section 504 of the Rehabilitation Act prohibits persons with disabilities from being denied access to federally funded programs or activities. Although Section 504 mandates only that a program or activity be made accessible—not that specific architectural barriers be removed—it has prompted many program sponsors (including religious organizations) to modify their buildings.

In 1990, Congress adopted a far broader accessibility law. The Americans with Disabilities Act (ADA) prohibits discrimination against persons with disabilities in four major areas: employment (Title I), public services (Title II), public accommodations (Title III), and telecommunications (Title IV).

- ADA Title I prohibits employment discrimination against persons with disabilities and requires, among other things, that employers make reasonable accommodations for the disabilities of qualified individuals.
Religious organizations with 15 or more employees are subject to Title I.

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- ADA Title II extends the general prohibition on discrimination against persons with disabilities to all public entities, including state and local governments. **Title II may affect those religious organizations participating in government programs that provide public services.** For example, a church could be required to create an accessible route to its dining hall as a contractual requirement of hosting a city-sponsored senior citizen meal program.
 - ADA Title III requires private entities to afford persons with disabilities full and equal enjoyment of any goods and services offered at a place of public accommodation. ADA Title III affirmatively requires, among other things, that private entities remove architectural and structural communication barriers where readily achievable. **Title III expressly exempts religious organizations or entities controlled by religious organizations from the definition of public accommodation. When a religious organization rents space to a public accommodation such as a community group, the ADA may apply to the activities of the community group.**
 - ADA Title IV requires telephone companies to offer telephone relay services to individuals who use telecommunication devices for the deaf (TDDs), but places no direct obligations on religious organizations.

(The application of the ADA requirements and other accessibility laws to religious organizations is concisely yet thoroughly explained in the National Organization on Disability's publication, *Loving Justice: The ADA and the Religious Community*.)⁸

In addition to the federal laws just mentioned, various state and local building codes and anti-discrimination provisions govern accessibility. Although many such local rules follow the ADA, others contain requirements that are more stringent. **Where the local rules are stricter, they take precedence over federal requirements. Houses of worship may or may not be exempt from state and local accessibility rules, and congregations should always consult state and local authorities to determine what, if any, accessibility provisions apply.**

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⁸ Ginny Thornburgh, editor, *Loving Justice: The ADA and the Religious Community* (Washington, D.C.: National Organization on Disability, 1999).

Providing Accessibility In Historic Buildings



Figure 4: Custom enclosures are usually required to minimize the aesthetic impact of lifts in historic settings. Michael Schmidt for Restoric, LLC

ADA Title III contains a distinct set of requirements for providing accessibility in historic buildings. Under the terms of the act, historic buildings are not simply old buildings, but those that are listed in, or eligible for being listed in, the National Register of Historic Places, or designated as historic under state or local law. The rules permit a state historic preservation officer to determine that a specified set of less stringent accessibility measures may be implemented where the standard requirements (discussed in detail below) would “threaten or destroy the historical significance of the building or facility.”⁹

Although only a small percentage of religious properties are listed on the National Register or designated “historic” by a state or local government, many are historically and architecturally significant older structures. The principles applied in determining model approaches to retrofitting historic structures for accessibility, therefore, can be useful in analyzing how best to equip an existing house of worship. According to the National Park Service, “the goal in selecting appropriate solutions for specific historic properties is to provide a high level of accessibility without compromising significant features or the overall character of the property.”¹⁰ In other words, “the goal is to provide the highest level of access with the lowest level of impact.”¹¹ [Figure 4]

The National Park Service suggests the following three-step analysis prior to renovation or new construction:

1. Determine the structure’s historic significance and the architectural features and building materials that convey the essence of its historic character. In the case of an historic house of worship, essential architectural features might include a portico and monumental steps that rise to massive wood doors or a dramatic interior processional route ending in a raised altar. Significant building materials might include ornately carved limestone or marble.
2. Thoroughly assess the current and required levels of accessibility (discussed in detail in subsequent sections of this guide).
3. Seek out creative accessibility solutions. Such solutions should provide

⁹ Americans with Disabilities Act Accessibility Guidelines 4.1.7.

¹⁰ Thomas C. Jester and Sharon C. Park, *Making Historic Properties Accessible* Preservation Briefs, No. 32. (Washington, D.C.: U.S. Department of the Interior, National Park Service, Preservation Assistance Division, 1993), 3.

¹¹ W. Brown Morton III, Gary L. Hume, Kay D. Weeks, and H. Ward Jandl, *The Secretary of the Interior’s Standards for Rehabilitation & Illustrated Guidelines for Rehabilitating Historic Structures* (Washington, D.C.: U.S. Department of the Interior, National Park Service, Cultural Resources, Preservation Assistance Division, 1992), 96.

maximum accessibility while retaining the architectural features and materials that give a property its significance. For example, it may be possible to provide access through ornate and massive wood or bronze doors by equipping them with automatic openers. Important factors to consider in making such determinations are discussed in *The Secretary of the Interior's Standards for Rehabilitation & Illustrated Guidelines for Rehabilitating Historic Buildings*, available through the National Park Service.

Accessibility Solutions For Houses of Worship

“It is often easier for a person with a disability to get a beer at a bar than it is to enter a church to pray,” noted John R. Dunne, former Assistant Attorney General, Civil Rights Division, U.S. Department of Justice, during the debate over passage of the ADA. The same can still be said more than a decade later, in part because ADA Title III does not govern religious institutions.

Although Title III expressly exempts religious organizations, including houses of worship, from its requirements, the ADA standards for accessibility represent the national minimum accessibility standards for other types of buildings. Certainly, it is an appropriate goal for congregations to strive to meet these standards. For this reason, *Accessible Faith* is based on the Americans with Disabilities Act Accessibility Guidelines (“ADAAG” or “guidelines”), which set forth the technical requirements for accessibility under the ADA.

The ADAAG contains separate requirements for new construction and for alterations (and additions) to existing buildings. In general, the alterations rules correspond to those for new construction but permit certain accommodations that take into account the technical difficulties involved in modifying older buildings. The following technical specifications represent the current ADAAG. However, congregations are strongly encouraged to examine the ADAAG and any subsequent amendments for further details on specific topics. **Further, congregations should consult state and local authorities to determine whether there are more stringent requirements in their particular area.**

Eliminating Physical Barriers

Signs

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Parking and Walkways

Barriers to access often begin well before the entrance. These barriers might include a lack of adequate parking, no curb cuts, or rough, uneven walks. If a person with a disability cannot easily park, get past the curb, and navigate the walk, there is little reason to expect better accessibility once inside. The first impression is not one of welcome.

The federal guidelines indicate that accessible parking spaces must be provided in ratios related to total parking spaces available in the parking lot (Table 1). Accessible spaces need not be limited to the main parking lot if “equivalent or greater accessibility” is ensured elsewhere.

Table 1

<u>Total Parking Spaces in Lot</u>	<u>Required Accessible Spaces</u>
1 to 251
26 to 502
51 to 753
76 to 1004
101 to 1505
151 to 2006
201 to 3007
301 to 4008
401 to 5009
501 to 10002 % of total
1001 and over20 + 1 for each additional 100

Aisles adjacent to accessible parking spots must be 60” wide at minimum, and one in every eight accessible spaces must adjoin a 96”-wide “van accessible” aisle.¹² Signs bearing the universal symbol for accessibility are required for each accessible spot. “Van-accessible” spaces must also be marked.¹³

Many urban houses of worship are not blessed with enough land to accommodate a parking lot. Under these circumstances, a congregation should do whatever it can to provide accessible street parking. This will require working with the local municipality to have the necessary signs posted and curb cuts made.

¹² ADAAG 4.1.2(5)(a) and (b).
¹³ ADAAG 4.6.4.

Once a person with a disability alights from a vehicle, he or she must have unobstructed passage to an accessible building entrance, ideally with minimal travel distance. A congregation must provide at least one such “accessible route” that coincides with the route used by the general public to the greatest extent possible. If the accessible parking spaces abut a curb, a sloped curb ramp or curb cut must be provided. Walks must be at least 36” wide and if they are narrower than 60” wide, passing spaces measuring 60” square must be provided every 200 feet or less. Steep walks may technically be defined as ramps (see Ramps & Railings) and must sometimes follow ramp specifications.

In some situations, walks may provide access not only to, but also into, a house of worship. Where only one or two short steps lead up to the entrance of a religious building, it may be possible to pull the steps forward slightly to create a landing, and then re-grade or berm the earth and pave a walk to provide access on one or both sides of the landing. [Figure 5] Alternately, the stair could be covered with compact fill such as gravel or sand, and a new walk laid over it.¹⁴ Of course, these approaches would be useful only where there is a sufficient setback from the street. Moreover, they should be considered only where they would not seriously undermine the architectural character of the entrance.

Ramps and Railings

Ramps are by far the most common means of providing access in existing structures, primarily due to their relatively low installation and maintenance costs. Ramps can be a practical and relatively inexpensive means of negotiating moderate level changes. Although federal guidelines allow extremely long ramps—assuming the slope and landing requirements are met—such ramps require substantial physical stamina and often see little use. [Figure 6] Ramps can provide accessibility both inside and outside, and their construction benefits all members of a congregation, both young and old. Ramps provide easier access, not only for persons in wheelchairs (or on scooters) and for those with lesser mobility impairments, but also for members pushing strollers, hauling packages, or towing toddlers.



Figure 5: At this entrance, a small stoop was replaced with a bermed walk and landscaping to create accessibility. Neal Vogel for Restoric, LLC



Figure 6: This ramp is too long is too steep, requires frequent maintenance (painted steel) and has an industrial appearance. Neal Vogel for Restoric, LLC

¹⁴ Charles Parrott, *Access to Historic Buildings for the Disabled: Suggestions for Planning and Implementation* (Washington, D.C.: U.S. Department of the Interior, Heritage Conservation and Recreation Service, Technical Preservation Services Division, 1980), 31.

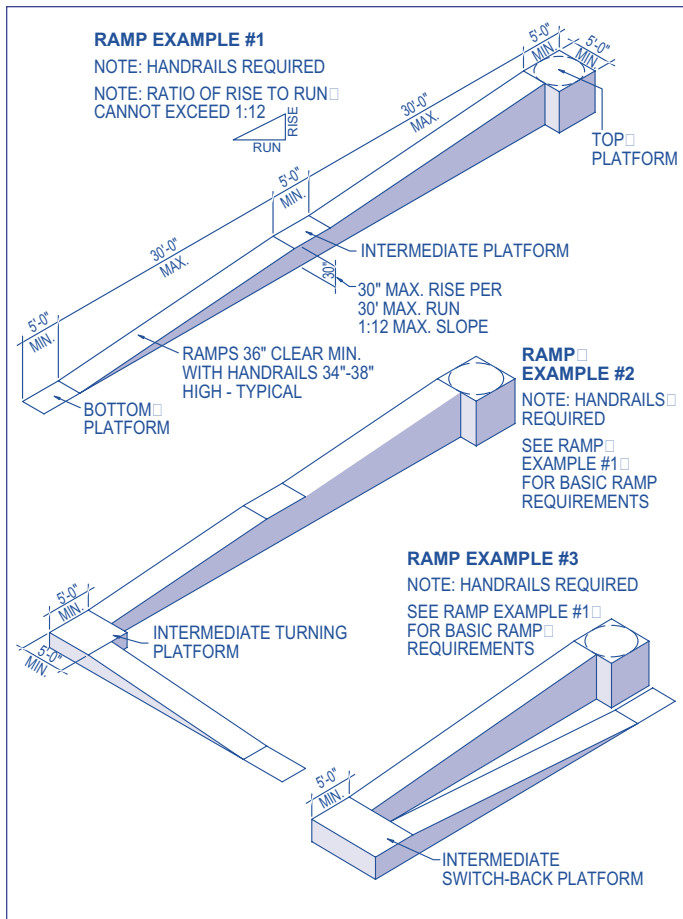


Figure 7: These schematic designs indicate the fundamental requirements for ramps. Duk Kim for Restoric, LLC

Their benefits notwithstanding, ramps can dramatically impact the architecture of a building façade or interior space. (Ramps require five times the space of stairs to travel the same vertical rise.) For this reason, each ramp should be carefully designed and constructed with respect for the existing architecture. The National Park Service, in *Preserving the Past and Making It Accessible for People with Disabilities*, states: “New ramps should be compatible in scale and detailing with the materials and features that characterize a historic property.”¹⁵

For example, an exterior ramp might be partially concealed behind existing architectural or landscape features, such as cheek walls (low masonry walls flanking stairs or ramps), ornamental railings, or shrubbery. The sides of a concrete ramp are best faced with masonry to match or complement an adjacent wall or staircase, or bermed to blend into the landscape.¹⁶ The surface of a concrete ramp can be pigmented or embellished with tile, as long as the decorative treatment does not interfere with the wheelchair track or make it slippery.

Technically speaking, a ramp is a sloped walk steeper than 1:20 (1” of vertical “rise” for every 20” of horizontal “run”). In general, ramps cannot exceed a maximum slope of 1:12. The maximum rise for any ramp between horizontal landings should be 30”, and the minimum clear width between handrails should be 36”.¹⁷ In many older houses of worship, however, it may be impossible to meet this new construction standard due to space limitations. In such cases, the federal guidelines permit a slope of 1:10 for a maximum rise of 6” and a slope between 1:8 for a maximum rise of 3”.¹⁸

Certain ADAAG requirements are designed to make ramps as safe and easy to use as possible. Ramp surfaces must be stable, firm, and slip-resistant. Landings must be provided at the bottom and top of each ramp so that people with decreased mobility can rest. [Figure 7] Each landing must be at least 60”

15 *Preserving the Past and Making It Accessible for People with Disabilities* (Washington, D.C.: U.S. Department of the Interior, National Park Service, Cultural Resources, Heritage Preservation Services, 1996), 5.

16 Jester, 4-5.

17 ADAAG 4.8.1, 4.8.2, 4.8.3.

18 ADAAG 4.1.6(3)(a).

long and at least as wide as the ramp itself. If a ramp changes direction at a landing, the landing must be at least 60" square. Handrails must be installed between 34" and 38" from the ramp surface on both sides of a ramp if the rise is greater than 6" or the ramp is longer than 72". The handrails must have 1½" of clearance for grasping and must extend 12" beyond the top and bottom of the ramp and return smoothly to the floor or wall.

Any necessary railings should also be in keeping with the architectural style of the building or replicate ornamental details found elsewhere on the structure. [Figure 8] Care should be taken that any such custom railing is also safe. For the protection of children, many codes prohibit balusters, spindles, and other vertical elements spaced more than 4" apart, as well as horizontal divisions that could be used for climbing.

Ideally, a congregation will have sufficient space to construct an accessible ramp near the main entrance. However, placing a ramp adjacent to the primary entrance stairs may be difficult, if not impossible, particularly in an urban setting, where setbacks are minimal or non-existent. Even if there is marginally sufficient room, the addition of a ramp in a cramped space can significantly undermine the architectural integrity of the building.

When a ramp at the main entrance is not feasible, a congregation must weigh other options. A secondary entrance may provide the ideal solution. Such an entrance may be closer to grade and less architecturally complex and, therefore, more easily adapted for a ramp. It may even be better situated for more convenient access. A chief drawback of secondary entrances is that they may require those with disabilities to enter the sanctuary at the front. However, such persons can often gain more immediate access to the parish house, educational wing and program space without passing through the worship space from the main entrance. Secondary entrances are commonly located along the longer aisle or nave wall of a cruciform-plan church, and typically allow for a gradual approach without costly switchbacks. Secondary entrances may also be located closer to accessible parking.¹⁹

Creating a below-grade ramp to a basement entrance may be desirable, especially where there is access to an elevator at that level. This may also be a good solution where first floor access already exists, but a lower-level social hall



Figure 8: These custom railings improve overall ramp design and complement their architectural settings. Neal Vogel for Restoric, LLC

¹⁹ If a congregation uses "greeters" at the main entrance, such persons also should be stationed at the secondary, accessible entrance.



Figure 9: This interior ramp improves ALL traffic flow between the original church and a parish house addition. Michael Schmidt for Restoric, LLC

or education space remains inaccessible. Ultimately, access should be provided to all the primary levels within a house of worship.

Although a portable ramp may be used to provide access while funds are raised for a permanent ramp, portable ramps should only be considered a temporary solution. Such ramps are generally structurally and aesthetically inferior to permanent ramps. Flimsy, lightweight ramps may shift or tip and represent a liability to congregations. Besides, persons with disabilities cannot use most

portable ramps without assistance; independent access should be a primary goal.²⁰

Interior ramps have similar benefits and drawbacks. Long hallways interrupted by a step or two can often be retrofitted with ramps. The results will be especially pleasing where ramps and railings are visually incorporated into existing designs, using appropriate architectural detailing. [Figure 9] Just as often, installing interior ramps where space is limited can present a challenge. Ramps are usually impractical where additional steps are located immediately inside the main entrance. Moreover, ramps constructed over existing stairs or obstructing existing doorways can interfere with emergency egress for able-bodied persons and usually conflict with code requirements.

Elevators

Because elevators are expensive, they are less commonly employed in older houses of worship. Nevertheless, elevators are often the most efficient and effective access solution in religious properties with multiple floors. Elevators afford truly independent access to people with disabilities. Like ramps, elevators can accommodate wheelchairs, walkers, and strollers. The chief drawback of elevators, in addition to their initial cost, is their relatively high maintenance and operating costs. They may also complicate security issues where restricting access to certain floors is a concern.

Hydraulic elevators are generally used for low-rise installations, such as houses of worship. Hydraulic elevators are of two types: holed and hole-less. Holed elevators can rise up to 70 feet, but they require a pit to accommodate equipment. Hole-less elevators eliminate the need for a pit, but are limited to 35 feet (two or three floors).

²⁰ Jester, 5.

Oversized commercial-grade hydraulic passenger elevators can be the optimum choice for houses of worship, particularly to facilitate funerals by transporting caskets on gurneys. Such elevators have capacities of 2,000 lbs. and above, while some can be used as combination passenger and freight elevators. The most significant disadvantages of these high capacity elevators are their higher cost and the floor area they consume.

The Limited Use/Limited Application (LU/LA) elevator is another type of hydraulic elevator that can resolve accessibility issues in many houses of worship. LU/LAs were developed specifically to fill the void between expensive commercial elevators and vertical platform lifts (discussed below). The American Society of Mechanical Engineers' Safety Standards for Elevators and Escalators define a LU/LA as "...a power passenger elevator where the use and application is limited in size, capacity, speed, and rise, intended principally to provide vertical transportation for people with physical disabilities."²¹ Due to their inherent mechanical limitations, however, LU/LAs are arguably less versatile than standard hydraulic passenger elevators. For example, their cabs are not large enough to accommodate caskets or even some of the larger motorized wheelchairs. Still, they offer an economical alternative for providing access in houses of worship, and their smaller size allows them to be installed where traditional elevators will not fit.

Selecting an elevator location that is both convenient for users and respectful of the existing architecture is often the greatest design challenge. Ideally, the elevator will be located near an accessible entrance in order to minimize unnecessary travel through the building. This will also help preserve the natural traffic flow. Nevertheless, care should also be taken to avoid placing an elevator where it would significantly undermine the visual impact of an architecturally important space, for example, in the center of an open stairwell or within the sanctuary walls. In such cases, it would be preferable to create a new concealed shaft in an area of lesser architectural significance. Sometimes, elevators (or lifts) can be located in steeples or towers.

In other situations, it may be virtually impossible to find an appropriate location within the walls of an existing building, and a separate elevator addition may be the only viable solution. Any such addition definitely should be built adjacent to a secondary façade, that is, any façade other than the primary front elevation.²² Urban houses of worship are commonly located on

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²¹ American Society of Mechanical Engineers A17.1b.

²² See Parrott, 44-48.

*Chairlifts
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for use in
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worship.*

corner sites and have two “primary” street façades, although one is usually architecturally predominant.

Regardless of the elevator type and location, new equipment should blend well with the existing building materials. Like ramps, elevators can often be housed or clad in materials that harmonize with surrounding surfaces in terms of texture, color, pattern, sheen, and detailing.

In the few older houses of worship where elevators are original equipment, modern standards for accessibility are rarely met. Typically, the cabs are too small and the door openings too narrow for wheelchairs. Some older elevators can be modified to improve the level of accessibility. For example, raised and brailled lettering may be added to control panels, and the panels themselves may be lowered for easy use by people in wheelchairs. Audible indicators may be installed to inform a blind person of the elevator’s arrival and direction of travel. Timing devices may be adjusted to permit wheelchair users sufficient time to enter or exit an elevator car. In some situations, the existing elevator shafts can be enlarged for new elevators. In any case, original elevator cab and door finishes should be preserved whenever possible.²³

Lifts

Mechanized lifts fall into three general categories: chairlifts (also known as stairlifts), inclined platform lifts, and vertical platform lifts. Both chairlifts and inclined platform lifts travel diagonally up or down a flight of stairs. Chairlifts carry one seated individual, while inclined platform lifts transport a person in a wheelchair. Vertical platform lifts travel straight up and down between building levels and can also accommodate a person in a wheelchair.

Basic chairlifts are the least expensive type of lift and are therefore commonly found as a temporary accessibility solution. Unfortunately, chairlifts have serious limitations that make them undesirable for use in houses of worship. Their primary disadvantage is that they require a person who uses a wheelchair to transfer out of the wheelchair and onto the chairlift. The wheelchair must then be carried up/down the stairs so the user can transfer back again. This arrangement compromises independent access and presents a liability concern due to the potential for injury during transfers. Another disadvantage of chairlifts is their slow operating speeds, as low as 15 feet-per-

²³ Parrott, 45; Jester, 5, 7; Reeves, 34.

minute. At this pace, a trip up a single flight of stairs can take a full minute or longer. Further, most chairlifts have a maximum capacity of only 300 lbs., relatively low when compared with other lifts and elevators. Finally, most chairlifts are designed for residential use and simply do not perform well under heavy use.

Only inclined and vertical platform lifts are expressly permitted in structures covered by the ADA. For new construction, platform lifts may be used “to provide access where existing site constraints or other constraints make use of a ramp or an elevator infeasible.”²⁴ For alterations, there are no ADA restrictions on the use of platform lifts as part of an accessible route.²⁵ Again, state and local rules for lifts may be more restrictive.



Figure 10: Platform lifts are available for straight and switchback stairs. Courtesy of Garaventa Accessibility

Inclined platform lifts allow a person to travel up/down stairs in a wheelchair. [Figure 10] (Some also have a fold-down seat to accommodate a semi-ambulatory person.) A wheelchair user should be able to operate such a lift independently, assuming the controls comply with ADAAG requirements.²⁶ Inclined platform lifts are generally rated for 450 lbs. or more, and they are more durable than chairlifts. On the negative side, inclined platform lifts require wide staircases for adequate clearance. While many places of worship have wide staircases, inclined platform lifts can nevertheless pose a safety hazard by restricting emergency egress. The situation can be particularly dangerous where the lift platform does not fold up flat against the wall when it is not in use. Inclined platform lifts are also faulted for inadequate modesty panels for those in skirts.

Vertical platform lifts provide more options with respect to placement and aesthetics. Most vertical lifts are compact and can travel straight up and down as much as 14 feet between two or three “stops” (levels). They often serve as an excellent economical alternative when there is insufficient room for a ramp. [Figure 11 – see next page] For added safety and privacy, some are fully or partially enclosed. Vertical lifts are frequently positioned adjacent to a set of stairs, but other arrangements are also possible. [Figure 12 – page 19] They may be used both inside and out, though exterior lifts should be placed under cover to minimize maintenance.²⁷

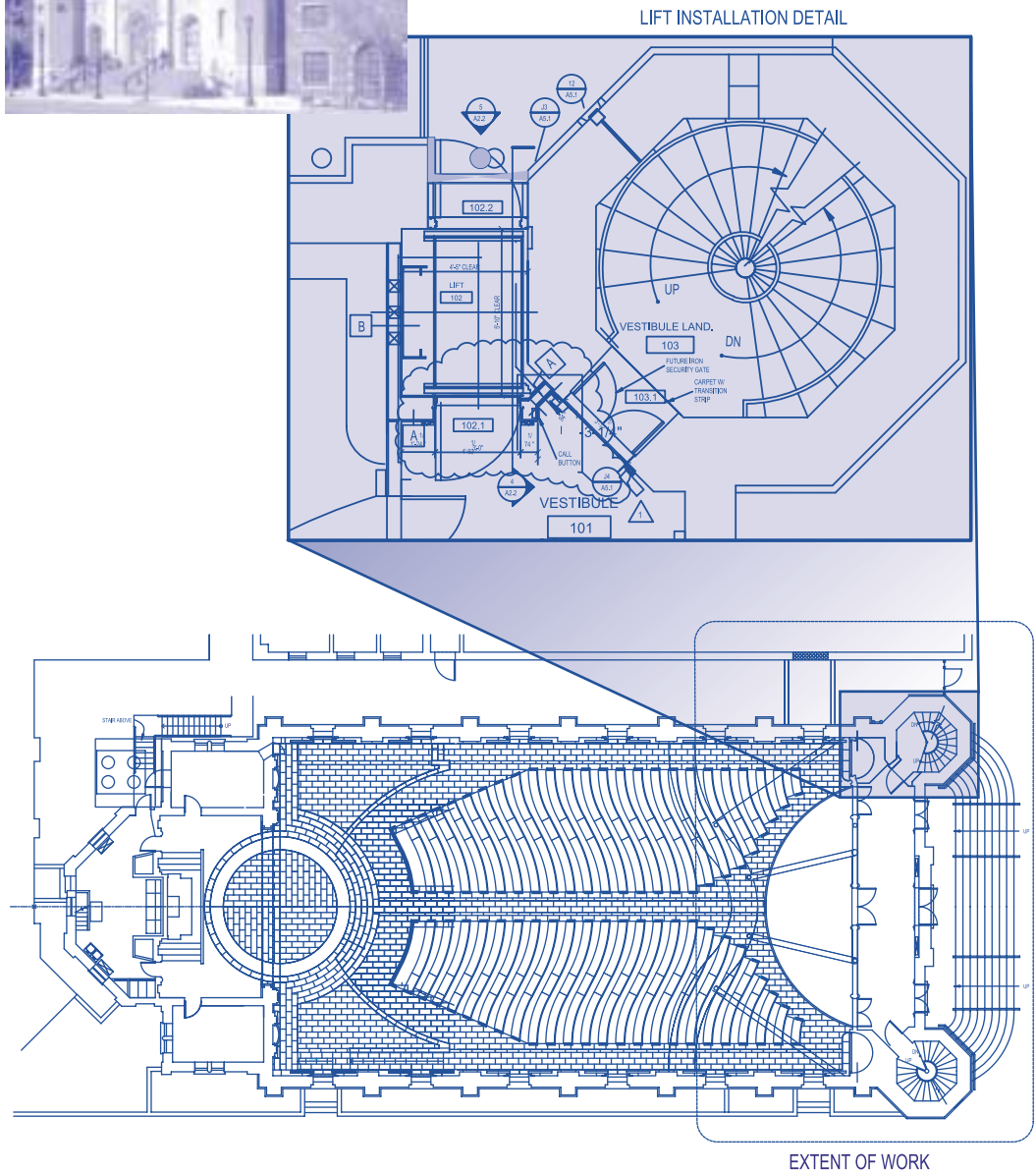
²⁴ ADAAG 4.1.3(5). Three other permissible uses are narrower in scope.

²⁵ ADAAG 4.1.6(3)(g).

²⁶ ADAAG 4.27.

²⁷ Jester, 6.

Figure 11: A lift installation (behind the right steeple) proved to be an economical and aesthetically pleasing alternative to a massive ramp on the front of this historic church. Courtesy of Booth Hansen Associates



Other lifts are available for special applications. One good example is a vertical platform lift that converts into stair steps when not in use. This lift may be an ideal solution for access to a raised chancel, bimah, reader’s platform, or choir area.

Lifts have several drawbacks as well. Many can only transport one person at a time, and some models are key-operated, which can limit independent use. In addition, lift motors can be noisy—a decided disadvantage in worship settings. Finally, lifts can present aesthetic problems in historic interiors. They typically have painted steel, stainless steel, or anodized aluminum finishes, which do not harmonize with adjacent historic finishes. However, custom wood, drywall, or masonry housings or shells may be built around vertical platform lifts for better aesthetics. Custom handrails in a suitable architectural style and material also can enhance the appearance of these lifts.

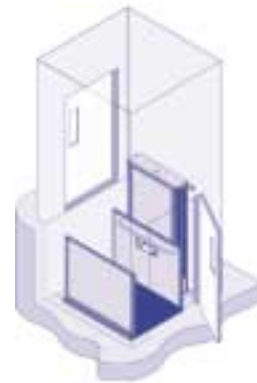


Figure 12: Vertical lifts are often installed next to a set of stairs.
Courtesy of Garaventa Accessibility

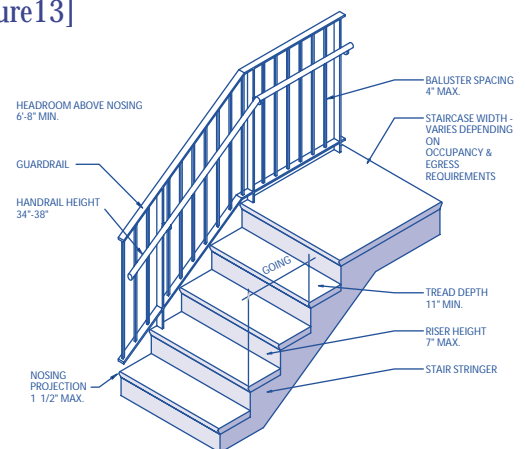
Stairs

One final means of vertical travel to consider is stairs. Though stairs obviously are not an option for people who use wheelchairs, they are regularly used by those with less serious mobility impairments, including older adults who have difficulty walking but may hesitate to take advantage of other available accessibility equipment. Unfortunately, stairs in older buildings are not always user-friendly. The ADA guidelines require only that stairs between levels that are not connected by other accessible means be improved to “accessible” standards.²⁸ The requirements for “accessible” stairs include: [Figure13]

- uniform riser and tread widths;
- short, rounded tread nosings; and
- handrails mounted 34” to 38” above the nosings.

The handrails must extend at least 12” beyond the top riser; beyond the bottom riser, they must extend at least 12” plus the width of one tread.²⁹ These general stair requirements also apply to building alterations, except that handrails need not be fully extended “where such extensions would be hazardous or impossible due to plan configuration.”³⁰

Figure 13: Even stairs can be re-designed to improve their accessibility.
Duk Kim for Restoric, LLC



28 ADAAG 4.1.3(4).

29 ADAAG 4.9.

30 ADAAG 4.1.6(3)(b).

*Often,
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Although strict application of the ADAAG standards would dictate changes to relatively few staircases in existing houses of worship, congregations still should consider upgrading any staircases that are heavily used. **This can be an extremely cost-effective way of improving accessibility for a large number of people.** Often, a few modest improvements can dramatically improve stair safety. These include better lighting, slip-resistant strips on treads, replacement of worn nosings, and easy-to-grasp handrails to prevent falls.³¹ As always, improvements should coordinate with the prevailing architectural style of the building. It is also important to note that stairs can rarely be removed or replaced with accessibility equipment due to the loss of emergency egress for able-bodied persons.

Doors, Doorways, and Thresholds

As barriers, doors, doorways, and thresholds can be as insurmountable as stairs. A doorway may be too narrow for wheelchairs or a threshold too high to roll over. The door swing may prevent a person in a wheelchair from opening the door or from being on the adjacent floor or landing. On the other hand, the door itself may be too heavy for a person in a wheelchair to hold open and roll through at the same time. In some cases, the door handle or knob may be difficult to operate.

Each door along an accessible route must be made accessible. In general, doors must have a minimum clear opening of 32" with the door open 90° (measured from the face of the door to the opposite stop). For double leaf doors, at least one leaf must meet the clear opening requirement. Thresholds at most types of doors cannot exceed 1/2" in height, and raised thresholds and floor-level changes at doors must be beveled. Door handles, pulls, latches, and locks must be easy to operate with one hand and must not require "grasping, tight pinching, or twisting of the wrist." Hardware must be mounted at 48" or lower, though 36" may be a more reasonable maximum height, especially for children and people using wheelchairs. Interior doors must be able to be opened by pushing or pulling with a force of no more than 5 lb/f. (pounds per foot) as measured by a strain gauge. Automatic and power-assisted doors are permitted.³² A few exceptions to these standards are applicable to existing buildings as noted in the following paragraphs.³³

³¹ Jester, 8.

³² ADAAG 4.13.4, 4.13.5, 4.13.8, 4.13.9, 4.13.11, and 4.13.12. The guideline that would have set forth an exterior door standard was reserved for later consideration.

³³ ADAAG 4.1.6(3)(d).

Due to the “assembly” function of older houses of worship, almost all have entrance doorways wider than the 32” minimum clear opening required for new construction. Still, certain interior or secondary doorways may lack sufficient width. When it is technically infeasible to comply with the normal 32” standard, a maximum projection of 5/8” is allowable for the latch side stop.³⁴ Moreover, it is often possible to gain additional clearance by replacing standard butt hinges with new offset hinges that allow a door to swing clear of the jamb. Such hinges can increase the size of the opening by up to 1½”.³⁵ Alternately, if practical (and allowed under fire code), interior doors might simply be removed and stored for future use. As a last resort, existing doorways can be widened, and custom-built doors made to match the interior woodwork.

Older houses of worship may have high thresholds that are obstacles for wheelchair users. Thresholds up to ¾” in height may remain in place, as long as they have a beveled edge on either side;³⁶ higher thresholds must be modified or replaced. In some cases, the problem can be resolved by raising the adjacent walk or finished floor to meet the requirements.

Many historic houses of worship also have impressive entrance doors. Such massive doors may impede access, though they are usually architecturally significant features that should not be aesthetically compromised. Modifying or replacing the hardware of these and other doors can make them more user-friendly for persons with mobility impairments. For example, it may be possible to add a lever-handle behind a hard-to-turn doorknob.³⁷ By ADAAG standards, acceptable new hardware might include “lever-operated mechanisms, push-type mechanisms, and U-shaped handles.”³⁸ To reduce door pressures to an acceptable 5 lb/f. or less, existing hinges and door closers can sometimes be modified or replaced. Power-assisted or automatic door openers operated by push buttons, pressure mats, or electronic eyes are often the best solution at entrances. These allow the greatest ease of entry to the largest number of people.³⁹ Whichever solution is chosen, the presence of other architectural features at the main entrance, such as monumental staircases or raised landings, may suggest that an alternative entrance be considered for accessibility.

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³⁴ ADAAG 4.1.6(3)(d)(i). ³⁵ Parrott, 48. ³⁶ ADAAG 4.1.6(3)(d)(ii). ³⁷ Parrott, 49. ³⁸ ADAAG 4.13.9.
³⁹ See Parrott, 50-53.

Disabilities

The Worship Space

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prevent

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Group worship is a significant aspect of religious life for people of all major faiths. However, the vast majority of worship spaces traditionally failed to account for those with disabilities. In many instances, “fixed” pews fill the main assembly space, forcing people who use wheelchairs to sit up front, in the very back, or in the aisles (which should remain clear). In worship spaces built with sloping floors, the last choice is not an option for those in wheelchairs. Full participation in worship should include opportunities for leadership roles, which requires access to the traditional locations of leadership. The chancel, altar, bimah, pulpit, lectern and choir area may be the final frontier of accessibility in most houses of worship. Disabilities should not prevent those who want to lead services or sing in the choir from participating.

ADAAG standards (as well as good seating practice) require that spaces for wheelchairs “be an integral part of any fixed seating plan.” [Figure 14] They should be located where wheelchair users have sight lines comparable to those of others and should be paired with at least one companion seat. Wheelchair locations should be provided in the proportions found in Table 2.

Table 2

Capacity of Seating in an Assembly Area	Number of Required Wheelchair Locations
4 to 251
26 to 502
51 to 3004
301 to 5006
Over 5006 plus 1 space for each additional 100 seats

Where seating capacity exceeds 300, the wheelchair spaces should be provided in more than one location.⁴⁰ In existing buildings, wheelchair seating may be clustered together if it is technically infeasible to disperse it as otherwise

⁴⁰ ADAAG 4.1.3(19) and 4.33.3.

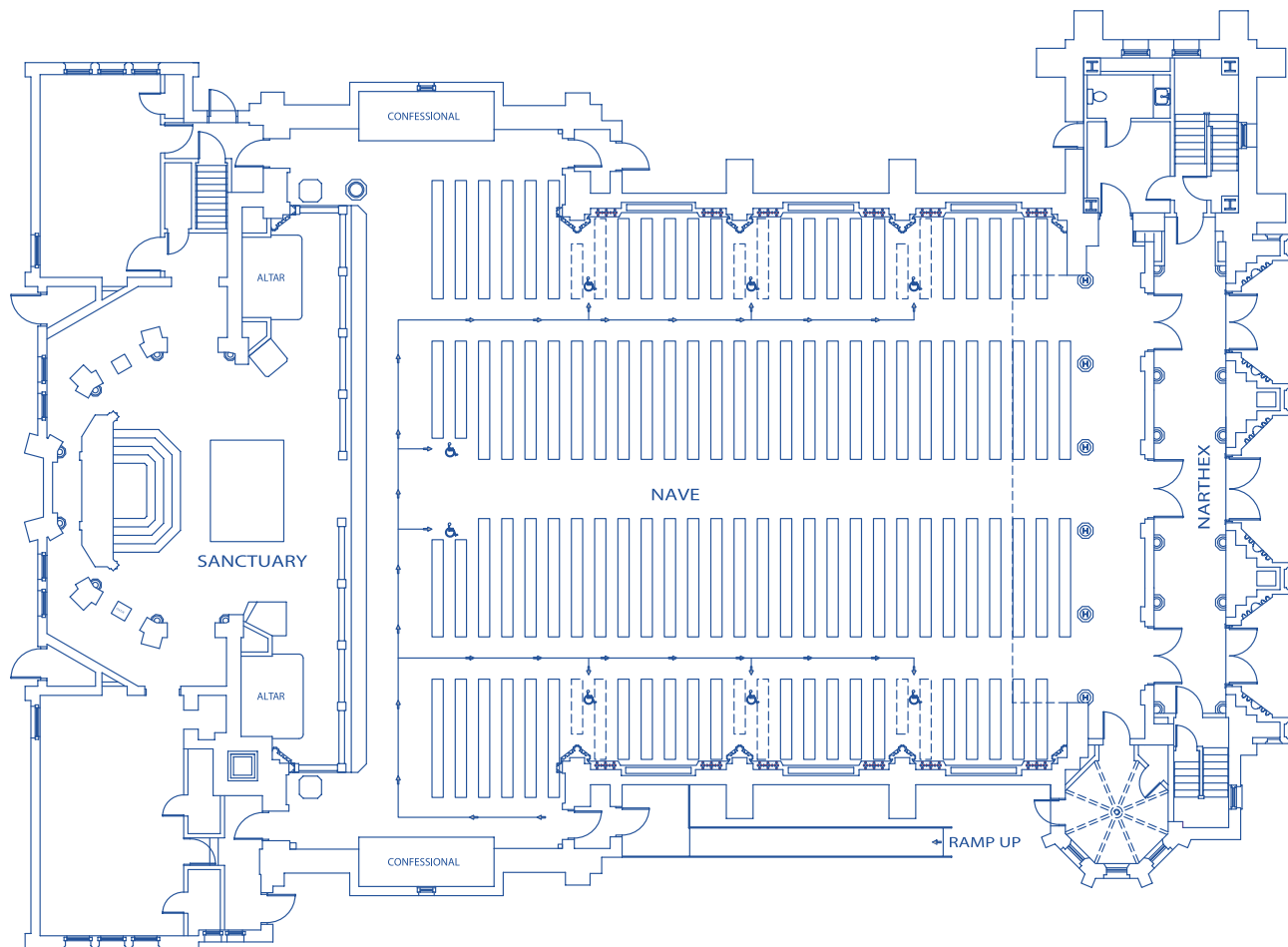


Figure 14: Wheelchair locations are well distributed throughout this seating plan. Duk Kim for Restoric, LLC

required.⁴¹ If standing to sing or pray is a regular part of worship, this should be taken into account when considering sight lines for wheelchair users. Members who use wheelchairs should be solicited for their input regarding seating placement.

In many worship spaces, it may be relatively easy to provide room for wheelchair users by removing a few pews in the front, middle, or back. Pews can also be shortened in length, and the decorative ends salvaged and reattached to the cut pews. (Some wheelchair users prefer that the decorative ends not be replaced to facilitate transfer from their wheelchairs to the pews.)

Pew cuts are a practical and flexible solution. Pews can be cut wherever desired and still function to provide seating for a wheelchair user's family members or

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friends. One pew cut typically results in the loss of two seats for ambulatory congregants, depending on the length of the pew and the number of standard (18") seats it accommodates. Pew cuts may also necessitate minor floor repairs and refinishing.

Another alternative is to replace some or all of the fixed seating with moveable "cathedral" or interlocking metal or wood chairs. Although this option can provide a great deal of flexibility, it should not be undertaken lightly, because it can drastically alter the aesthetics and acoustics of a worship space and require major floor repairs or finishing.

If the worship space has theater seating and a sloping floor, the accessibility challenges are greater. It may be possible to remove existing fixed seats so that wheelchair users can roll onto a level seating platform that already exists beneath the seats. If the theater seats are attached directly to the angled floor, however, it may be necessary to construct a platform where these seats are removed. Designating a wheelchair seating location only at the front of the hall is the least desirable alternative. In many houses of worship, this would place wheelchair users farther below the dais than the rest of the congregation. If this is the only apparent alternative, the worship leaders could move down to floor level as well, if it does not create sightline issues for those in the back.

Restrooms

Restrooms often present the most serious accessibility challenge in older houses of worship for a number of reasons. Older buildings are likely to have fewer standard fixtures than modern codes require. The restrooms that do exist are frequently small and cramped and are often tucked away in remote corners of the building. To afford accessibility, such existing restrooms must be reconfigured, at the very least.

As a general matter, the ADA requires that each "public and common use" toilet room be accessible. Toilet rooms must have an unobstructed turning space of at least 60" so that a person in a wheelchair can adequately maneuver. Restroom and toilet stall doors often need to swing outward to allow sufficient clear floor space for maneuvering. Stalls intended for front-transfer or side-transfer use must meet specified size requirements and have properly mounted grab bars. Accessible toilet seats should be higher than standard toilet seats,

generally 17” to 19” above the floor. Urinals and sinks must also be mounted at the proper height and allow for knee space for use by persons in wheelchairs. Under-sink plumbing should be padded or insulated to prevent injuries to wheelchair users. Flush and faucet controls, soap dispensers, towel holders, and even mirrors should be designed and situated for easy use by persons in wheelchairs.⁴²

If it is not technically feasible to make all existing restrooms accessible, ADAAG requires that there be at least one unisex accessible toilet room on each floor. An advantage of unisex restrooms is the ability for husbands, wives, mothers, fathers, etc. to provide assistance to their partners, children, or parents with disabilities. **Congregations should confirm that a single, unisex toilet room is allowed by local codes.**

Making restrooms accessible, while preserving an adequate number of stalls, usually requires creative design. Sometimes, it is a just a matter of repositioning existing stall walls and dispensers and installing new fixtures and grab bars. In other situations, two small, adjacent restrooms can be combined by eliminating the wall between them to create a single-sex or unisex restroom.⁴³ Often, though, it is more practical and cost-effective to construct new accessible restrooms than to retrofit existing restrooms, even if it means the sacrifice of some existing program space. Spacious new restrooms that accommodate people with and without disabilities are likely to be appreciated by everyone.

Water Fountains

In any effort to make your house of worship accessible, consider all public amenities. Drinking fountains are one example. Simply installing a paper cup dispenser alongside an existing fountain could help people with mobility impairments, some older adults, and people who use wheelchairs.

ADAAG provides that when there is only one water fountain location per floor, there should be one fountain accessible to those in wheelchairs and one to persons who have difficulty bending or stooping. This is readily achieved with a bi-level (“hi-lo”) combination fountain. Where more than one fountain location is provided per floor, half the fountains should be wheelchair accessible.

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42 ADAAG 4.1.3(11) and 4.22. For specific requirements and further detail see ADAAG 4.16-4.27. There are separate standards for restrooms intended to be used by children.

43. Ideally, such a room would be large enough for use as a “companion restroom,” where, for example, a mother could assist her adult son or a husband could help his wife.

Telephones

Telephones are another public amenity to consider. Public telephones can be problematic for people who use wheelchairs and people who are deaf or hard of hearing. Fortunately, public telephones can be adapted to facilitate use by persons with both types of disabilities. Telephones can be lowered for easy use by persons in wheelchairs. Accessible phones should be mounted no higher than 48” where persons are expected to reach forward out of wheelchairs, or no higher than 54” for persons reaching sideways from wheelchairs.

Telephones can also be equipped with text telephones (known by the acronym TTY) or designed to accommodate portable TTY equipment to aid those with hearing impairments. TTYs are machines that “employ interactive text-based communications through the transmission of coded signals across the standard telephone network.” TTYs can include devices known as TDDs (telecommunications display devices or telecommunication devices for deaf persons) or computers with special modems.⁴⁴ There should be one accessible phone per floor, or one per each bank of phones on a floor, whichever is greater. All accessible phones must have volume control. In addition, at least 25% of all other public phones should be equipped with volume control. Further, at least one TTY phone should be installed inside each building. Shelves and outlets for portable TTY devices are required in certain circumstances.⁴⁵ Requirements for adding TTY equipment to existing buildings are limited to certain situations in which alterations would increase the total number of telephones, or in which the phones themselves are being altered.⁴⁶

Eliminating Auditory Barriers

Poor hearing affects many Americans. The National Institute on Deafness and Other Communication Disorders reported in 1989 that approximately 28 million Americans had some degree of hearing loss and that more than one-third of the population has significant hearing loss by the time they reach 65.⁴⁷ Numerous factors contribute to hearing problems, and the range of hearing loss is wide. Some people are profoundly deaf from birth or accident, while others have partial hearing loss frequently associated with aging. No single solution is suitable for all those with hearing loss.

44 ADAAG 4.31, 3.3.5.

45 ADAAG 4.1.6(1)(e), 4.31.

46 ADAAG 4.1.3(17).

47 Cited in *Ministry with Deaf and Late-Deafened, Hard of Hearing, and Deaf-Blind Persons*. Undated brochure (New York: Health and Welfare Ministries, General Board of Global Ministries of the United Methodist Church).

Standard Sound Systems

Though a substantial number of older members may miss portions of the service due to hearing loss, relatively few are likely to acknowledge this fact. Instead, they may eventually stop coming to worship. For many such people, simply upgrading an existing sound system may be all that is required. Consult an acoustical specialist for advice on how to improve sound quality and eliminate auditory “dead spots.” A better sound system will benefit the entire congregation.

Assistive Listening Systems

For those with greater hearing loss, the use of assistive listening systems (ALSs) can provide a real opportunity for greater participation in worship. ALSs use a microphone to pick up sound from a specific source and transmit it directly to a person’s ear, either through special receivers or through personal hearing aids. They help to make the speaker’s voice stand out from background noise. At least three types of ALSs may be appropriate for use in houses of worship:

- 1) FM systems that send radio waves through the air from the speaker’s microphone to the listener’s FM receiver;
- 2) audio induction loop systems that use magnetic waves that travel through an unobtrusive wire circling the listening area; and
- 3) infrared systems that use invisible light waves to transmit sound to a headset.

Any of these three systems might be installed in a large assembly space or in a smaller meeting room, although both the audio loop and infrared systems can present significant installation problems in existing buildings.⁴⁸ (Numerous advantages and disadvantages of each type of system are detailed in the ADAAG Appendix, at A4.33.7, Table A2.)

Although ALSs can be especially helpful to people who are moderately hard-of-hearing, those who rely on lip reading may also benefit by receiving more audible lip reading cues. ALSs “should be standard equipment in all places of worship.... This would address the single most common disability of older adults and would have the greatest impact on their participation.”⁴⁹

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⁴⁸ Curtis Dickerson, *Assistive Listening Systems*, “Equaling Access to Sound,” *Your Church*, January/February 1993, 25-30.

⁴⁹ October 2000 telephone interview with Ginny Thornburgh, N.O.D.

*The Registry
of Interpreters
for the Deaf
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database
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interpreters.*

American Sign Language Interpreters

Some deaf people, especially those who are deaf from birth, communicate through sign language. To serve their needs, congregations can hire American Sign Language interpreters. Interpreters live and work in most communities across the country. To locate interpreters, contact a local or state service agency for people who are deaf or a vocational-rehabilitation organization. The Registry of Interpreters for the Deaf maintains a searchable national database of certified interpreters.

Both those who communicate through sign language and those who read lips benefit from being seated near the front of the worship space, where they will have an unobstructed view of speaker and interpreters. Speakers and interpreters should be well lit, so that their hands and faces can be clearly seen.⁵⁰

Telecommunication Devices for the Deaf (TDDs)

As discussed in the previous section, telephones can be equipped with various types of text-based devices for the hearing impaired. Even where a house of worship has no public phones that could be upgraded for use with a TTY, a congregation should consider installing a telecommunications device for the deaf in the administrative office. Purchasing an inexpensive TDD would allow both deaf and hard of hearing members to call the house of worship and communicate directly with clergy, staff, and congregational leaders via text messaging. For maximum effectiveness, the availability of the congregation's TDD should be publicized in local newspapers or telephone books.

Eliminating Visual Barriers

Just as there are different levels of hearing loss, the range of visual impairments is also broad and varied. Consequently, no single improvement can make worship accessible to all people with visual impairments. Access to full participation in worship is affected not only by the nature of the person's visual disability, but also by his or her proximity to the worship leaders, the quantity and quality of light present, and the type of written materials provided.

Lighting

Houses of worship constructed in the early days of electric lighting (or even before) are dimly lit by modern standards. [Figure 15] Until 1930, the standard for sanctuary lighting was only 2.0 footcandles. (A footcandle—abbreviated “fc.”—is the amount of light produced by a candle flame at a distance of one foot.) Often, the later addition of stained glass or memorial windows substantially reduced the daylight an interior originally received. In Chicago, the authors have recorded an average nighttime light level of 4.8 fc. at pew height with the lights turned on. Relatively low light levels like these can be a real problem for older adults and others with visual impairments.



Figure 15: These beautiful historic light fixtures were not designed to meet modern lighting standards but should be preserved by utilizing supplemental lighting as required. Michael Schmidt for Restoric, LLC

The precise quantity and quality of light appropriate for houses of worship is open to debate.⁵¹ The authors’ field experience indicates that complaints increase as light levels drop below 5.0 fc., while few express concern at 7.0 fc. The Illuminating Engineering Society of North America, a lighting trade group, recommends 15.0 fc. in the pews.⁵²

In fact, the primary lighting issue in most existing worship spaces is not the intensity of light, but rather its direction, placement, and uniformity. Glare from direct light sources and surface reflectance from bright walls and windows or highly polished flooring can also impact the effectiveness of lighting systems and detract from the worship experience. Congregations commonly attempt to increase light in historic interiors by painting darker walls white. This is an inefficient approach and may radically alter the appearance and character of an historic interior by creating stark contrasts between walls/ceilings and other surfaces.

Glare and surface reflectance are of particular importance for aging congregations because many individuals begin to experience a rapid decline in their visual sensitivity after age 50. Another factor to consider is the “quality” of the light. Only light sources with a high color rendition value (CRI or color rendering index) should be used in the worship space, given the importance of color in much religious architecture and sanctuary decoration.⁵³

⁵¹ ADAAG offers no guidance regarding appropriate illumination level for assembly places.

⁵² IES Committee on Lighting Houses of Worship, *Lighting for Houses of Worship* (New York: Illuminating Engineers Society of North America, 1991), 19. IES and its various affiliate members have produced the vast majority of books, articles, and reference guides on lighting in houses of worship. Many of these members manufacture, distribute, or install lighting systems.

⁵³ *Lighting for Houses of Worship*, 16, 28.

A talented lighting designer can configure the system to enhance the liturgy, while providing ample light for those with visual impairments.

Simply flooding the sanctuary with light or haphazardly installing numerous fixtures is not a solution. This will increase maintenance costs, unnecessarily raise electric bills, and detract from the worship experience. For example, overwhelming the long shafts of natural light in a Gothic Revival sanctuary with bright, uniform artificial lighting will eliminate the shadows that contribute to the solemnity and reverence of the space. Unfortunately, the very lighting systems and illumination levels that are most complementary to architectural ambiance are frequently at odds with the needs of older adults and others with visual impairments.

Lighting is generally categorized as:

- 1) architectural, or ambient, lighting;
- 2) task lighting; and
- 3) accent lighting.

All three types of lighting usually play a role in the worship setting. The ideal lighting system for any worship space is flexible and precise enough to allow each of these three lighting types to provide the exact level and quality of illumination needed, at each specific location, for each particular time of day. Such a lighting system would include a variety of light sources and manual or preset dimming controls. A talented lighting designer can configure the system to enhance the liturgy, while providing ample light for those with visual impairments.

Few older houses of worship, however, have such modern, sophisticated, and expensive lighting systems. What is more, congregations need to be cautious and methodical when modernizing their historic lighting systems. Perceptions about light, like those about color, are subjective. The existing light levels should be measured and quantified throughout the worship space with light meter readings to determine the baseline conditions and identify problem areas. Next, simply clean the fixtures and lamps (light bulbs). Dirt and dust that collects on top of fixtures or lamps can reduce their light output by 50%.

Once the fixtures are clean, re-lamping them with brighter bulbs may be effective, as long as they do not create glare. In hanging pendants, for example, the bottom incandescent floodlamp can often be replaced with a brighter halogen lamp. Some compact fluorescent lamps (CFLs) may be useful for replacing standard incandescents as well. CFLs are more energy

efficient than incandescent lamps, but some CFLs cannot be dimmed. In addition, the color rendition of CFLs can be considerably different from incandescent lamps. Before retrofitting a large area with CFLs, first try replacing the old lamps with CFLs in only one fixture to test the results. Many forms of high-intensity discharge (HID) lighting, such as metal halides, are not recommended for historic interiors depending upon the lamp selected; they can produce harsh glare or have low CRIs that undermine the rich color variations found in many older sacred spaces. Regardless of the lamp chosen, an electrician should confirm whether the wiring and fuses or circuits will handle any additional load required by a lighting upgrade.⁵⁴

If re-lamping proves unworkable or insufficient, the pendant fixtures can sometimes be lowered slightly. First, ensure that this will not create problems with sightlines from a balcony, gallery, or choir loft. Pendant fixtures are typically aligned with the ceiling-wall juncture, column capitals, hammer beams on trusses, or similar architectural features. When lowering fixtures, be sensitive to these architectural relationships if possible. Finally, historic or existing fixtures can often be retrofitted to generate more light. This may include changing glass lenses with light baffles (grills that minimize glare) or installing entirely new components inside.⁵⁵

If these methods fail to produce enough light to aid those who see poorly, supplemental task lighting can be installed. Task lighting—the most crucial source of light for older adults and others with visual impairments—refers primarily to the down-lighting that provides illumination for reading hymnals, bulletins, or prayer books. To minimize shadows at pew level, lighting is usually provided from several overhead sources, such as the bottom lamps in hanging pendants or floodlights mounted on trusses or midway up the nave walls.

Avoid adding new canister (“can”) lights into cathedral or vaulted ceilings of historic worship spaces. The glare from canister fixtures prevents worshippers from looking up into the soaring cathedral ceilings that can provide much of the architectural character in historic sacred spaces. Another drawback of such lighting appears only when the lamps begin to burn out—replacement often requires accessing dirty or perilous attics, or securing an expensive lift or scaffolding to reach the lamps from below. Finally, avoid high-tech or “state-of-the-art” lighting where lamps or parts may not be available in the near future.

*Historic
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⁵⁴ *Lighting for Houses of Worship*, 29; Edwin P. and Martin V. Rambusch, “Creating Effective Lighting Systems for Historic Houses of Worship,” *Inspired*, Vol. V, No. 2, Fall 1990, 6.

⁵⁵ Jeffrey T. Berg, “Modern Approaches to Lighting Historic Interiors,” in Charles E., Fisher, III, Michael, Auer, and Anne Grimmer, eds., *The Interiors Handbook for Historic Buildings* (Washington, D.C.: Historic Preservation Education Foundation, 1988), 4-11.

Written and Recorded Materials

Although some people with moderate visual impairments will benefit from improved lighting alone, others may need specially produced written and recorded materials in order to participate fully in worship and education programs. Large-print versions of bulletins, hymns, prayers, and liturgies are created easily and inexpensively by using the enlargement feature on a photocopier. Most denominations produce hymnals and prayer books in large-print editions. (Large-print Bibles are widely available.) Another relatively inexpensive way of providing materials is to audiotape sermons, services, or lectures for those with visual impairments.⁵⁶

Braille versions of various worship and educational materials may also be available. Please note, though, that because not all blind people read Braille, congregations should seek expert advice from members who are blind before purchasing such materials.

Improving Signage

Even the best efforts to improve access will be wasted if the results go unnoticed. Good signage is therefore an essential component of accessibility. The main sign in front of a house of worship, as well as advertisements in the local newspaper or telephone book, should include the international symbol for accessibility. This will be a clear sign of welcome to persons with disabilities.

Individual accessible routes and facilities should also be clearly marked. In particular, the international symbol for accessibility should be used to indicate accessible parking spaces, accessible passenger loading zones, and accessible restrooms. Accessible entrances should be labeled, unless all entrances are accessible. At inaccessible entrances, directional signs should be posted to indicate the route to the nearest accessible entrance. Volume control telephones, TTYs, and ALSs should be signified with pictograms.⁵⁷

⁵⁶ Davie and Thornburgh, 24.
⁵⁷ ADAAG 4.1.2(7), 4.30.7.

ADAAG sets forth specific requirements for signage. Provisions specify character proportion and height, contrast between the lettering and the field of a sign, and requirements for raised and Brailled characters and pictograms. Where rooms and spaces are permanently identified, signs should be wall-mounted and hung 60” above the floor to the centerline of the sign. Illumination levels on sign surfaces should be in the range of 10 to 30 fc. for ideal visibility.⁵⁸

Few regulations dictate that accessibility signage must be the traditional blue and white “street sign” variety. Wood, bronze, or even carved stone signs may be more appropriate in certain settings, particularly for historic buildings.

The Accessibility Design Process

Getting Started - Doing a Preliminary Needs Assessment

Before rushing into fundraising and construction activity, a congregation should first determine exactly what accessibility barriers exist in its house of worship and what specific modifications are needed. A logical—though frequently overlooked—initial step is to form a committee to assess the building’s current level of accessibility and to begin planning for improvements. Ideally, any such committee will include members from a broad cross-section of the congregation. Persons with disabilities, including older adults with hearing, vision, or mobility impairments, might be asked to serve. Equally important, the committee should include building-savvy individuals—architects, contractors, preservation professionals, tradespersons, facilities administrators, building caretakers, and maintenance engineers—who are equipped to make educated choices related to design and construction. In addition, people with knowledge of a congregation’s program-related needs, such as choir directors and youth leaders, might be included to provide input on accessibility issues related to their particular programs.

The accessibility committee can begin by conducting a top-to-bottom accessibility audit. The committee should tour the entire building and grounds to determine specific physical features that represent obstacles to worship, education, or social programs—people with disabilities can be particularly helpful during this assessment. Numerous survey forms are available to facilitate this process. Among the most useful is a detailed

While 100% accessibility is a worthy goal, rare is the older building that can be made “globally accessible.”

Accessibility Audit for Churches available through the Board of Global Ministries of the United Methodist Church. State or local government agencies or disabilities organizations may have similar publications that more precisely address the accessibility requirements in their jurisdictions.

If the architectural barriers are so great that people with disabilities are effectively barred from membership, the committee should seek out such persons in the larger community to provide feedback, even if it is based only on their review of architectural drawings of the building. Depending on the design limitations of a particular building, an individual who uses a wheelchair could do a “roll-through” of the building to gauge its level of accessibility from a mobility perspective. Similarly, people who are hard-of-hearing and/or who see poorly might be found to help assess auditory and visual barriers.

Establishing Design Criteria

Armed with the information gathered in the preliminary examination of the building, the committee should meet to discuss and document the congregation’s accessibility needs. The committee should also analyze the building’s architecture to determine what aspects are most worthy of preservation. The results of this process will constitute a set of design parameters that will help to inform all parties during the planning process.

While 100% accessibility is a worthy goal, rare is the older building that can be made “globally accessible.” Therefore, the committee should begin by prioritizing the need for access with reference to various parts of the building. Accessibility needs might be prioritized as follows:

- 1) Essential
- 2) Important
- 3) Desirable
- 4) Optional
- 5) Impractical

Access to the primary worship space and to the largest or most active program spaces (fellowship or social hall, gymnasium, choir room, etc.) is considered *essential* by most congregations. Generally, two accessible restrooms (one for each gender) are also considered *essential*, as a matter of common courtesy. (Although unisex restrooms may be more comfortable for those who require assistance, they may not be allowed by the local jurisdiction.) Accessible classrooms, offices, and chapels are often considered *important*. Access to secondary offices or classrooms may be *desirable*, to be provided whenever the barriers can be readily overcome. Other spaces, such as kitchens, may be considered *optional* with respect to access. Mechanical rooms, balconies, and storage areas are often *impractical* to access and are usually eliminated from consideration.

Naturally, priorities will vary among congregations. For example, where the chancel, altar, bimah, or reader's platform is the only area from which worship can be led, providing access to that area becomes a higher priority. Similarly, if preparing communal meals is an integral part of the social life of the congregation, accessibility to and within the kitchen also might be given a higher priority. Finally, if a large congregation (over 15 staff members) employs someone with a disability, it may be required to make certain improvements in order to accommodate the employee.

Once priorities have been set, the committee should consider the aesthetic impact of specific accessibility improvements. In other words, how will each of the proposed changes affect the overall attractiveness of the building and its surroundings? This is a particularly important step to take if you have an architecturally and historically significant house of worship, although the analysis should be done by all congregations. Keep in mind that accessibility improvements that look attractive and are well-designed will help "sell" a construction project to potential supporters and donors and help maintain a positive atmosphere about the project and related expense.

Once the committee has identified the building's significant architectural features and historic materials, they should be ranked by level of importance ranging from 1) defining characteristics worthy of preservation to 2) secondary characteristics that may be compromised if necessary.

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This prioritized list may later prove useful in allocating resources toward various components of the accessibility project. For example, a congregation might sacrifice expensive finishes or fixtures in the restrooms in order to afford a natural stone facing on an exterior ramp.

and

Locating Plans, Drawings, or Blueprints

money

To facilitate the planning process, the committee should also make every attempt to locate original, revised, or “as-built” drawings of the building and any additions. Often the original plans are incomplete or have been lost altogether over the years, but their value cannot be overestimated. They can literally save thousands of dollars in the surveying and planning stages of accessibility.

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Although most architects will ultimately develop new plans in a digital format using computer aided drafting (CAD) programs, the original drawings, particularly the floor plans, are still extremely useful for transferring information and surveying the building with respect to accessibility. Even drawings for additions that were designed but never built can be useful in developing new accessibility plans, because they may document portions of the existing building or suggest good solutions to accessibility problems. The time and money saved in the design phase is well worth a thorough search for plans.

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Detailed Accessibility Survey

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Once a preliminary accessibility audit has been conducted and design criteria have been developed, the committee should perform a second, more detailed walk-through (or “roll-through”) inspection of the building. Armed with copies of the original plans (the originals should be preserved unmarked), or even rough floor plan sketches, accessibility barriers and priorities should be identified during the survey. Color-coding such drawings (red for essential spaces, yellow for important spaces, etc.) can be extremely useful in determining the spatial relationship between various rooms. Architectural features and building materials of particular significance should also be noted.

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The committee should begin the survey outside the building, marking pathways to the various building entrances. Make note of level changes, poor drainage, and other factors that could impede wheelchair users. Picture what

it would be like to approach the building at night, during snow, rain or other adverse conditions. How will the pathway be lit? Which surfaces might become slippery? How hard would it be to find the accessible approach to the building? Could signage be seen from the street day or night?

By approaching and entering the structure through its various entrances, the most practical location for an accessible entrance will become apparent. As previously noted, religious structures, particularly those built before the 1940s, often have monumental steps to the front entrances and heavy, oversized doors. Such features often make it more practical to place accessible entrances at the sides of the narthex or other secondary locations. Although it is always preferable that a person with a disability should be able to enter the sanctuary, nave, or auditorium by the same path as the rest of the congregation, an alternative route through the same transitional foyer or lobby is usually a reasonable compromise. This is particularly true if the parking lot is closer to a secondary elevation. If the new entrance is convenient and well designed, it may become the primary entrance for the whole congregation.

Once the best entrance is preliminarily determined, the survey moves on to interior barriers. As before, possible accessible routes to various building areas should be marked and analyzed. Emergency pathways should receive special scrutiny, since inclined stair lifts and the like may impede general egress in the event of a fire. Some questions to consider include:

- Do all doors and hallways meet minimum accessibility standards for wheelchairs?
- Are there safety issues such as open stairways, blind corners, or unexpected changes in floor level along the route?
- Are transitional areas properly marked and lit?
- Do high door thresholds, wide door swings, sloping sanctuary floors, or water fountains or baptismal fonts present obstacles?
- Are water fountains, pay phones, vending machines, and other public amenities accessible?

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An architect's design experience should result in changes that are well matched to the existing architecture and useful to the entire congregation.

Carefully survey potential locations for lifts or elevators. Some questions to consider include:

- Do structural beams or load-bearing walls or columns interfere with the installation?
- Does the location require expensive re-routing of present mechanical equipment?
- Does the location allow funeral access for caskets and gurneys?
- How would the lift or elevator affect aesthetics (both inside and out)?

Hiring an Architect

After the accessibility committee has identified the fundamental needs of the congregation and the current state of the building, it should seek outside expertise. A congregation is best served by hiring a qualified, licensed architect to guide it through the remainder of the planning and construction process. Some may argue that an architect should be consulted immediately, but the accessibility committee is more likely to understand the design challenges and acquire greater “ownership” of the process if a preliminary survey is performed in advance. Moreover, most architects appreciate and respect a knowledgeable client who is engaged in the design process. Still, it is important to keep an open mind for alternatives at this stage. An architect's design experience should result in changes that are well matched to the existing architecture and useful to the entire congregation. Just as important, hiring an architect will help to ensure that any accessibility improvements meet applicable legal requirements. Congregations that utilize independent design services—as opposed to those offered through accessibility equipment vendors or companies—typically achieve more objective design solutions.

Finding an architect who is willing to work on an accessibility project alone can be a challenge. A congregation may improve its chances if the accessibility improvements are part of a broader plan to remodel or add to the building. If other local houses of worship recently have had renovations or additions that were done well, particularly those involving accessibility improvements, seek out the firm responsible for the work. Consult a local chapter of the American

Institute of Architects (AIA) for referrals as well. Preferably, the chosen architect will have experience with older buildings and new construction. Hiring an architect from within the congregation is discouraged due to the potential for conflicts of interest.

If the house of worship has particular architectural and/or historical significance, consider hiring a restoration consultant or preservation architect who should have a higher level of sensitivity regarding the impact of accessibility on the building. A state or local preservation organization may also be able to provide referrals.

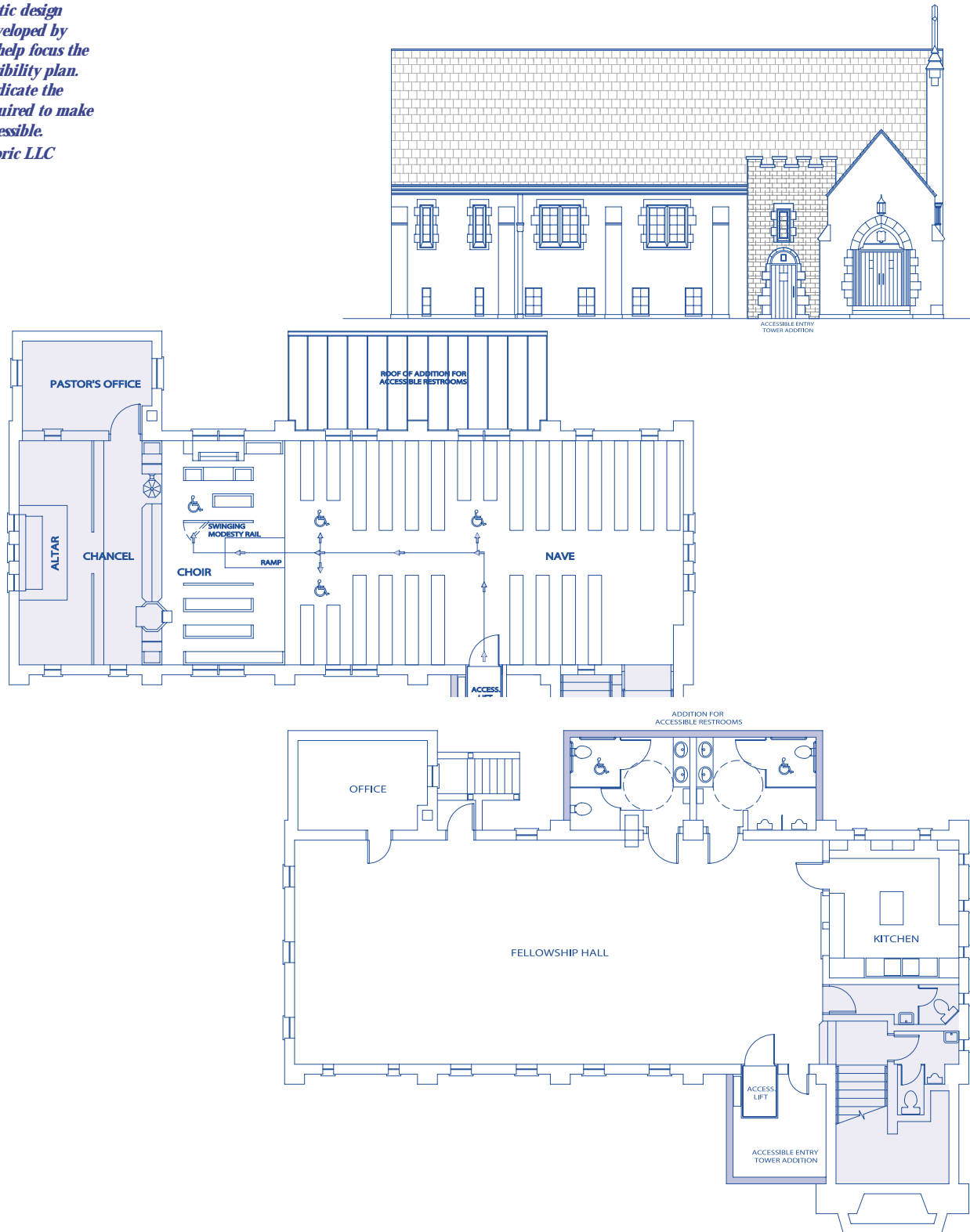
A good architect is a problem solver who should relate to a congregation's particular needs and circumstances. On-site interviews with several architects should be conducted to find the right professional for the project. "Good chemistry" between an architect and a committee is more important than an impressive portfolio or prestigious reputation. Is the architect prepared for the interview and enthusiastic about the work? How does he respond to specific questions such as:

- What is the architect's or architectural firm's design philosophy?
- What other similar projects has the architect or firm completed?
- What is the architect's or firm's design process?
- Who will be assigned the actual design work?
- What intermediate work products will the architect provide along the way?
- What does the architect or firm expect from the congregation?

References for similar projects should be obtained along with the architect's or firm's fee schedules, although costs should never be the sole determining factor in selecting an architect. A good interview resource is ***20 Questions to Ask Your Architect***, available through the AIA.

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Figure 16: Schematic design plans, typically developed by professionals, can help focus the vision of the accessibility plan. These drawings indicate the proposed work required to make a small church accessible.
Duk Kim for Restoric LLC



Schematic Design

After consulting with the congregation's accessibility committee, the architect's first task is to develop schematic designs ("schematics") that illustrate the various accessibility alternatives. These drawings will show the general design layout and often include a preliminary budget for construction costs. Schematics are intended to serve only as planning documents in this intermediate design phase and cannot be used for obtaining permits or for actual construction. However, the architect should review the schematic designs with a representative of the local regulatory agency responsible for building accessibility to determine whether the design complies with applicable law. [Figure 16]

Schematics give the architect and the committee an opportunity to examine initial drawings to determine whether the design meets the preliminary design criteria and creates a safe, logical traffic flow throughout the building. Such drawings may be especially useful to individuals who have difficulty imagining how the design will actually look from verbal descriptions alone. Schematics are often formatted as presentation boards, which may also be shared with the congregation at large, either as a fundraising tool or to determine project support.

The likely costs of the proposed accessibility improvements should become clearer through the schematic design process. Unless the architect represents a "design-build" firm, the committee is also well advised to solicit preliminary budget figures from contractors to validate the architect's estimates. Previously unidentified alteration costs can often be discovered in this phase, helping to prevent costly change orders that can halt work and cause delays once construction has begun. Analysis of the schematics and the preliminary budget may suggest compromises in the extent of access initially planned. More often, though, this review process helps to determine whether the proposed work must be scheduled in affordable phases. Schematics can provide an excellent "reality check" for congregations before they incur the greater expense of developing final working (construction) drawings for the project.

Schematics

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Figure 17: These working drawings detail accessibility alterations to be made to an existing church. The improvements take design cues from the original building. Courtesy of Yas/Fischel Architects



Final Design

The architect's final design should reflect all the changes that a congregation has requested in the schematic design phase and in any subsequent design reviews. To ensure that proper construction permits can be secured, it must also reflect all changes required by the applicable regulatory agency. Typically, specifications for the various materials or equipment selected are also included in the working drawings, although they may be developed as a separate written document. The congregation may continue to use the final designs to fundraise for the project or may submit the drawings to one or more contractors for bidding. [Figure 17] Ultimately, though, "final" designs are rarely final; they frequently require revisions during the project. Revisions may need to be made, for instance, to account for hidden conditions or cost increases that require further decisions about the quality of materials to be used or how much work can be completed.

Funding Accessibility

Costs of Providing Accessibility

The costs of providing accessibility can be substantial. In 2001, the average cost of providing accessibility in 100 Chicago houses of worship surveyed was over \$126,000. The estimated cost ranged from under \$10,000 for congregations that required only minor changes up to \$330,000 for congregations where reasonable access could only be provided by an elevator, requiring major alterations. These estimates did not take into consideration the cost of constructing an addition, a relatively common—and generally more expensive—way to incorporate new accessibility that accomplishes more than accessibility alone. Full accessibility can be costly. However, it is important to focus on the rewards of creating an accessible house of worship.

Obviously, the cost of accessibility for a particular house of worship will depend on the original design of the existing structure, as well as on the specific methods selected for providing access. Permanent, well-designed solutions produce results that will please almost everyone. On the other hand, settling on quick fixes or greatly compromised solutions in the interest of

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economy may have the exact opposite effect, satisfying no one, including people with disabilities. Moreover, the long-term maintenance costs of each alternative design solution should be considered. The design that initially costs the least may prove to be the most expensive over the long run. It is quite common for congregations to underestimate the cost of providing good accessibility. Careful analysis and planning, as discussed above, will help identify solutions with the best overall value.

Start Small

The potentially high costs of full accessibility can be daunting, and it is often best to start small. First, try adapting programs to better utilize existing accessible facilities (e.g., using moveable partitions to subdivide larger spaces to accommodate a variety of functions). Invite people with disabilities and others to discuss issues of accessibility. Improve lighting at stairs and walkways. Small steps like these can help get the ball rolling.

Other relatively low-cost improvements include upgrading door hardware to provide easier entry for all people, making several pew cuts to provide wheelchair seating, and purchasing large-print versions of hymnals or prayer books. Taking these preliminary steps might draw a few more people into worship, laying the financial and psychological groundwork for more substantial improvements later. A number of simple and inexpensive ways to begin improving access can be found in *AccessAbility: A Manual For Churches* and *Money and Ideas: Creative Approaches to Congregational Access*.⁵⁹

Start Small to Get the Ball Rolling

“While many churches think they can’t do anything for accessibility because they do not have the money for an elevator or a ramp, one Pennsylvania urban congregation took the reverse approach and started small. Church funds from the worship budget were used for large-print bibles, hymnals, and bulletins. As a result, people with visual impairments and their families appeared; with their appearance, offerings increased and attitudes improved. Inspired members then built a ramp, and now they have established a fund for a lift. The successes from small starts have led to greater awareness and increased access.” From *Money and Ideas: Creative Approaches to Congregational Access*.

Fundraising for Accessibility

Once there is momentum for change and specific plans for improving accessibility are in place, serious fundraising for the more extensive projects can begin. Unfortunately, congregations have limited options for finding outside funding sources for accessibility. Creative thinking and careful research can set a positive tone for fundraising. Start by making a strong case for funding, “framing” the need for accessibility to the congregation as broadly as possible. The greater the number of people who benefit from the project, the more likely fundraising efforts will be rewarded. Consider persons with permanent or temporary disabilities related to birth, accident, or age, their friends and families, as well as people without current disabilities—members of the congregation and citizens of the community at large who may also benefit through specific improvements as they age.⁶⁰

Congregations should also contact their denominational office to determine what accessibility funding may be available. The Presbyterian Church USA and Church Extension of the Christian Church (Disciples of Christ), for example, offer low-interest loan programs that cover some accessibility improvements for member congregations. Other denominations offer limited grants or loans, no-cost consultations with affiliated architects, or awards for developing successful ministries to those with disabilities.

Private foundations are another possible source of funding for accessibility.⁶¹ The Foundation Center coordinates a national network of reference libraries and non-profit agencies that maintain information about funding sources. As a general rule, a congregation’s grant request to a secular foundation will be better received if programs and services are provided to the greater community. In addition to grant requests by a congregation, individual members may also be eligible to apply for dedicated grant funds that could benefit a larger number of people.

Given the difficulty of finding adequate outside funding, however, a congregation usually must look inward to finance the majority of accessibility improvements. An effective fundraising campaign will draw attention to both the needs of members with disabilities and to the benefits of accessibility improvements for all members of the congregation. Further, certain individual members may welcome the opportunity to make large, one-time memorial or

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⁶⁰ *AccessAbility*, 29.

⁶¹ According to fundraising consultant Marion Brown, the funding community does not recognize “accessibility” per se as a category of funding. Congregations will therefore need to seek funds under the heading of “building/renovation” or “capital campaign.”

honorary gifts or to provide for accessibility funds in their wills. Congregations with endowments may consider using a portion of the principal, or several years' worth of interest, to fund these long-term investments in their communal life.⁶²

The Construction Process

Contracting Accessibility Work

Contracting accessibility improvements can be as challenging as design decisions and fundraising. As in the design process, contracting for accessibility can be made easier by coordinating it, whenever possible, with other work to be completed around the building. Congregations should keep in mind, however, that undertaking other improvements may trigger additional regulatory requirements for accessibility in certain situations. Be sure to consult local authorities before forging ahead.

Soliciting Bids

The process of obtaining bids from contractors might be short and simple, or more painstaking and formal, depending on the scope and projected cost of the accessibility project. For example, a small ramp or restroom upgrade may be readily contracted to a contractor based on a simple proposal. However, an extensive accessibility project that includes an elevator, restroom alterations, and changes to the entrance may call for a pre-bid meeting with the architect and potential contractors to review the final specifications and drawings. In some cases, a congregation may choose to solicit a bid from a single contractor, assuming that the contractor has a solid reputation and proven track record of high-quality work. Medium to large projects, however, should usually be competitively bid among a minimum of three contractors.

To solicit bids, a set of bid documents must be developed. The bid documents should include the final drawings and specifications, along with a bid form outlining the various requirements to be fulfilled, including a deadline for submission. The more effort put into developing the bid documents and soliciting bids from appropriate contractors, the more likely the contractors

⁶² *AccessAbility*, 30.

will be to devote sufficient time to developing a carefully considered bid—in appreciation of the professional manner in which the job is being contracted.

Choosing a Contractor

When making the final contractor selection, price should not be the only concern. Accessibility projects are usually subject to code review, and local regulators generally insist that contractors be licensed and carry workmen’s compensation, general liability insurance, and so on. Therefore, congregations should favor contractors with these qualifications. To avert conflicts of interest, congregations should generally avoid hiring contractors who are members. Further, congregations should especially consider contractors who have previous experience with accessibility improvements that are comparable to those being considered. Accessibility projects are usually undertaken by general contractors, although some contractors have specialized in accessibility since the passage of the ADA. Carpenters or masons often custom-build ramps, while qualified lift installers can frequently be secured through distributors of accessibility equipment. As a final check, a congregation may always call the Better Business Bureau to help ensure the contractor is reputable.

Establishing Work Phases & Schedules

Often, practicality and budget will determine that accessibility improvements be made in stages. For example, if both the sanctuary and the fellowship hall are under construction simultaneously, a congregation may be unable to worship together. Similarly, weather conditions may dictate the order of projects in the work sequence, especially in northern states where cold temperatures may affect the quality of exterior work.

If financing or cash-flow is an issue, worship spaces and restrooms are usually the first areas addressed, followed by fellowship or social halls and large classrooms, while expensive elevator access to upper or lower floors may need to be postponed. Hopefully, an increase in membership due to initial accessibility improvements may help provide funds for additional improvements.

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It is essential to keep the needs of people with disabilities in mind during the entire process. A wheelchair user will find it extremely frustrating to gain access to a building by means of a new ramp, only to be unable to enter the worship space or to use the restroom. Once the key interior improvements are in place, the contractor can turn attention to the entrance or “point-of-access,” and finally to the parking area and signage. In sum, when accessibility projects must be completed in phases, it is generally preferable to undertake them from the “inside out” (in the reverse order of the accessible path from the exterior).



Figure 18: After nearly five years of planning and fundraising, construction has begun for a new accessible ramp and entrance. (See project drawings in Figure 17) Neal A. Vogel for Restoric, LLC

Project Management

Managing accessibility projects often requires a great deal of time and organizational skill, particularly when major work is simultaneously underway at opposite ends of the building, both inside and out. Comprehensive projects that go beyond installing a simple ramp or reconfiguring several restrooms should be professionally managed by a congregational representative. If the congregation does not have a full time business administrator or building superintendent who can oversee the project, the architect who designed the access may be the best candidate. Some architects prefer not to offer construction management services and may instead refer the congregation to a construction or project manager. Project management fees may be charged on an hourly basis or on a set percentage of the cost of construction. The total cost of project management services can vary substantially, however, depending upon the complexity and coordination of the work involved.

| *Conclusion* |

Substantial challenges face any congregation making an older house of worship accessible. It may take several years and perseverance and hard work to:

- determine what architectural barriers exist;
- develop safe, efficient, and attractive ways to eliminate them;
- raise funds for these improvements; and
- see construction through to fruition. [Figure 18]

Yet, most congregations that have confronted these challenges report that it was well worth their efforts. A congregation with an accessible building can more fully and safely serve all its members. Equally important, such a congregation can start to open its arms to the *entire* community, providing an opportunity for a full life of faith to people with and without disabilities. Such a congregation can truly stand behind the words that greet visitors at houses of worship everywhere: “**All are welcome.**”

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You may be interested in the supplement, *Accessible Faith in Illinois*, which provides an overview of the State of Illinois accessibility requirements and how they pertain to Illinois houses of worship. For more information about this publication, contact the Foundation directly or download a copy from the Foundation's website, www.rrf.org.

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This guide is not intended to serve as an exhaustive technical source on accessibility or to provide legal advice regarding accessibility and federal, state, or local laws.

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