

DESIGNING A WORSHIP FACILITY

How we've been doing it backwards and how to *break the mold...* from the inside - out.

By Vance Breshears

I couldn't believe it. I was sitting in an empty church balcony - no one sitting in front of me - but I still couldn't see the front of the platform. The slope of the balcony seating was too shallow and sightlines to the platform were blocked by the seats in front of me. Even worse, I imagined a person sitting in front of me blocking views to the entire platform. How could this happen?

While most worship facilities aren't this bad, each one has its share of problems. Every room that I've ever been in, seen photos of, or worked on has had some sort of inherent limitation. However, too often problems that could have been addressed in the design phase, went uncorrected, combining to create a poor environment that detracts from the worship experience. These problems include blocked sightlines, wrong lighting angles, poor acoustics, lack of intimacy in the seating arrangement, noisy air conditioning systems, washed-out video images, poor speech intelligibility from the sound system, inefficient platform design, lack of backstage access, low underbalcony ceiling, poor heating and air conditioning distribution, intrusive traffic noise, and excessive reverberation (among others).



In the process of facility design, when all the good intentions and rhetoric are put aside, it seems that the two factors that drive the building project are the aesthetics of the architecture during the design, and cost savings during construction. In the case of our room with poor sightlines from the balcony, it was obvious that a sightline study was never done. But regardless of how beautiful the room is or how much money was saved during construction, the money spent on a poor room like this is completely wasted. If a worship facility won't support the functional needs of the ministry, then it should not be built at all, no matter how much - or how little - it costs.

Common Design Problems

By far, the most common room design problem is created when a fan-shaped room with a large curved back wall is built. While this layout would appear to help seat people close to the platform and create an intimate environment for preaching, the curved wall acts as a focussing acoustical reflector. Sound reflecting off the back wall is directed back onto the platform and is perceived as an echo.

A great deal of the work that we do involves acoustic analysis and design on newly-opened facilities. Why is it that even before “the paint is dry,” we are having to put “Band-Aid” fixes on the acoustics of a brand new facility? We end up putting in sound-absorbing acoustic treatment in a room to mitigate the acoustic problems that were created by the shape of the room. After we do our work, and put the “Band-Aid” fixes in the room, the end result is a room that is acoustically imbalanced (not live enough for good congregational worship) and does not meet the needs of the ministry.

Other common problems with new worship facilities include poor acoustics due to the shape of the room, skewed or blocked sightlines to video screens or even the center platform preaching location, poor lighting positions and angles to the platform, and a lack of intimacy in the seating layout. All of these problems, while they may relate to the technical (sound, light, video) systems, are a direct result of the architectural layout of the room. In order to properly address each functional technical

issue, careful design must involve the basic architecture of the building.

Where Design Problems Begin

More often than not, the traditional design process creates a less than optimum worship facility design. Even though a church building committee may have hired various people with the appropriate credentials and design experience, that by itself doesn't guarantee a successful end result.

Shortcomings in the functionality of many facilities can be traced back to two primary factors. First, the quality of the worship facility is a function of the design capabilities of the design professionals you choose. These design professionals include your architect, engineers, consultants and the like. Its like the old joke – what do you call the person who finishes last in his class in medical school..... - Doctor! Just as some professional athletes are better than others, some design professionals are better than others. The capabilities of any one designer are a function of several factors including training, experience, imagination, understanding of the project requirements, and communication skills. While some architects are well suited for church design, some are better off designing industrial buildings. The functional requirements of a worship facility make it one of the most challenging facilities to design and therefore demand the best the industry has to offer.

The second factor relates to the makeup of the design team. Some architects and designers work without the benefit of input from various design team members. I've never understood why any one would try to design a worship facility without the benefit of input from as many specialty design professionals as possible. I don't know of any facility that isn't designed without input from an interior designer. Yet there are many churches that design facilities without input from an acoustician or theatrical consultant when communication functions are so vitally important to the uses of the facility. The right team of professionals can often make up for shortcomings in design capability or lack of experience of other team members.

The Old Design Thought Process

The traditional church design process often leads to a poorly designed room. Historically, the design happens in several phases: First, the church determines a need for a new larger facility because there is not enough room in the existing building to accommodate the needs of the ministry. Next the church hires an architect, works through programming issues, and develops a master plan. This master plan generally begins with sketching a campus that identifies parking lots, building outlines, exterior elevations, and often includes artist renderings. This is generally where problems begin.

Once the outline of the building is set, only minor changes can be made to compensate for what might be serious design flaws. Here the room is already doomed to a slow, painful death and we haven't even turned a shovel! When the building shell is

casually sketched without serious regard for the function of the interior, the facility will never meet all the functional needs of the ministry. Yet, this is the way architects are taught to work.

After the architecture of the room is determined, the drawings are given out to the rest of the team for design input. At this stage, we are supposed to design the technical systems (sound, lights and video) and "design" the room acoustics. The problem is that now it's too late to have a significant impact on how the most critical functions will take place in the room and we end up with compromises.

A New Way To Design It

The design goal for a worship facility is that it should function as a tool to meet the needs of the ministry. Not that the room shouldn't be aesthetically pleasing at the same time, but aesthetics should be only one of the factors considered. When the Pastor is preaching, everyone should be able to see, hear, and understand him easily. There needs to be a sense of intimacy in the room layout that facilitates easy communication of the message. At the point of the service when people's lives may be changed, aesthetics do not seem to be much of a factor. It is the functionality of the facility and technical systems, and their ability to adequately support the ministry that is critical. Yet historically, the design process has usually focussed on the aesthetics rather than the functionality.

The design process should actually look something like this: First, you gather a team of design professionals together whose goal is to design the facility that best meets the requirements of the ministry, with an emphasis on function. This has to be the main goal. The core design team should include some or all of the following professionals: a church planner or designer, an architect, an acoustical consultant, a sound system designer, a theatrical lighting designer, a video system designer, a theatrical consultant, and any other specialty design professionals you want to involve. Some people may perform multiple roles, but all the functionality interests should be represented. The architect's team will include additional professionals such as the civil, structural, mechanical and electrical engineers, interior designer, landscape architect, telecommunications designer, and so forth, though they may not be involved until somewhat later.

Once the team is assembled, the design goals should be clearly outlined and understood by everyone involved. This is where a detailed programming session should take place. Attendees from the church should include the pastoral and leadership staff and appropriate committee members. Programming should produce a matrix that includes of each of the functions that are to take place in the room and what their acoustical, sound, lighting, video, staging, access, structural, electrical, heating and cooling, and architectural requirements are. For example, if preaching is the most important function, then that's where the design of the room should begin. For most churches, this is where it should all start, but usually doesn't.

The focus of this programming session and subsequent design efforts should be based on this design matrix. If some aspect of the building will not support the program, it should be removed, no matter how much people may desire it. For example, if I want pink carpet on the platform, but pink carpet will detract from the worship experience, then I need to let go of the idea of pink carpet. A more realistic and common example is that of sound reinforcement speakers. Most people want excellent sound system speech intelligibility, but don't want to see any speakers hanging in front of the room. But if speakers need to be there in order to obtain good intelligibility, then let go of the aesthetics issue and be realistic about the priorities. However if aesthetics are truly more important than intelligibility, then go ahead and hide the speakers.

This doesn't mean to say that the resulting room cannot be aesthetically pleasing in addition to working well functionally. On the contrary, an interesting and architecturally pleasing building can be designed in the process. It's just that aesthetics should not be the driving factor in the design. To my knowledge, pleasing architecture never saved anyone.

Design Goals

In this design process, preaching intimacy – a physical, aural and visual connection between the preaching location and the seating areas - is often the most difficult goal to achieve. The way in which the preaching location relates to every single seat is critical. But another critical factor in determining intimacy is how each of the seats relate to the others. Is there any visual intimacy in the seating

layout, or do you just see a sea of heads when you sit in the room?

In most cases, the worship runs a close second to preaching. The room should support good worship from both a “worship leading” standpoint as well as a “worship participation” standpoint. An environment that lends itself for worship is one that has the acoustical characteristics appropriate for the worship style. Unfortunately, there are usually dramatically conflicting acoustical requirements in the one-hour timeframe in a given worship. Worship music styles can cover the entire acoustical spectrum. This is all the more reason to very carefully design the room to meet the program goals.

Designing From The Inside - Out

Here is where our way of thinking needs to dramatically change. As in our example above, most facilities are designed from the outside in. Then once the design team gets to work on

the design of the inside, it's often too late to make the building adequately support the ministry functions.

Instead, a worship facility with these critical functional requirements has to be *designed from the inside - out*. For example, if preaching is the number one function, then the room design should begin at the preaching location and work outward from there. How that preaching location relates to the seats should be the first issue. Each of the other functions should be addressed in the same manner. Worship, drama, seasonal productions, video, concerts, special events; all of these should be addressed in the room design from the inside - out. Then as the design develops, the aesthetic characteristics can be factored in.

If this “inside-out” approach is taken with a well qualified design team, a facility that meets the needs of the ministry is virtually guaranteed.

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