

CHAPTER 1: MAKING THE CASE FOR A MULTI-USE HALL

Purpose-built halls that serve solely as concert halls or opera houses are increasingly rare today because of high construction and operational costs. Only a few major international cities and high-profile institutions with deep pockets can afford them. Single-purpose halls have the advantage of being able to provide an ideal acoustic, theatrical, and artistic environment for each art form in individual facilities. The symphony can rehearse on the stage unencumbered by other performers needing the facility. The opera only needs to share its home for occasional outside performances. The theater can arrange sets that remain in place for extended periods of time.

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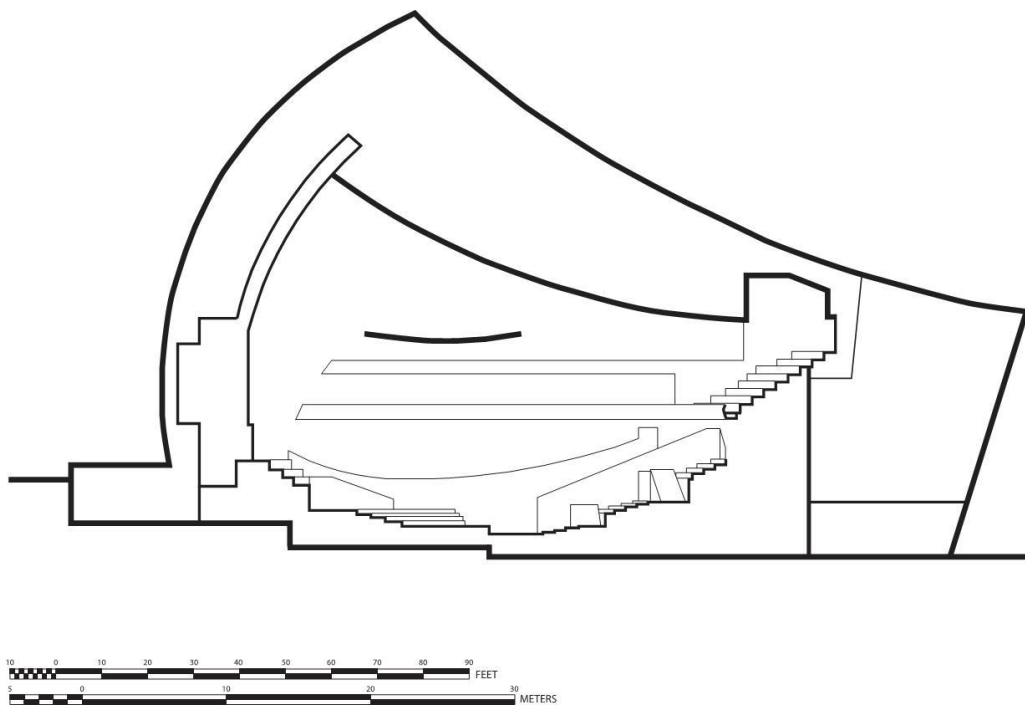


Carnegie Hall, NY, 1891. This iconic, purpose-built concert hall is known for excellent symphonic acoustics but is not well suited for opera, dance, or theatrical productions.

This exclusivity comes at significant capital cost. In the United States, there is pressure by civic and business leaders for halls to consistently attract big audiences who pay to park, dine, and shop.

Capital costs for single-purpose facilities are substantial. For example, Kansas City, MO, privately raised over 400 million dollars for separate ballet/opera and symphony halls, and over a quarter of that sum was donated by a single foundation. The Kauffman Center for the Performing Arts opened in 2011 and features an 1,800 seat ballet/opera house and a 1,600 seat pure concert hall.

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Helzberg Hall in the Kauffman Center, MO, 2011. With a cost of more than \$400 million (US), this 1,600-seat hall is an excellent concert hall, but is less suited for dance, theater, and opera productions.

The New World Center, designed by Frank Gehry, is a pure concert hall in Miami Beach that opened in 2011. This building cost \$160 million and features innovative video display systems, excellent acoustics, and high-tech communication systems. The stage is nearly as large as the hall's seating area and is a viable financial model only because unique teaching and presenting opportunities exist for the space. Academic institutions with endowments, tuition, and donors can indeed build and operate intimate purpose-built halls for use by students and faculty. Jaffe Holden has collaborated on dozens of successful models like the New World Symphony Hall. However, it would be a mistake to assume that this hall design is the rule; when in fact, it is the exception.

A Short History

Despite the recent increase in popularity, the multi-use hall is not a new invention. The use of this type of building dates back to the 1920's. Although many aspects have changed over the years, the reasoning behind implementing this design has remained largely the same.

The 1920's and 1930's

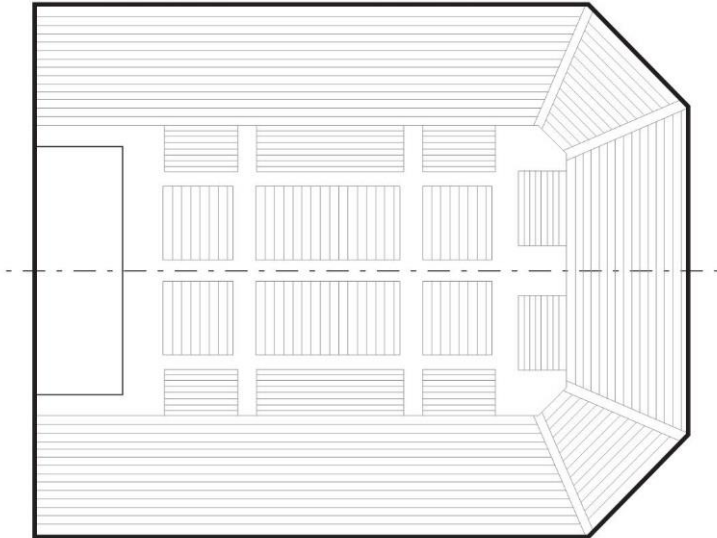
Grand but technically unsuccessful municipal auditoriums in American cities during the 1920's and 1930's paved the way for emergence of the multi-use hall. The municipal auditorium was the result of pressure from the artistic community for a large performance facility that would further the artistic development of local symphony, opera and theater companies, as well as serve as a convention hall, grand ballroom and ceremonial space.

The 1940's

During this decade, manufacturing and building construction industries focused on war efforts.

As a result, very few halls were built during the 1940's.

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Columbus Civic Center, GA, 1926. An early multi-use auditorium built to house performing arts, sports, exhibits, conferences, and political conventions. Acoustics are poor for all functions.

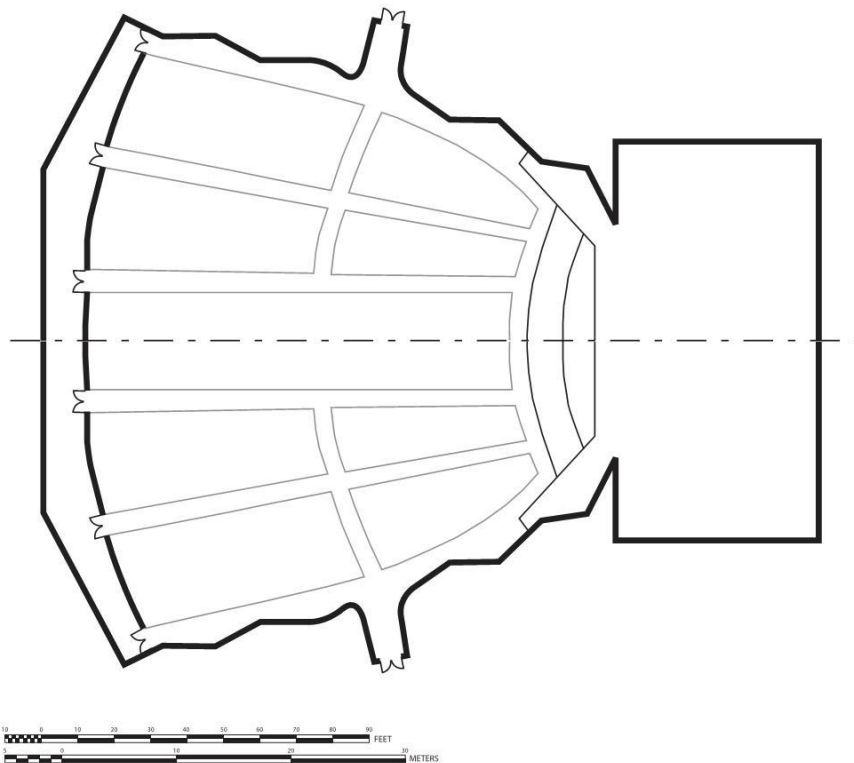
The 1950's and 1960's

After World War II, there was a growing public desire for modern halls to take on a more egalitarian form, and thus eliminate exclusive boxes and grand tiers that created class barriers between audiences. As part of this post-war civic expansionism and pride, democratic civic buildings were designed as homes for symphonies, theater troupes, and community concerts.

Some also served as a war memorial or provided office space. In the 1950's and 1960's, cities such as Austin, Charleston, and Memphis built what was then considered to be fantastic new facilities. At the time they were created, these single balcony, wide fan-shaped halls were considered to be state of the art technically, acoustically and artistically.

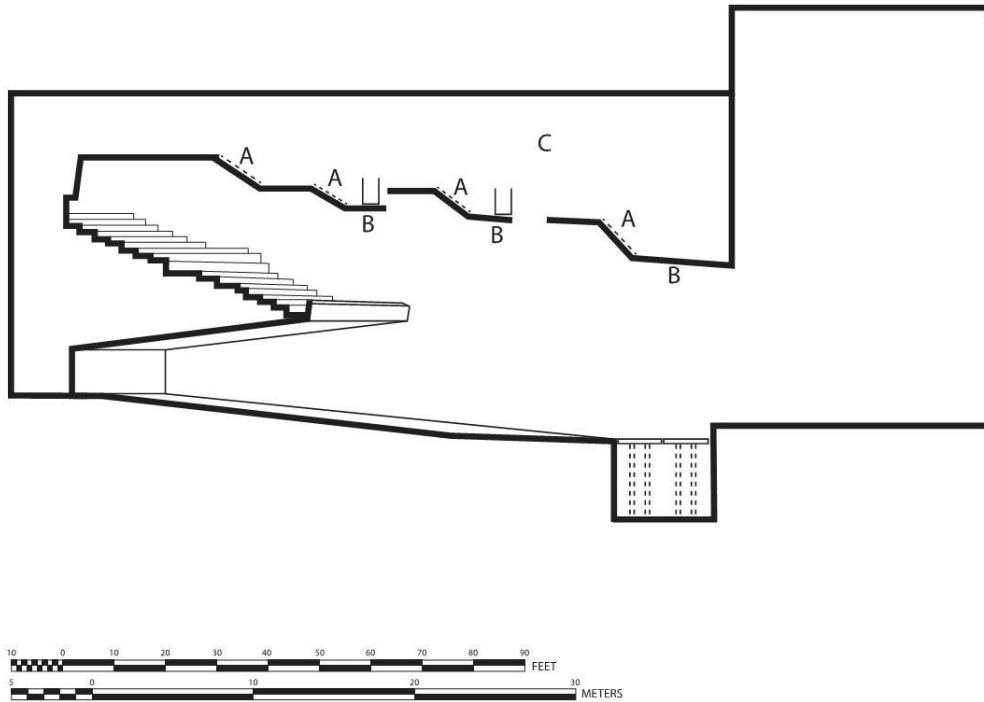
It is now known that these halls lacked sonic impact and intimacy for theater, provided limited presence and clarity for opera, and were devoid of warm, rich reverberation for symphony. Still, they were a huge improvement over the barn-like convention centers that had served communities for prior decades.

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Jacksonville Civic Auditorium, FL, 1962. This wide, 2,000-seat fan-shaped multi-use hall was an improvement over earlier civic centers, but had poor acoustics and was gutted in 1990.

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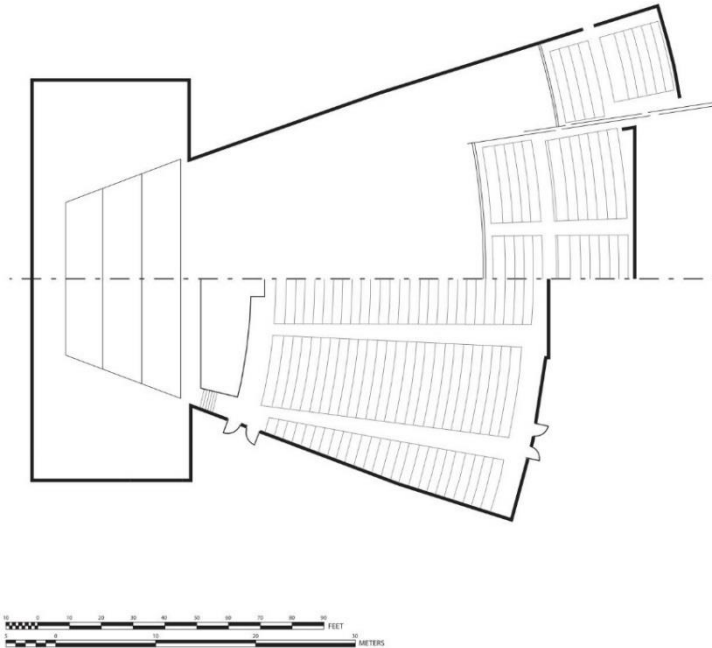


Jacksonville Civic Auditorium, FL, 1962. This is a large, single balcony space. A: Coffin-shaped ceiling openings B: Ceiling reflectors C: Upper acoustic volume

The 1970's and 1980's

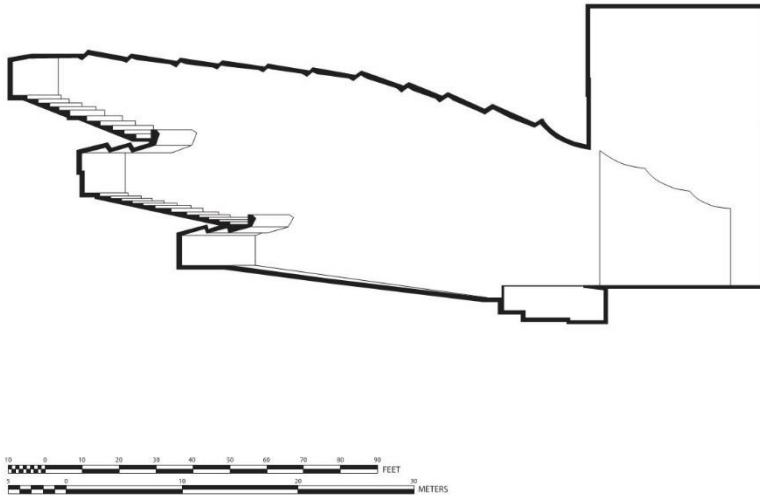
A new breed of multi-use hall came about in the 1970's and 1980's that was a vast improvement visually and theatrically, but not acoustically. These buildings were technologically quite sophisticated and often employed moving ceilings to close off hall volume and create adjustable acoustic environments that met reverberation requirements and reduced seat capacity. Counter-weighted, multi-ton, steel contrivances supported the ceilings, catwalks and lights, but provided only a gross level of acoustic tunability and variability. Similar multi-use halls with sub-par acoustics can be found in northern Alberta, Canada and Tokyo, Japan. In all fairness, these halls utilized the best available acoustic knowledge and consultants, but the tools available at the time were crude and unwieldy.

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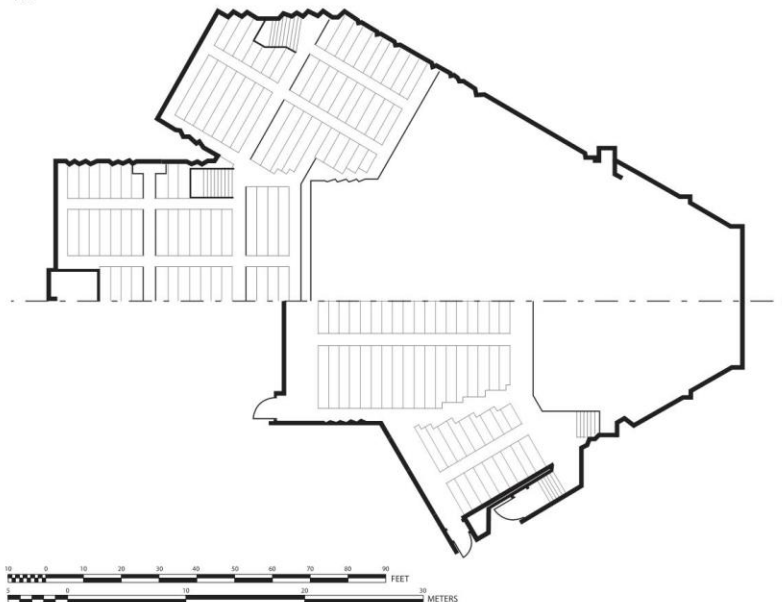
Northern Alberta Jubilee Auditorium, Canada, 1957. A 2,500 seat fan-shaped hall with shallow balconies and low acoustic volume. Remodeled in 2004.

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Northern Alberta Jubilee Auditorium, Canada, 1957. An example of an acoustically poor multi-use halls from the 1950's built in North America that tarnished the reputation of multi-use halls. Extensively remodeled in 2004.

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The NHK Hall, Tokyo, Japan, 1955. A fan-shaped multi-use hall with seating sections in terraces and low ceiling height.

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The NHK Hall, Tokyo, Japan, 1955. NHK Hall is a more successful example of a 1950's multi-use hall. Note the wide fan-shape is divided into smaller seating zones.

Tools of the Trade

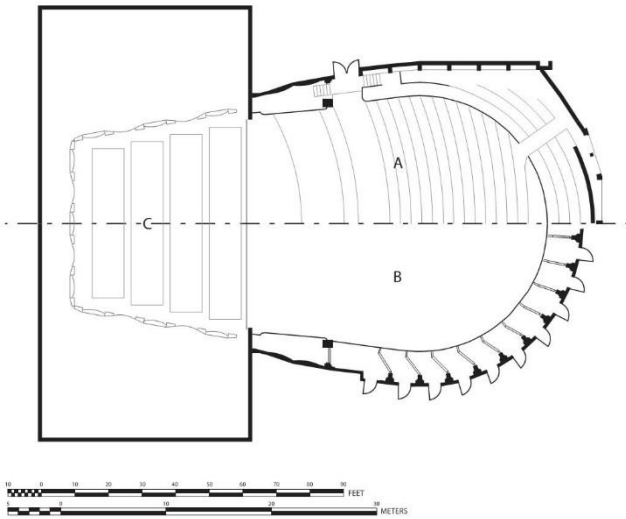
Manufacturers had few tools other than winches, cables and counterweights to offer acousticians throughout the 1980's. Frankly, adjustable acoustic devices were more closely related to rigging ship anchors than to the needs of orchestras and opera companies. It is not a surprise that the multi-use hall got a bad reputation within the musical community. They were no match for the well-known pure-concert halls such as Symphony Hall in Boston and Carnegie Hall in New York.

The 1990's

In the 1990's, Jaffe Holden set about to solve the conundrum of providing acoustic excellence for symphonic performances while at the same time meeting the theatrical and acoustic needs of other types of performance. Three new design directions were developed based on a facility's needs, end-users, and budget. The first involved a sophisticated orchestra shell called the Concert Hall Shaper. The second employed a system of double pit lifts to bring the orchestra past the proscenium and out into the hall so the auditorium could function as a one-room concert hall. The third approach placed a modified orchestra shell behind the proscenium and around the ensemble to project, blend, and aid on-stage hearing.

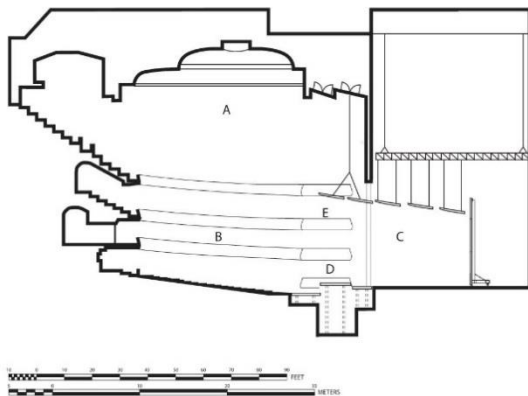
Creating a flexible hall with excellent acoustics for classical music was but one piece of the acoustic conundrum. The acoustic challenges involving opera, amplified music, amplified musicals and film or video presentations still needed to be addressed.

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Bass Performance Hall, TX, 1998. A 2,000-seat multi-use hall with excellent acoustics, detailed in the case studies at the end of this book. A: Orchestra level plan B: Box tier plan C: Concert Hall Shaper orchestra shell

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Bass Performance Hall, TX, 1998. A: High ceiling for proper acoustic volume with adjustable acoustic drapes B: Shallow balconies and side boxes for acoustic reflections and adjustable acoustic banners C: Tunable Concert Hall Shaper orchestra shell, D: Orchestra pit/stage extension, E: Forestage reflector



Bass Performance Hall, TX, 1998. Features complete adjustable acoustics technology within a classically designed hall. Featured as a case study at the end of this book.



Dell Hall at Long CPA, TX, 2008. A 2,400-seat multi-use hall built within the shell of a 1950's civic auditorium. The green renovation showcases many of the adjustable acoustic systems described in this book at a modest budget. Featured as a case study at the end of this book.

The Need for Multi-Use Halls

Communities that have a need for multi-use performance halls often hesitate to embrace them because of the misconception that they are not acoustically successful. Those quoting acoustic disasters in flexible halls have plenty of ammunition to draw from, as there have been more than a few spectacular failures. Acoustics as a 'black art' is a common explanation for these failures. A careful study will reveal that poor acoustic results are often rooted in uninformed clients, bad design, team chemistry, inadequate funding, or inexperienced acoustic designers.

Shortfalls

Why is it that the acoustics of some halls have failed to meet expectations?

Lackluster Partnership

Acousticians have advanced computer modeling systems and years of field experience. Yet, there are halls that don't meet acoustic expectations. My theory is that, while the science of sound is quite well understood, the successful design of these halls requires more than raw scientific facts and years of theoretical experience. It requires a design team that works in total collaboration and partnership. This is why at Jaffe Holden, relationships are carefully nurtured. I believe relationships have a direct correlation to the outcome of the design and the acoustics of a space. A team that doesn't work well together and can't communicate is likely to create a sub-standard project.

Pressure from Donors

While well-intentioned, those that fund the construction costs of a new hall often have high goals and expectations well beyond acoustics. Donors know that sound is significant but place more importance on the ability of the new hall to stand as an icon, especially since their name may be on the building. When the idea of the hall becomes more important to the donor than its actual functionality, decisions are often made that compromise acoustics.

Compromised Upgrades

Compromises to acoustic quality can sneak up on the design team. For example, well-intentioned designers or contractors could swap out materials without consulting the acousticians. Less expensive wall materials often have a lower acoustic mass, seat upholstery perceived to be upgraded often absorbs more sound, and greener air systems are often noisier than the specs reviewed by the acoustician.

Communicating Ideas

The decisions and design solutions that make the difference between a successful hall and a mediocre one occur when the design and construction team work in total collaboration. When the team communicates and trusts each other, the hall is much more likely to succeed. Since every little detail can affect the acoustics of a hall, it is necessary for the acoustician to be involved in every design decision.

Multi-use hall design is often considered to be the most complex design. Contractors who have built nuclear power plants and military research labs agree that concert halls, theaters and flexible performance halls are by far the most complex projects. Any slight change can affect the acoustics, structural, mechanical, theatrical and code compliance in unintended ways. This domino effect is what renders multi-use hall design both complex and exciting.

Everyone in the business of hall design must have strong self-confidence in order to make their case during design meetings. However, an exaggerated ego can shut down the collaboration that is necessary for great buildings and great acoustics. It is important to be a good listener and clear communicator.

Fear of losing control can also halt the open communication of ideas. The mentality of ‘my way or the highway’ does not make for great collaboration. The stakes are very high. Reputations and prestige are on the line, as are millions of dollars. Holding on too tightly and micromanaging details can quickly throw a project off track, just as trusting in the team’s abilities encourages respect. In my experience, I’ve learned that respect and trust come more quickly when the team has a successful history of working on projects together. Good relationships strongly affect the outcome of any project. A team that does not work well together is doomed to create a sub-standard facility.

Success Stories

Engaging the acoustician very early in the design process results in successful halls. Ideally, acousticians begin the collaboration with donors, owners, and performing arts stakeholders when the initial design concepts are first put forth by the architects. In the best case scenario, the acoustician is engaged before the rest of the design team and has a hand in influencing the selection of the design architect. In this scenario, it is assured that the lead designer will engage the acoustician in a meaningful way.

Individual groups acting independently, or within silos, often exist on a multi-disciplinary design team. The success of the hall depends upon close collaboration and the removal of these silos. Acousticians, theater consultants, architects, interior designers, contractors and structural, electrical and mechanical engineers must form one cohesive and respectful team in order to achieve success.

There are a number of examples of multi-use halls that have excellent acoustics for various performance types, are affordable to build and operate, and revitalize communities. The Long Center for the Performing Arts in Austin, Texas, was a well-loved municipal auditorium built in the 1950's that has since been successfully transformed into two very flexible halls; the Michael & Susan Dell Hall and the Debra and Kevin Rollins Studio Theatre. These two spaces meet the needs of the Austin Symphony Orchestra, Austin Lyric Opera, and Ballet Austin in addition to touring Broadway productions, headliner acts and local productions.

The case study section of this book showcases successful halls, including Dell Hall, to more fully illustrate how a flexible-use hall can blossom into a magnificent facility for the community.