

Theatre, Cinema Seating Design and Layout Guidelines



Seating layout design: Client priority is usually all about the user experience so think about audience engagement before the seating layout planner decides the overall shape of the layout. Sight lines, seat width, wheelchair space, flow of traffic and standard compliance are also key factors during layout design.



Floor condition and parameter. Theater seats are generally installed and fixed on the ground so it is necessary to clarify the thickness of the round material and the fixed layer, to consider the matching installation method and the selection of the ground expansion screws in advance.



Site construction schedule and seat move-in time. Seating is normally the last part of the construction project. In order to reduce seat damage during construction and decoration, an accurate arrangement for when the seats are installed is very necessary.

Efficient Fixed Theater Seating

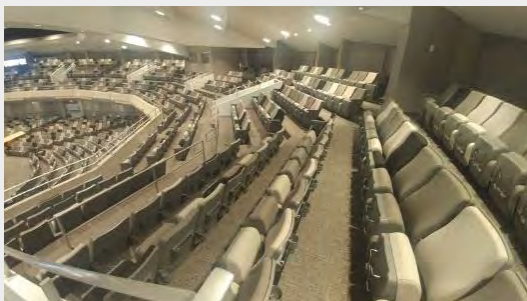
In general, fixed theater seating more strictly focuses audience attention on the stage. In lower-capacity rooms, seats are typically bolted to the floor in straight rows. In larger venues, semi-circular layouts keep patrons facing the performers or presenters regardless of where they sit.



Both linear and semi-circular layouts use space very efficiently. Designers must account for fire codes when determining row and aisle widths. However, other than these code considerations, those determining seating layouts can use space very efficiently.

Since designers must also consider sight lines, it is vital to establish where an acting troupe, speaker, or presentation screen will be positioned. Designers can use that central spot to determine just how far to the left and right rows of seats may extend. If rows go too far, those seated at the perimeter may find that they cannot comfortably see the stage.

Once the positioning of the outermost front-row seats is established, the seating designer can fill in the layout to the center and to the back. In many theatres, auditoriums and other venues, it is possible to have longer rows farther from the stage without sacrificing sight lines at the ends of those rows.



Seating Capacity Designers and venue owners often collaborate to determine an ideal balance between seating capacity and audience comfort. Although more seats generate more revenue, too many seats may leave certain audience members dissatisfied with sightlines. Therefore, venue owners and

managers should strike a balance between revenue and the customer experience.



Theater Seating Layouts

Potential theater seating layouts are governed first and foremost by various rules and regulations from local, state and federal jurisdictions. For example, fire regulations will address aisle widths and the number of potential seats per row, and the number of rows allowed before the insertion of a

“horizontal” aisle. Rows consisting of 15 to 20 seats are common.

Horizontal aisles are often required every 10 to 15 rows. To allow for proper ingress and regress, such aisles are often six to eight-feet wide. Although regulations will vary, the aisles often need to be about four-feet wide along the outer walls of the theater, and center aisles often need to be about five-feet wide.



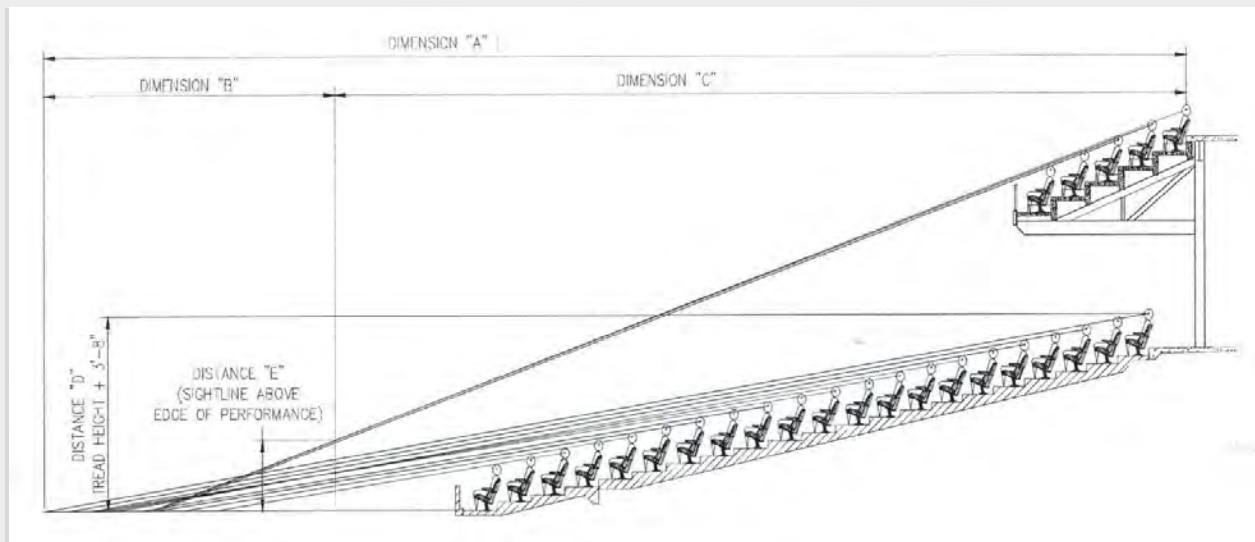
Flow of Traffic

Accessibility to restrooms from all areas of seating should be carefully considered.

Patrons are not interested in usually long hikes to restrooms, nor do they want to miss any more of the performance than is absolutely necessary.



Site Lines



Any successful theater or auditorium seating layout will minimize or eliminate obstructed views. Overhanging balconies, pillars, and low-hanging chandeliers can all significantly impact the layout. Site lines are also impacted in another way. High seat backs are wonderful for neck/head support and for patron privacy. However, the grade or pitch in the theater must be sufficient to maintain visibility of the stage or screen when high seat backs are used. Seats are often affixed to risers that go up about one-foot per row. However, if your venue features a lesser incline, it is important to consider. No one wants patrons straining to see over the row of seats in front of them.

Terms Used in Sightlines

Back to back – The distance in feet between the back of the seats from row to row

Incline Breaks – The incline break locations (in feet) in progressive linear measurements.

Rate/Foot – The incline rate (in inches) per each foot of the slope.

Elevation – The height from level (in inches) at the respective incline breaks.

Clearance – The actual sight-in-line clearance per row (in inches) beginning at wall.

Focal Point – The focal point location on the screen/stage (in inches) above the auditorium floor.

Level 2 – The height from level (in inches) to front of second level.

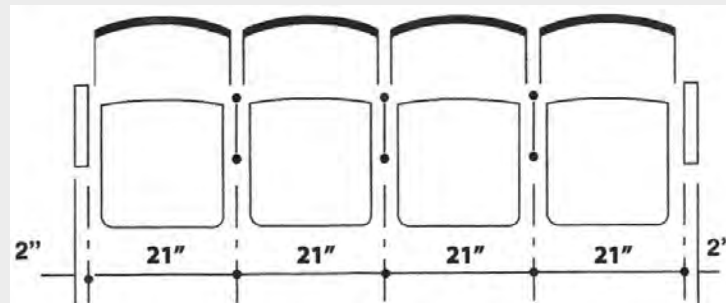
Seat Width

Once fire and other relevant regulations are accommodated, layout decisions in most venues will be seriously impacted by a fundamental decision about how to balance seat width and seating capacity. Theater seats are often between 19 and 22-inches wide, which is quite a range. How patron comfort is balanced with setting capacity (and therefore potential revenue) will affect operations in important ways. Initial layout efforts may use a figure of about six square-feet per person, excluding aisles, to get a rough idea of potential seating capacity.

Chair Widths	18"	19"	20"	21"	22"
No. of Chairs	(Values Shown Below are Row Lengths)				
1	1' 10"	1' 11"	2' 0"	2' 1"	2' 2"
2	3' 4"	3' 6"	3' 8"	3' 10"	4' 0"
3	4' 10"	5' 1"	5' 4"	5' 7"	5' 10"
4	6' 4"	6' 8"	7' 0"	7' 4"	7' 8"
5	7' 10"	8' 3"	8' 8"	9' 1"	9' 6"
6	9' 4"	9' 10"	10' 4"	10' 10"	11' 4"
7	10' 10"	11' 5"	12' 0"	12' 7"	13' 2"
8	12' 4"	13' 0"	13' 8"	14' 4"	15' 0"
9	13' 10"	14' 7"	15' 4"	16' 1"	16' 10"
10	15' 4"	16' 2"	17' 0"	17' 10"	18' 8"
11	16' 10"	17' 9"	18' 8"	19' 7"	20' 6"
12	18' 4"	19' 4"	20' 4"	21' 4"	22' 4"
13	19' 10"	20' 11"	22' 0"	23' 1"	24' 2"
14	21' 4"	22' 6"	23' 8"	24' 10"	26' 0"
15	22' 10"	24' 1"	25' 4"	26' 7"	27' 10"
16	24' 4"	25' 8"	27' 0"	28' 4"	29' 8"
17	25' 10"	27' 3"	28' 8"	30' 1"	31' 6"
18	27' 4"	28' 10"	30' 4"	31' 10"	33' 4"
19	28' 10"	30' 5"	32' 0"	33' 7"	35' 2"
20	30' 4"	32' 0"	33' 8"	35' 4"	37' 0"
21	31' 10"	33' 7"	35' 4"	37' 1"	38' 10"
22	33' 4"	35' 2"	37' 0"	38' 10"	40' 8"
23	34' 10"	39' 11"	42' 0"	44' 1"	46' 2"
24	36' 4"	38' 4"	40' 4"	42' 4"	44' 4"
25	37' 10"	39' 11"	42' 0"	44' 1"	46' 2"
26	39' 4"	42' 6"	43' 8"	45' 10"	48' 0"
27	40' 10"	43' 1"	45' 4"	47' 7"	49' 10"
28	42' 4"	44' 8"	47' 0"	49' 4"	51' 8"
29	43' 10"	46' 3"	48' 8"	51' 1"	53' 6"
30	45' 4"	47' 10"	50' 4"	52' 10"	55' 4"

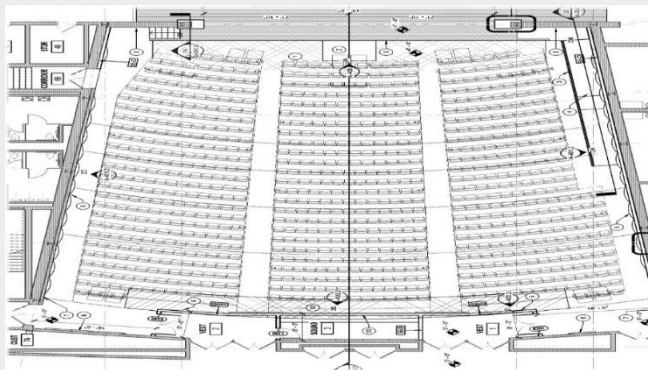
Making Use of the Chart

1. The chair width is measured from middle of armrest to middle of armrest.
2. To be able to give you the additional row lengths for staggered chairs, 21" seats ought to be utilized in making the initial estimates.
3. If you are using tablet arms, layouts ought not make use of seats narrower than 21".



The area needed for 4 – 21" chairs is 7'4".

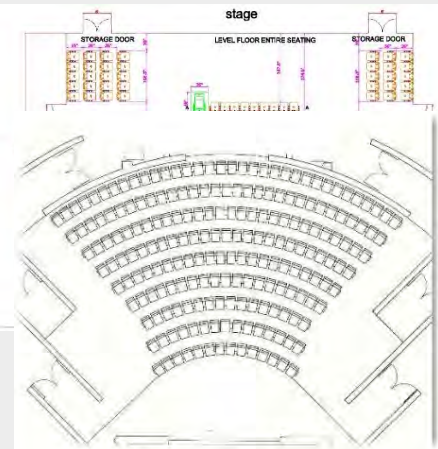
1. The above mentioned measurement consists of the width of 2-2" Aisle Stanchions per row, an additional extra 4".
2. Include 2-3" Aisle Stanchions for every row which is an additional 6" for aisle stanchions with cupholders or tablet arms



The **continental auditorium layout** is a common sight in theatres concert halls and stadiums, because of the preferable sightline that it provides audience members with. This layout also helps to establish more of a connection between viewers and performers. One area

worth noting is the aisle that splits the continental layout. The minimum aisle widths will be greater for this style seating plan compared to a multi-aisle arrangement owing to the angle of the rows.

CAD software or other digital design aids can allow one to visualize potential seating layouts. Once the shape of a selected theater chair is inputted, rows of seats can be laid out right on the computer monitor. In many venues, rows will be curved, rather than straight. Once the basic layout and seat-type is entered, one can readily generate alternative theater seating layouts.



The **multi-aisle seating arrangement** is by far the simplest if you are working with a traditional rectangular space. Most used in lecture halls and conference facilities, this layout most commonly features between 14 to 16 seats per row. The **wide fan layout** is often used for venues that need to minimize the space between audience and performers. However, care must be taken so that all audience members can see and hear those

on the stage.

Cinemas



More seating layouts: End Stage and or $\frac{3}{4}$ Arena

Wheelchair and Related Seating



ADA requirements must be met in any theater seating layout design. However, there is also a decision to be made about the number and location of seats for those with disabilities. An area is usually reserved for those in wheelchairs as well. Remember to account for the caregivers that such patrons may have with them.

Security and Safety

It cannot be denied that both security and safety are among the most important factors to be considered when a new auditorium is designed and subsequently constructed. Become familiar with the health and safety rules and regulations that are applicable to your country. This may involve the answering of questions such as: How wide must the aisles be? How many fire exits do you require? Where must the fire exits be located?

What fire safety rules will apply to your venue and its seating? You must ensure that your auditorium seats comply with the government/regional laws, which will likely dictate materials, size, dimensions and other components.

At times, safety needs and comfort considerations may oppose one another. At such times, safety must remain the paramount consideration. (See demonstration emergency evacuation procedures by FEMA.)

Safety and security issues can be loosely organized under these headings:

- Architectural design
- Structural safety
- Fire safety and prevention
- Operational safety and security



Architectural Design

Safety considerations are an integral part of the design process from the start. Concourses must be wide enough for easy egress in emergencies.

Entrances and exits must not possess the potential to become bottlenecks.

Lighting must be adequate in all areas,

and signs must clearly delineate evacuation routes and other important pathways. Non-flammable materials must be used as building and fire codes require, and they should be used in every possible aspect of construction.



Beyond comfort, safety and ease of maintenance and cleaning we know that patrons want a world-class viewing experience – such as food and drink service, privacy screens and seating that can better accommodate a couple. For these venue a wide range of VIP upgrades are offered, including food swivel trays,

in-arm storage and flip-up middle arm for love-seat configurations.

The appetite for luxury-level movie going is growing and growing. This consumer trend is something that has not gone unnoticed by the larger theatre and cinema chains which are increasingly adding VIP seating. There once was a time when the profit model for cinemas was simple – more seats, more revenue. Today this model isn't nearly so straightforward. Make no mistake, theater chairs are far from the purely functional pieces of furniture they once were. Consumers now expect more from their cinema seat and the movie-viewing experience. And they are willing to pay more for theatres that provide the luxury they are looking for.



Times have changed – patrons want an experience, not just a film or production.

1. VIP theatre going is profitable (and great for your reputation too). As theatres and cinemas continue to battle it out for patrons, VIP seating provides your venue with an advantage that your local competitors may not be able to

offer, increasing attendance in the process. But with that said, you might wonder how the extra space needed for cinema chair luxury can possibly translate into profit. After all, VIP theater and cinema seats usually demand considerably more floor space than standard counterparts. This means that theatres might lose as much as 50% of their standard seats when upgrading to luxury seating. But in return, research shows that venues with VIP seats are now enjoying a substantial increase in ticket sales up to and as much 80% in sales. And this figure goes to show that VIP movie going can be your critical competitive edge.

2. **Sales of food and drink** provide a further boost to your profits. The rise of so-called “dine-in’ theater and movie-going seems unstoppable. Offering food and drink straight to the luxury theater seats or cinema recliners has proven to be a huge selling point to small, boutique and independent theaters and cinemas. You decide how you define “VIP”. For flexibility VIP seats should provide plenty of optional features, such as power-adjustable headrest to adjust viewing angles, tray tables, call buttons and space-saving wall mechanisms.
3. **Low cost maintenance** – There are two factors that will affect how much your VIP theater and cinema seats will cost to maintain.

First, whether the seating features replaceable parts, such as arm padding, arm protectors and outer back protectors. Being able to replace worn or damaged parts, rather than the entire seat, will significantly extend its lifespan.

Second, the durability of the cinema recliner or theater seat, especially in the parts that are most heavily used, will affect how often parts require replacement. If a theater seat and or cinema recliner doesn’t feature both

replaceable parts as well as highly durable materials and design, the cost of maintaining that seat will eclipse the cost of the seat itself.

Opening a new venue: Guaranteed delivery and installation timescales. If the supplier of your seating can't provide a concrete date as to when your seating will be manufactured, delivered and installed you could be left with a late cost of the opening schedule. Alternatively, if you're remodeling existing seating a delay could mean having to rearrange the services of other contractors, which could prove to be incredibly expensive.

