



# SPATIAL STEWARDSHIP

*HOW TO SUPERCHARGE THE  
EFFICIENCY OF YOUR MINISTRY  
BUILDING*

A KINGDOM DESIGN GROUP GUIDE

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# Introduction

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*As each one has received a gift, minister it to one another, as good stewards of the manifold grace of God. - 1 Peter 4:10*

## **efficient**

(adjective)

| productive of desired effects

| *especially* : capable of producing desired results with little or no waste (as of time or materials)

*e.g. an efficient worker, efficient machinery*

\*Definition from Merriam-Webster Dictionary, <https://www.merriam-webster.com/dictionary/efficient>

What do we mean by “an efficient building?”  
The above dictionary definition gives a good idea. An efficient building should be:

**| productive of desired effects** including being able to host all the functions and programs it was designed for. A church building, for instance, should have a sanctuary space that is able to accommodate the desired number of people at its services, quality office space for the pastor and other staff members, and a flexible multipurpose space for members to have food and fellowship.

**| especially: capable of producing the desired results with little or no waste** of space, energy, cost or time. This means that there is no underutilized or overcrowded areas in the building, and there is enough flexibility built in to accommodate a reasonable amount of future growth. It also includes designing the lighting and mechanical systems to be energy efficient to save operational costs, as well as incorporating communication technology to virtually expand the physical space.



# 1.

## Space Utilization Ratios

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*And to one he gave five talents, to another two,  
and to another one, to each according to his own  
ability - Matthew 25:15*

**Before we design a space, we want to know what the maximum number of users that we can fit into the space is - *legally*.**

According to the International Building Code (IBC), the **occupant load** is defined as *the number of persons for which the means of egress of a building or portion thereof is designed.*

Churches and other ministry buildings with a sanctuary-type space are usually classified as Assembly Group A-3 under the IBC. In Table 1004.5, the **occupant load factor** or **maximum floor area allowance per occupant** for an assembly without fixed seats (concentrated chairs) is 7 net. *This means that in a 4,900SF sanctuary, the maximum number of users allowed to be inside at one time is 700.*

We now have our first benchmark. If your sanctuary is 4,900 SF and seats around 500 per service, you are not utilizing this part of your building to its maximum efficiency.

However, while the building code gives the **maximum** allowed utilization, the maximum utilization isn't always the most suitable or reasonable for the space. We rely on several other criteria to arrive at the ideal efficient utilization ratios, such as time-tested rules of thumb, human comfort requirements and specific program needs.

# EXAMPLE: SANCTUARY EFFICIENCY

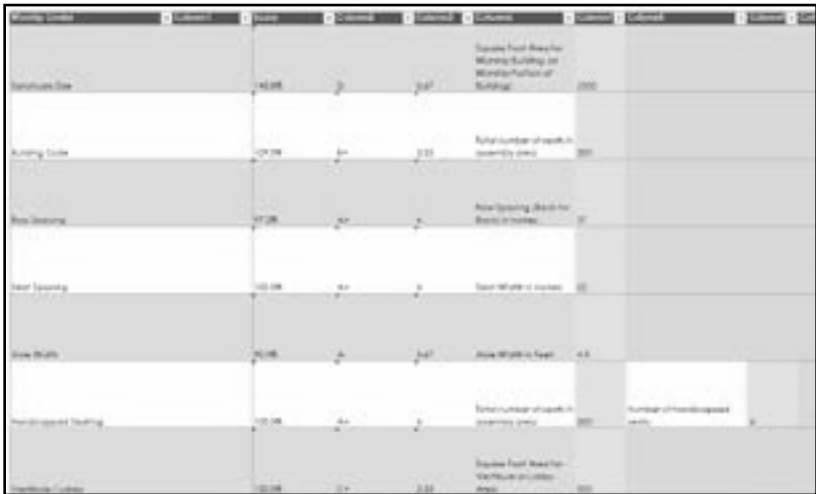
For a sanctuary or worship space, we go by the rule-of-thumb of 12 sq. ft. per person, and evaluate the efficiency of the seating layout by the following dimensions that balance utilization and comfort:

**Row spacing:** 36 inches back-to-back

**Seat Spacing:** Seat width of 22 to 24 inches

**Aisle Width:** 5 feet aisle width

**Lobby area:** 2 sq. ft. per sanctuary seat



Sanctuary Code	Capacity	Area	Efficiency	Notes
Sanctuary Code	4000	2	200	Square Foot Area for Worship Building or Worship Portion of Building
Building Code	2000	2	100	Total Number of Seats in Sanctuary Area
Row Spacing	36	2	72	Row Spacing (Back-to-Back)
Seat Spacing	22	2	44	Seat Width in Inches
Aisle Width	5	2	10	Aisle Width in Feet
Number of Seats	4000	2	200	Number of Seats in Sanctuary Area
Number of Handicapped Seats	0	2	0	Number of Handicapped Seats
Sanctuary Code	2000	2	100	Square Foot Area for Worship Building or Worship Portion of Building

*Building Analysis is an in-person service that KDG offers. The above is a small snapshot of our Score Sheet with built-in formulas that we use on site to assess your facility's efficiency.*

*For a quick self-check, make use of our **free online calculator** by scanning or clicking on the QR code on the right.*



# EXAMPLE: PARKING EFFICIENCY

We utilize the following rules-of-thumb ratios to evaluate the layout design of a parking lot:

**1 parking space : 2.0 to 2.5 people** in attendance on site at one time is ideal.

**1 acre : 100-110 parking spaces** is ideal, assuming a layout with parking on both sides of driving lanes; 90-degree parking is generally the most efficient layout.

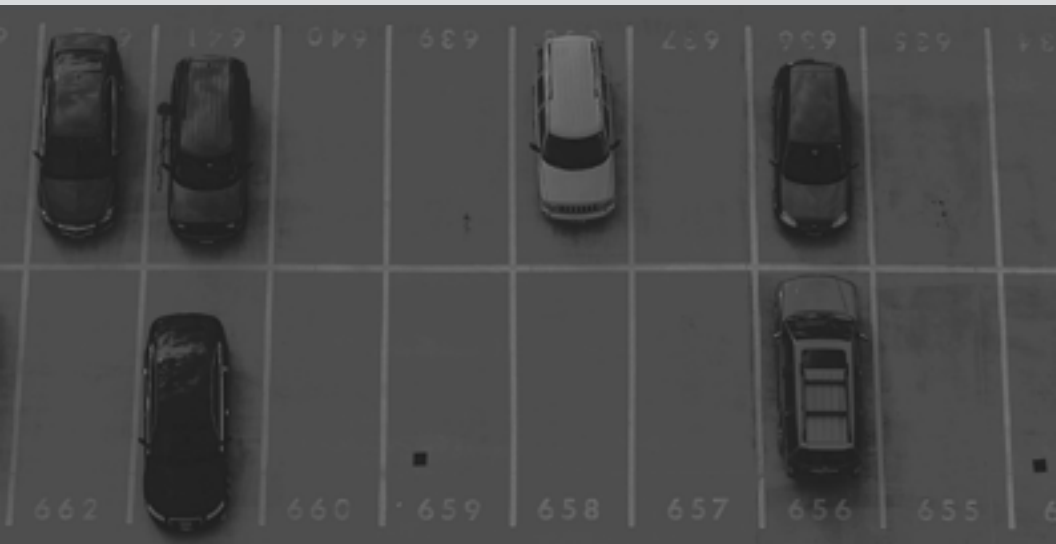
There are several additional ways to make your parking space more efficient:

**Easy Navigation:** Designate separate lanes for entry and exit to minimize congestion. Implement one-way traffic lanes and directional arrows to regulate flow and prevent gridlock.

**Clear Signage:** Clearly mark entrances, exits, parking spaces and directional signs to guide drivers efficiently.

**Reserved Spaces:** Allocate designated spaces for disabled individuals, EVs, carpoolers, etc.

**Regular Maintenance:** Keep the parking lot clean, well-maintained and free of obstacles to ensure smooth vehicle movement.





# 2.

## Fitness of Program

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*[You] give to each according to his ways and  
according to the fruit of his doings. - Jeremiah 32:19*

A church isn't usually just a sanctuary space, it would also need offices and children's classrooms, and a food and fellowship area. **A building is efficient if it has just the right amount of space for each of the functions that are needed, and with a built-in factor for future growth. (See the next section: Multipurpose Spaces / Flexibility.)**

This is the reason why planning is important before starting a building or renovation project. Sit down with your key leaders to lay out what is needed for the ministry, including projected growth for the next five years. Then, present this set of criteria to your architect who will work with you during the programming and schematic design phases to hone down on the most efficient floor plan and room sizes to fit your needs.

Scan or click on the QR code below to read our blog article about the programming phase and how it fits in with the other standard services that architects offer.





# 3. Multipurpose Spaces / Flexibility

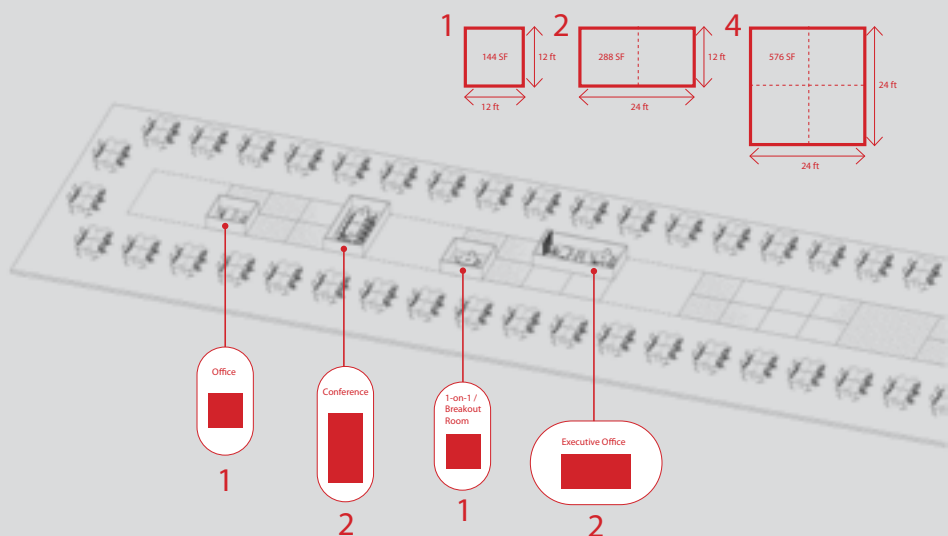
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*His mother said to the servants, "Whatever He says to you, do it."- John 2:5*

In a ministry, many things are subject to change. When it comes to accommodating future growth, one of the most powerful tools we can use is designing spaces that serve more than one function, and spaces that are easily reconfigured to serve a different function.

This creates flexibility and helps the building stay spatially efficient for a longer time.

Below is an actual presentation slide from the programming and schematic phase of an office area inside a Bible college that KDG designed. We created a modular system of easily reconfigured walls with a flexible enclosed-to-open ratio to accommodate ten years of changes for the fast-growing college.



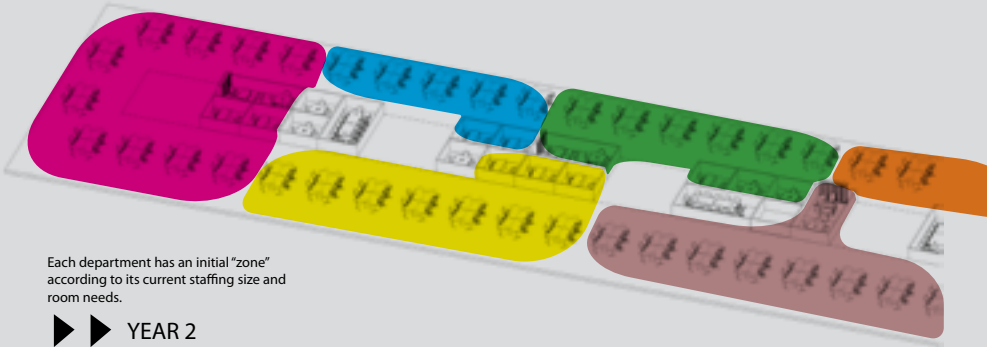
A brief summary of the advantages of multipurpose and flexible spaces:

**Future-Proofing:** Designing spaces with flexibility in mind helps future-proof your building. As the needs of occupants or the vision for the building evolve, flexible spaces can be adapted without requiring extensive renovations or rebuilding.

**Cost-Effectiveness:** Building spaces that can serve multiple purposes reduce the need for specialized infrastructure and allows for a more efficient allocation of resources.

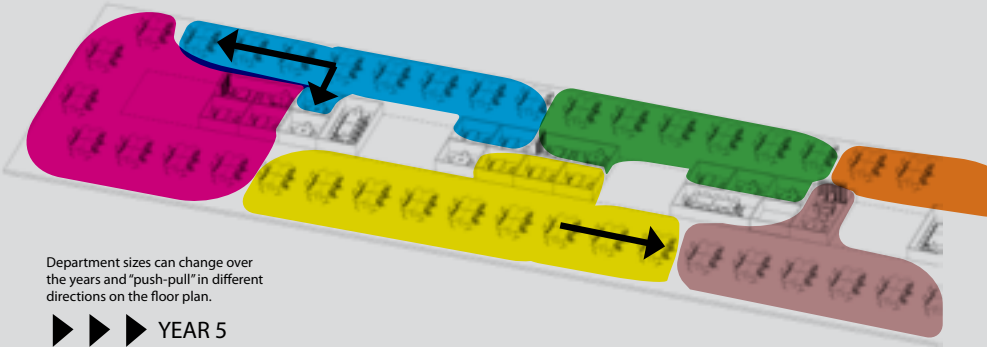
**Creativity & Collaboration:** Flexible spaces promote creativity and innovation by fostering a dynamic environment. They encourage collaboration, brainstorming, and the exchange of ideas among individuals and teams.

**Adaptability:** Multipurpose spaces can be easily transformed to meet different spatial needs, whether it's a large conference, a midweek session, or a small bible study.



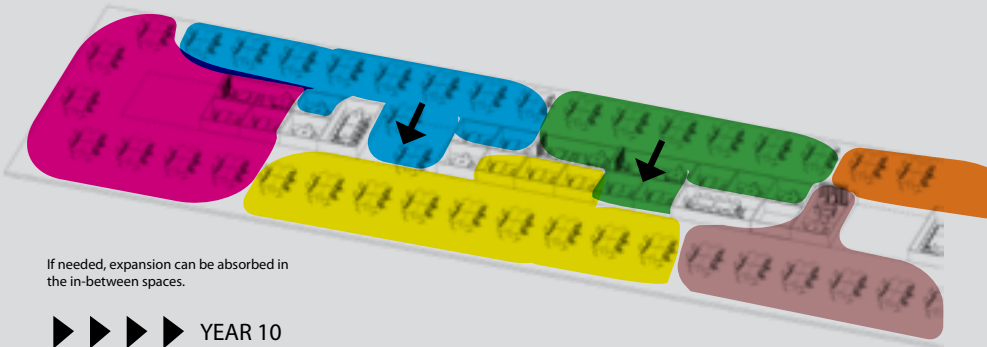
Each department has an initial "zone" according to its current staffing size and room needs.

▶▶ YEAR 2



Department sizes can change over the years and "push-pull" in different directions on the floor plan.

▶▶▶ YEAR 5



If needed, expansion can be absorbed in the in-between spaces.

▶▶▶▶ YEAR 10



# 4. Circulation

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*Paul stood on the stairs and motioned with his hand to the people. And when there was a great silence, he spoke to them in the Hebrew language.  
- Acts 21:40*

Good interior circulation is important for building efficiency for several reasons:

**User Experience and Productivity:** Well-planned circulation ensures a smooth flow of people and activities. It creates a positive user experience and enhances overall productivity.

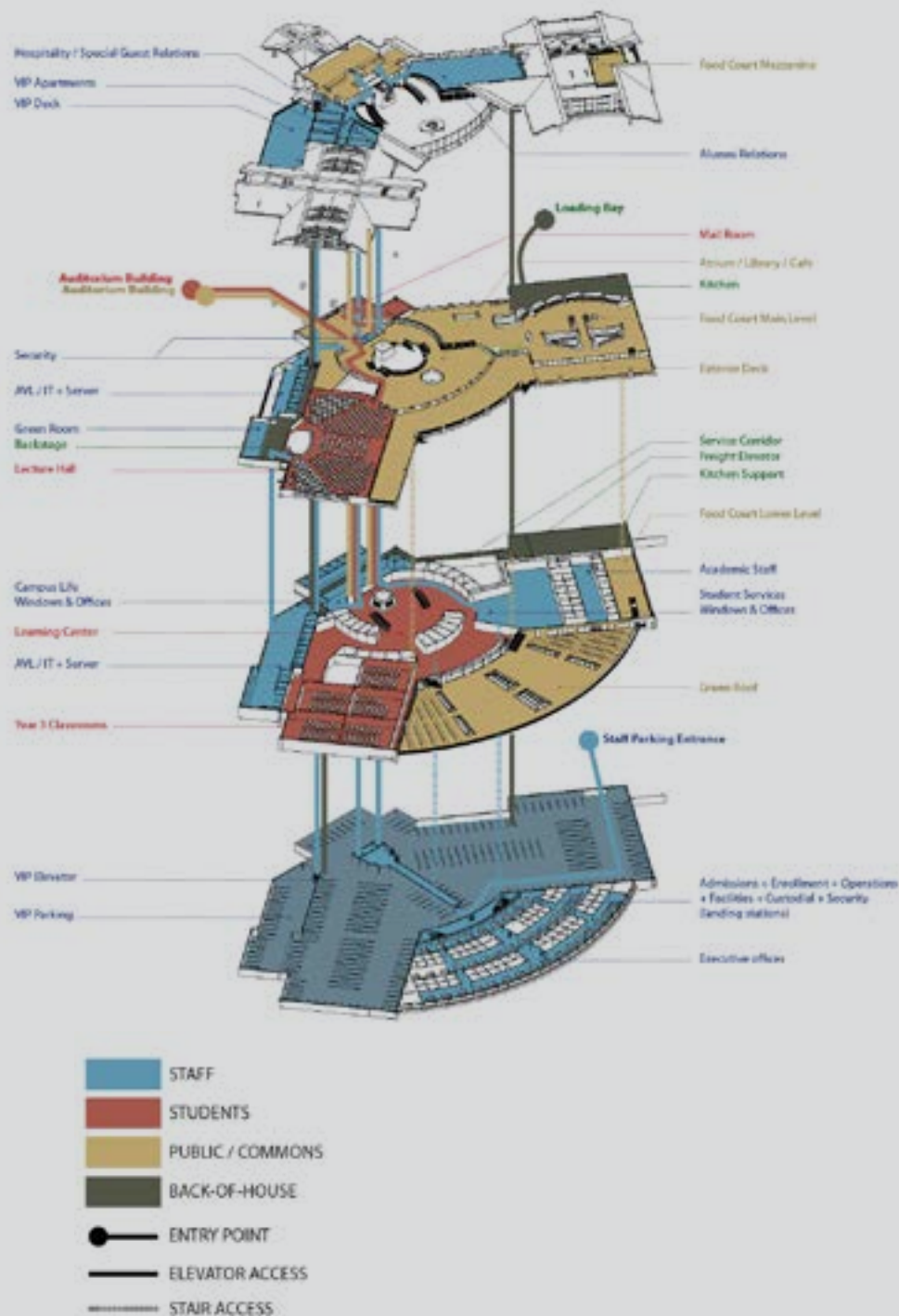
**Energy Efficiency:** Proper circulation planning can contribute to energy efficiency by optimizing the layout of spaces and reducing the need for excessive lighting, heating, or cooling. Strategic placement of entrances, exits, and common areas can maximize natural light and ventilation, reducing the reliance on artificial lighting and mechanical systems.

**Space Utilization:** Circulation planning influences how spaces are utilized within the building. By minimizing wasted or underutilized areas, the overall building efficiency can be improved.

**Operational Efficiency:** Circulation planning affects day-to-day ministry operations. Efficient pathways for staff, visitors, and back-of-house activities can enhance operational efficiency.

**Maintenance and Adaptability:** Properly planned circulation routes make it easier for maintenance personnel to access different parts of the building for repairs or upgrades. Additionally, adaptable circulation spaces allow for future changes in occupancy or functionality without major structural modifications.





On the left is one example of a circulation diagram that KDG drew to study the interior traffic of a student activities center we designed in a Bible college. Accommodating the functions and movements of students, lecturers, staff and the public across four levels of a 325,000SF building requires careful planning of circulation routes for maximum efficiency. This includes moving offices for the lecturers closer to where the classrooms are, and designing a back-of-house “service highway” where custodial and admin staff can transport maintenance supplies or sensitive items such as cash proceeds from the bookstore without having to go through the main circulation area where the students and public are.

Scan or click on the QR code below to read more about this project on our website:



# 5.

## Communication Technology



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*And a vision appeared to Paul in the night. A man of Macedonia stood and pleaded with him, saying, "Come over to Macedonia and help us." - Acts 16:9*

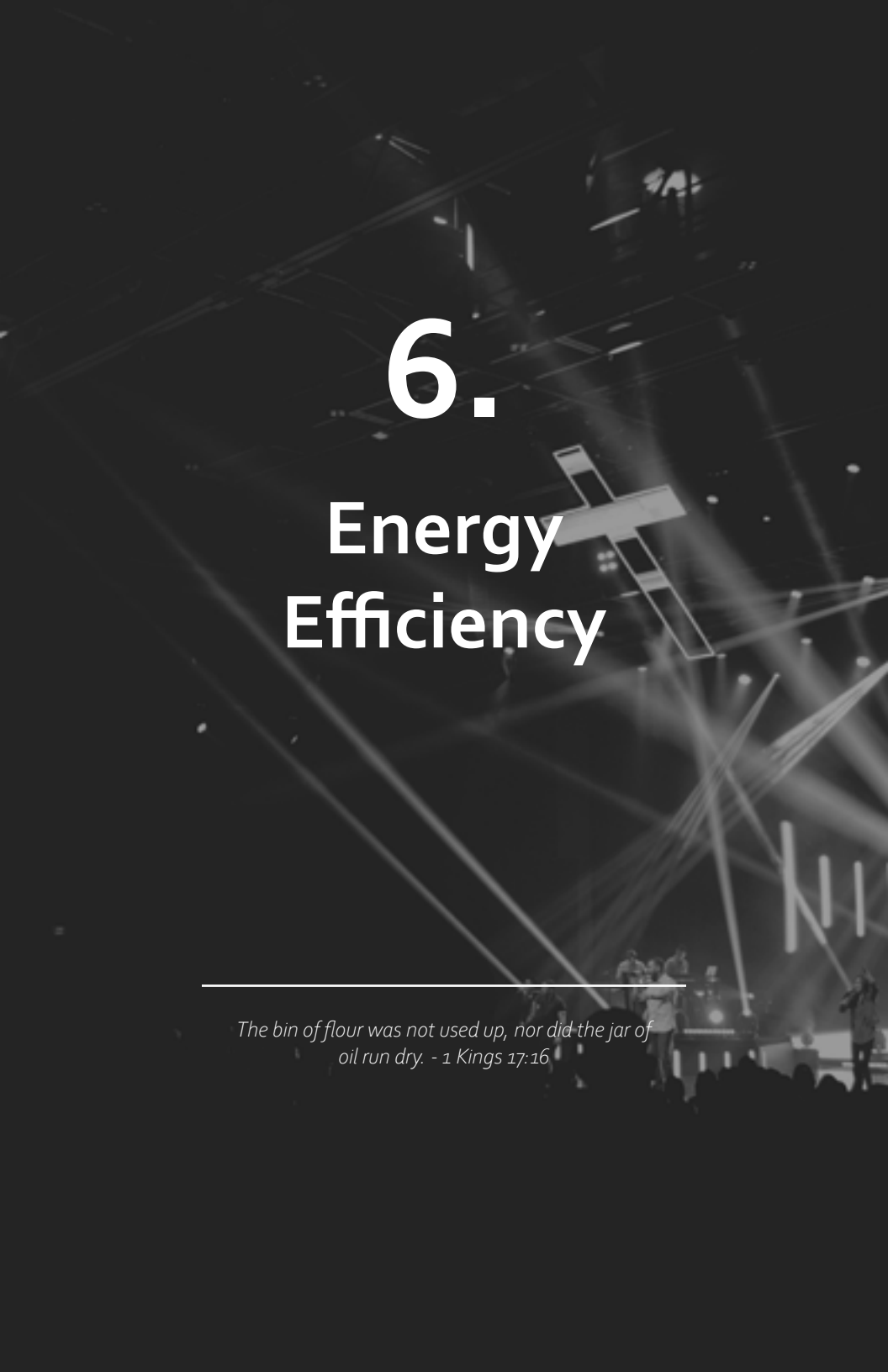
In the previous section, you scanned a **QR code** on the page and was taken to a virtual webpage where we showcased the Student Activities Center project. In a sense, we have taken the limits off the physical space of this book and **expanded** the pages to a virtual space. This is similar to what good communication technology does for your church or ministry building.

For example, having good livestreaming capabilities vastly **increases the reach** of your ministry and “expands” your building to include the living rooms of viewers all around the world.

By putting in place an efficient system of email notifications and real-time updates on your website or app, you need less announcement time to be portioned out during services and also **save money and resources** by not having to print out physical flyers.

Large screens that project the stage to the back of the sanctuary or to other rooms also increase the efficiency of your building by allowing more floor area to be **used at the same time** than was physically possible due to the limitations of the human eye.

All the above are reasons why a good system of communication technology increases the efficiency of your building by allowing it to “stretch its arms” and **exceed the given** physical space limitations.



# 6.

## Energy Efficiency

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*The bin of flour was not used up, nor did the jar of  
oil run dry. - 1 Kings 17:16*

Cutting down on energy usage lowers utility costs and allow more funds to be funnelled toward ministry, outreach and other important goals and programs. There are several ways to do this:

**Effective Design:** Utilize passive design principles such as orientating your building and placing windows in the right direction to maximize natural light and ventilation. This would need to be done while the building is still in the design stage.

**High-Performance Building Envelope:** Invest in high-quality insulation materials for walls, roofs, and floors and use windows and doors with low-E coatings and proper weather-stripping. All of these minimize unwanted temperature transfers between the exterior and the interior.

**Occupant Load Awareness:** Implement zoning areas to control heating and cooling in different areas based on occupant load and program/use, and incorporate motion sensors to control the lighting system.

**Energy-Efficient Systems:** Use LED bulbs and CFLs (compact fluorescent lamps), install the right HVAC sytem tailored to specific building needs, and use energy-star rated products throughout the building.

**User Education:** Educate your congregation and encourage their participation, such as switching off the bathroom lights, or making sure doors are closed to optimize the effectiveness of HVAC zoning.



# 7. Site

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*And He said to them, "Go into all the world and  
preach the gospel to every creature. - Mark 16:15*

Your building's site is just as important as your building. Surrounding elements can have a crucial impact on how your ministry operates. We judge site efficiency based on the following points:

**Parking availability:** Adequate parking ensures that members of the congregation, visitors and staff can easily access the facilities.

**Public transport availability:** Public transport provides an alternative means of transport for individuals who do not have access to a personal vehicle or are unable to drive due to various reasons. By being located near public transit routes, a church ensures its services are accessible to a broader segment of the community.

**Handicap accessibility:** Having ramps and smooth transitions from the surrounding area into the ministry facility ensures that individuals with disabilities are not deterred from coming to their appointments with God.

**Visibility from main roads:** A ministry building that is visible from the main roads has greater exposure to the surrounding community. Passersby are more likely to notice the building and its signage, and any events or activities advertised, which can attract new visitors and members to the congregation. This acts as a form of outreach.



A 3D architectural rendering of a modern student activities center interior. The space features a large, curved staircase with a white railing, a circular seating area with a sofa and armchairs, and a large, open-plan area with a grid pattern on the floor. The ceiling is a complex, multi-level structure with exposed beams and a grid of recessed lighting. The overall aesthetic is clean, minimalist, and functional.

# Conclusion

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*Then Moses summoned Bezalel and Oholiab and every skilled person to whom the LORD had given ability and who was willing to come and do the work. - Exodus 36:2*

Efficient design continuously helps the day-to-day functioning of the ministry by allowing the right people to be at the right place to do the right things without having to navigate through unnecessary detours that take away precious time for fruitful work.

It plays an important role in good kingdom stewardship by lowering long-term costs over time and improving the financial resilience of the ministry. By minimizing waste and reducing utility costs, more resources are channeled to your ministry's mission and goals.

Good design allows the building to serve God's purpose to the fullest, to optimize and exceed physical limitations and reach more of the community with the Gospel.

**You have a vision from God, let us help you build it in the most efficient and effective way for the Kingdom.**

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Scan the QR code below to go to our website where you can access blog articles, subscribe to our newsletter, *schedule a free consultation* and more:



**KINGDOM DESIGN GROUP**

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[www.kingdomdesigngroup.com](http://www.kingdomdesigngroup.com)

An aerial photograph of a building under construction. The structure is a rectangular frame made of numerous vertical and horizontal steel rebar rods. To the right of the main structure, there is a section of scaffolding. The ground around the building is a mix of dirt and concrete. In the background, there are some trees and other structures, but they are out of focus. The overall scene is one of active construction.

# WHO WE ARE

*On this page:*  
Student Housing Under Construction  
Charis Bible College







## A CHRISTIAN ARCHITECTURE FIRM

*Kingdom Design Group, LLC*

150 Morning Sun Dr #101, Woodland Park, CO 80863

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## OUR VISION

Expanding God's kingdom on earth through passionate belief, purposeful design, and innovative technology.

## OUR MISSION

Here at KDG, we have a shared mission with our ministry clients:

We want to serve the physical, emotional and spiritual needs of the Body of Christ, to serve the community at large, to impact generations, to see lives changed, and to do work that has eternal value.

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## ABOUT

*Scan or click on this QR code to go to KDG's About Page to read more about our architectural team members and their heart for God.*

A 3D architectural rendering of a church foyer. The space is characterized by a high, vaulted ceiling with exposed wooden beams and a large skylight. A decorative arrangement of dried branches hangs from the ceiling. Two levels of mezzanine with dark wood railings are visible. People are shown walking on the ground floor and standing on the upper levels. The overall atmosphere is warm and modern.

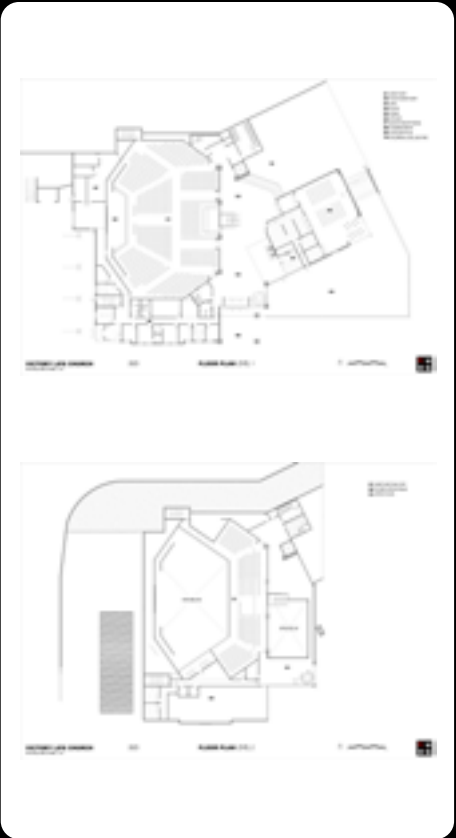
# VICTORY LIFE CHURCH

*On this page:*  
3D architectural rendering  
Victory Life Church - Foyer

# VICTORY LIFE CHURCH

This is a growing church in Woodland Park, CO, whose mission statement is "We exist to see people transformed by Jesus." KDG designed a new 49,000 Sq. Ft. facility for them that is nestled into the side of a mountain. This new facility includes a sanctuary, multiple offices, and a dedicated children's ministry area. The project is currently in the Design Development phase and set to be completed in 2025.

We created a series of video flythroughs to support the church in its fundraising efforts for the new building. Scan the QR code below to watch!



*SCAN THE QR CODE  
TO VIEW THE 3D  
FLYTHROUGH FOR  
VICTORY LIFE CHURCH*





# RIVER ROCK CHURCH

*On this page:*  
3D architectural rendering  
River Rock Church - Lobby

# RIVER ROCK CHURCH

River Rock Church in Colorado Springs was starting to grow beyond its current 11,418 SF facility. It became clear that either a larger facility or more efficient spatial utilization is needed to accommodate the growth. The leader of the young adults group at the time was none other than KDG's principal John Graham who offered his expertise as an architect.

KDG interviewed key leaders and came up with a few options for the church, including a new build option and a remodel option that would allow for a 500 seat auditorium, a 500 seat fellowship hall and an expanded children's & adult classrooms area.

*On the right: We created graphics and media to aid the lead pastor in his weekly fundraising updates for the facility improvement.*

**Widen the River**

**PHASE I** Cover Payment  
**PHASE II** Renovations  
**PHASE III** Pay Off Building

**11.9%** PHASE I Cover Payment

**50%** PHASE II Renovations

**11.8%** PHASE I Cover Payment

**50%** PHASE II Renovations

**RIVER ROCK CHURCH**



**SCAN THIS QR CODE TO  
READ OUR BLOG POST  
ON FUNDRAISING FOR  
RIVER ROCK CHURCH**

**Fundraising For A Building Project?  
Part 1: River Rock Church Case Study**

**RIVER ROCK CHURCH**

A 3D architectural rendering of a student activities center lobby. The space features a high, vaulted ceiling with extensive wood paneling. Large, multi-paned windows are set into the upper walls, allowing natural light to fill the room. The floor is a light-colored, polished material. In the background, a staircase and other architectural details are visible. Several stylized human figures are scattered throughout the space, some walking and some standing, to provide a sense of scale and activity. The overall atmosphere is bright and modern.

# STUDENT ACTIVITIES CENTER

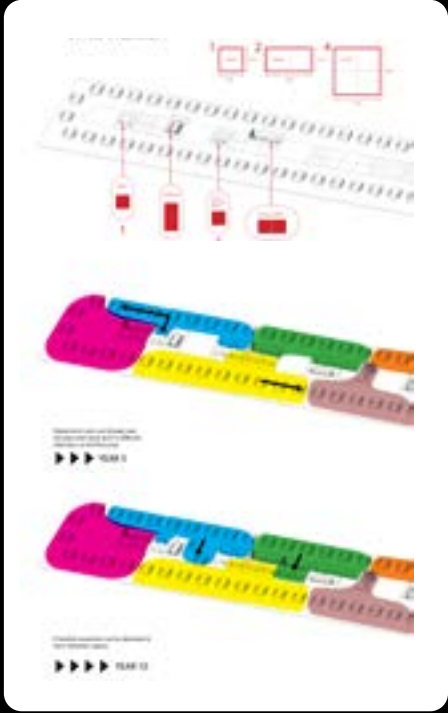
*On this page:*  
3D architectural rendering  
Student Activities Center - Lobby

# STUDENT ACTIVITIES CENTER

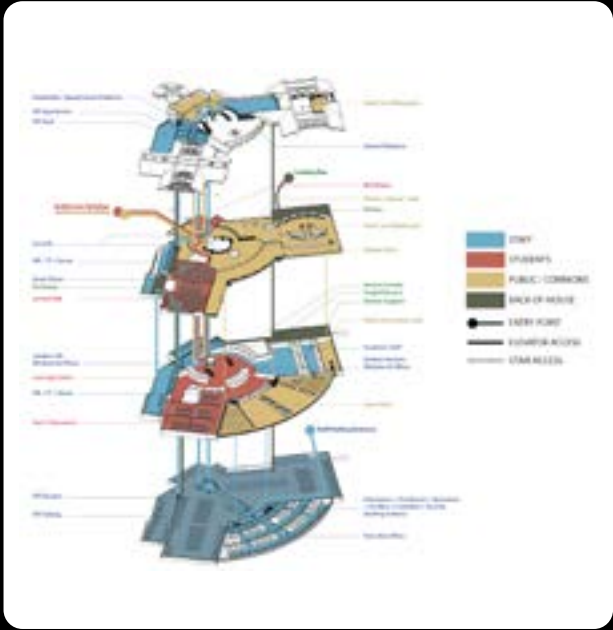
Kingdom Design Group was hired to design a 300,000 square foot Student Activities Center as part of a Bible college's ten-year expansion plan.

We performed a detailed analysis during the programming phase, including interviewing key members of the leadership and staff, to accurately plan out the spaces involved and to provide built-in flexibility for their projected future growth.

On the right side are diagrams that we provided during the schematic design phase to investigate the potential of flexibility within room layouts across ten years, and to check the circulation routes for their ability to efficiently funnel the four categories of activities that will take place in the building: staff, students, the public and back-of-house activities.



*Detailed work during the programming and schematic design phases can greatly add to the value of your building and its ability to accommodate future growth. KDG developed a [free Building Efficiency Calculator](#) on our website for ministries to check how their current facility is performing. To take advantage of it, please scan the QR code below:*



An aerial photograph of a snowy mountain landscape. In the foreground, two large, multi-story buildings are under construction. The building on the left has a brown roof and green siding, while the one on the right has a grey roof and green siding. The surrounding area is covered in snow, with scattered evergreen trees and a few parked cars. In the background, there are rolling hills and mountains under a clear blue sky with some light clouds.

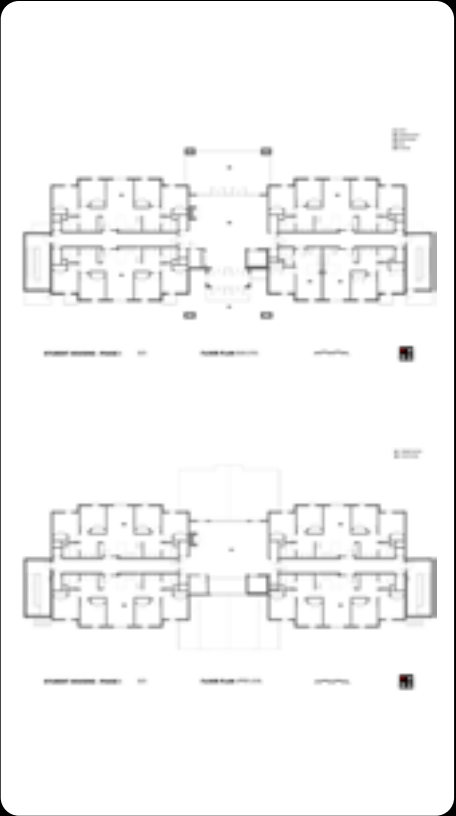
# STUDENT HOUSING

*On this page:*  
Student Housing Under Construction  
Charis Bible College

# STUDENT HOUSING

For a Bible College, we designed 6 apartment-style buildings (139,188 Sq. Ft.) to house an initial 800 students on campus. The project is currently under construction and the first two buildings will be completed in August 2024.

To aid the college in their fundraising efforts, we produced high quality 3D renderings and video flythroughs, and even an interactive VR experience of the dorm rooms.



**SCAN THE QR CODE  
TO VIEW THE  
DORM ROOM  
VR EXPERIENCE**

