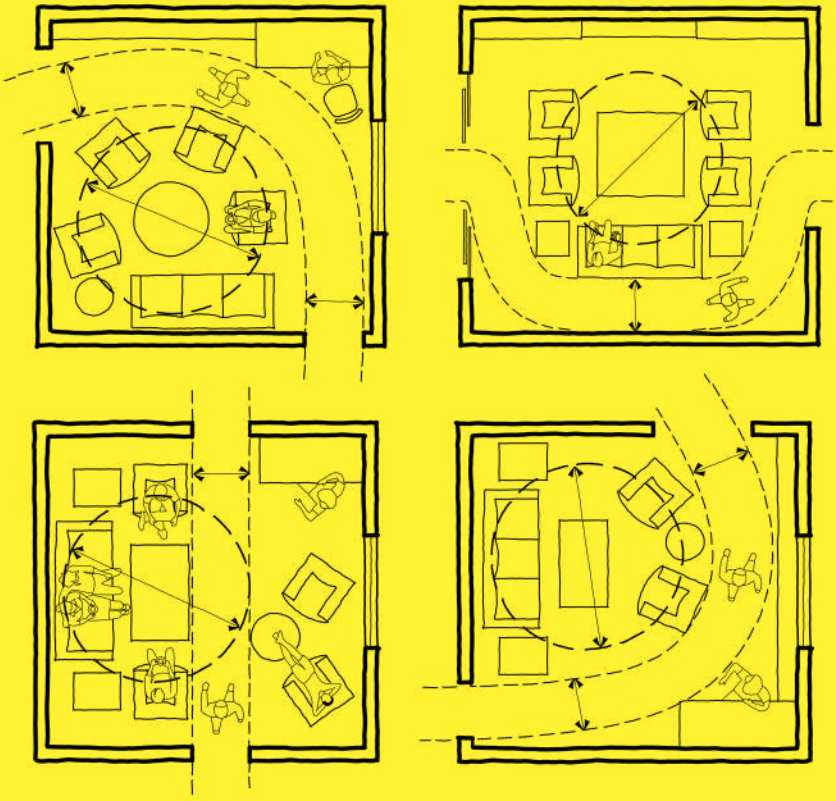
GRAPHIC GUIDE TO

RESIDENTIAL SPACE PLANNING



LUIS FURUSHIO

Graphic Guide to Residential Space Planning by Luis Furushio

Self-published by Luis Furushio

www.Luisfurushio.com

© 2022, Luis Furushio

All rights reserved. No portion of this book may be reproduced in any form by any electronic or mechanical means (including photocopying, recording, or information storage and retrieval) without permission in writing from the publisher, except as permitted by U.S. copyright law. For permissions contact: hola@LuisFurushio.com

Author's Note

Hi there, I am Luis, and I got inspired to create this book from questions I usually get from clients during the early stages of the design process.

In architecture, there is always an intention behind each design decision, and this needs to be communicated throughout the entire creative process.

In this book, I try to answer some of these questions, showing the "whys" behind residential design with simple drawings that are visually easy to digest.

Whether you are an architecture student yearning for sources beyond basic textbooks, a homeowner searching for tips on how to remodel your house, or even a contractor wanting to improve your residential design knowledge, this is the book for you.

Good design is not accomplished when you provide your own vision and what you think is best for your client. Good design is accomplished when you take your client's vision and elevate it in order to improve their quality of life while communicating your intentions.



What's Inside

THE FIRST SKETCHES 1
From Diagrams to Plans 2

EXTERIOR DESIGN CONSIDERATIONS 6
Exterior Environment 7
Mass, Scale, and Proportions 10
Grading and Hillside Construction 13
House Styles in North America 19

LIVING AREAS 21
General Analysis 22
Foyer / Entry Hall Design 26
Living Room Design 32
Dining Room Design 42
Guest Bathroom Design 47

SLEEPING AREAS 50
Bedroom Arrangements 51
Bedroom Design 54
Bathroom Design 62

KITCHEN AREA 69
Kitchen Design 70

UTILITY AREAS 92
Laundry Room Design 93
Garage Design 96

STAIRCASES 99
Types of Staircases 100
Design and Location of Staircases 101

Chapter 1

THE FIRST SKETCHES

FROM DIAGRAMS TO PLANS

Bubble diagrams are a helpful start for placing the different areas of a house in relationship with the orientation of the lot, the weather, the view, and how you can access the property. This first step will avoid any drastic modifications during the developement of the final floor plan.

The most used areas of the house should be kept fairly close as much as possible to avoid unnecessary steps. Living areas should be kept close to the kitchen area due to the high traffic volume. Sleeping areas should be kept as far as possible from the noisy parts of the house like the utility areas, and their access should be through a transitional space like a hallway to provide more privacy.

The following are bubble diagrams showing common traffic patterns between the different areas of a house. I have divided these into Living Areas, Kitchen Area, and Sleeping Areas. For the purpose of simplicity, I am not showing the utility areas. The width of the arrows represent the relative amount of traffic between the areas.

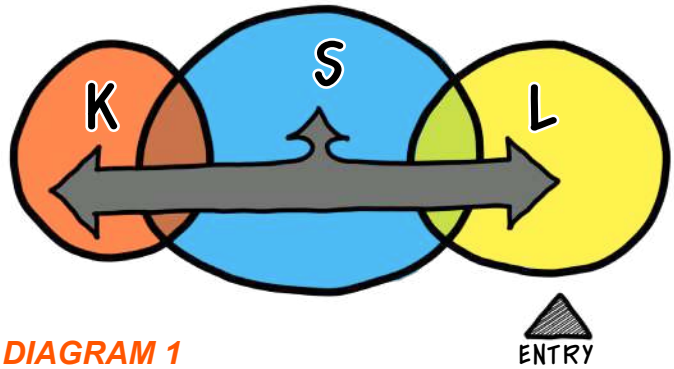


DIAGRAM 1

Not recommended. The traffic flow from the kitchen to the living areas is too far, and the location of the sleeping area in between creates problems of traffic, noise, and privacy.

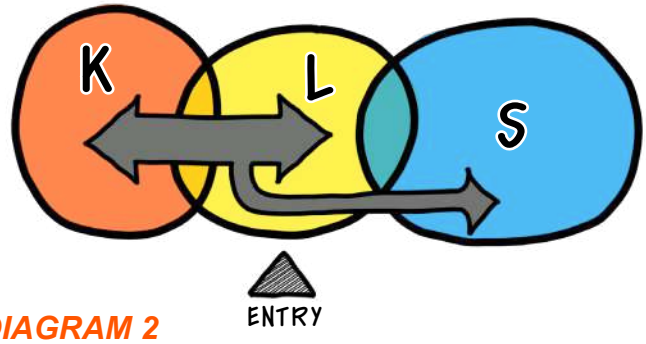


DIAGRAM 2

Acceptable traffic flow. This is an improvement of Diagram 1. By just swaping living and sleeping areas, the linear traffic flow improves considerably.

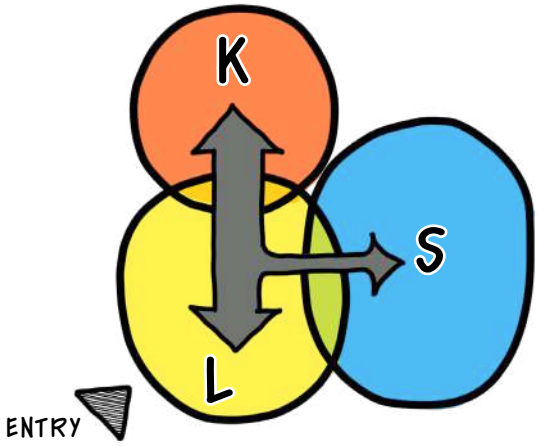


DIAGRAM 3

Efficient traffic flow. Sleeping areas are provided with privacy, and the resulting "L" shape generates a potential space for an outdoor area like a deck or patio.

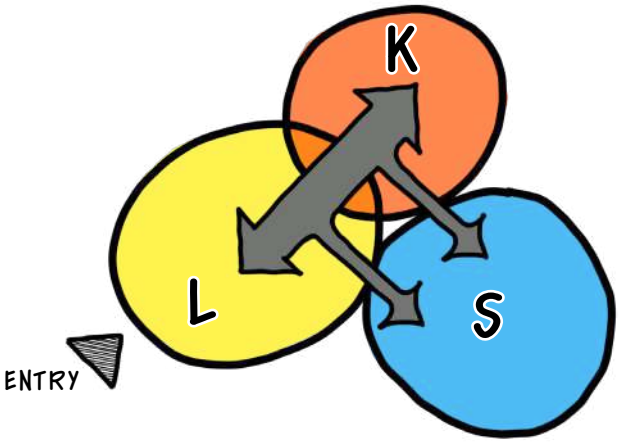


DIAGRAM 4

Very efficient traffic flow. As in Diagram 3, there is a strong connection between living and kitchen areas. The resulting “T” shape generates easy access to the sleeping areas.

FROM DIAGRAMS TO PLANS

There are several ways to arrange the different rooms in a house. The best way to approach this is by giving priority to the effcient use of the space and traffic flow. However, a particular client may request changes from the most efficient arrangement and may resist all logical argument. Always remember that a big part of the designer's job is to satisfy the needs of the client, but always make sure to communicate how these changes are going to impact their quality of life in the long run.

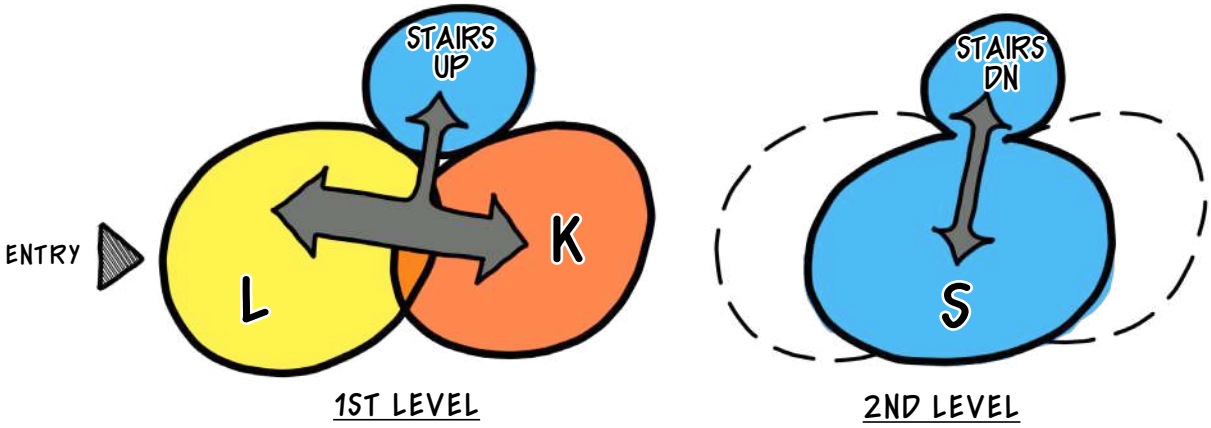


DIAGRAM 5

Traffic flow for a two-story house. The most used areas of the house, the living room and the kitchen, are located on the first level. The private areas are located on the second level. This diagram provides easy access to the stairs that are located between the living and kitchen areas.

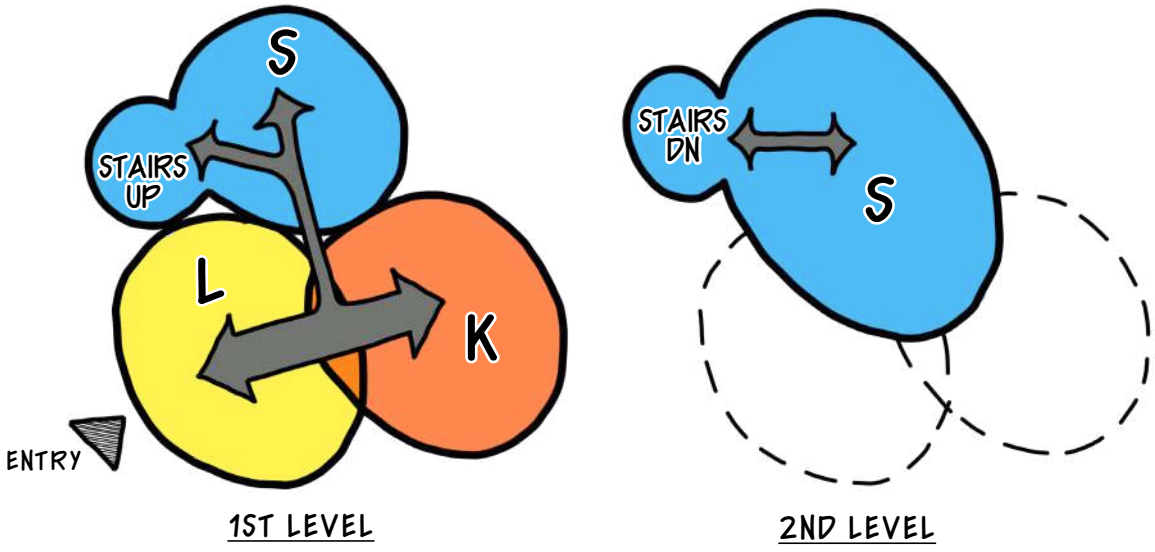


DIAGRAM 6

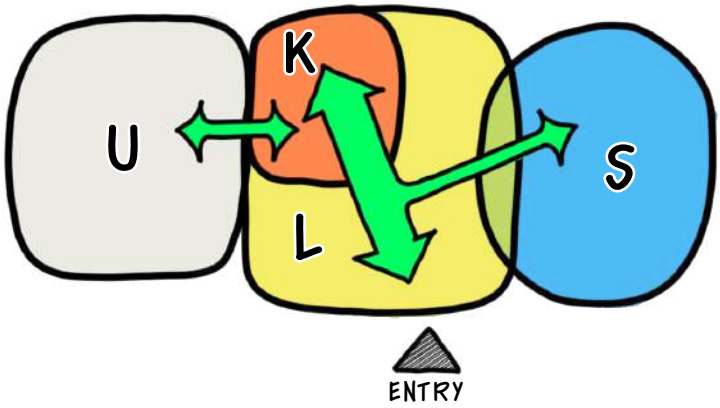
A variation of Diagram 5 with sleeping areas on the first level. The kitchen and living areas are close to each other, providing easy access to the sleeping areas and resulting in a "T" shape, similar to Diagram 4. The location of the stairs, next to the sleeping areas on both levels, provides privacy and good flow between the two levels.

FROM DIAGRAMS TO PLANS

The following is an example of how you can develop your first schematic floor plan. The process starts by drawing your bubble diagram and finishes with a schematic single-line floor plan. In this phase, you can also provide schematic elevations, sections, and all the sketches to help communicate your ideas and design intentions. It is important to make sure that you explain the "why" behind each design decision throughout the entire process.

BUBBLE DIAGRAM

We start by locating the living and kitchen areas close to each other. The sleeping and utility areas are placed on opposite sides, keeping the sleeping areas far from noises and with more privacy. The resulting shape is a linear arrangement.



SITE PLAN ANALYSIS

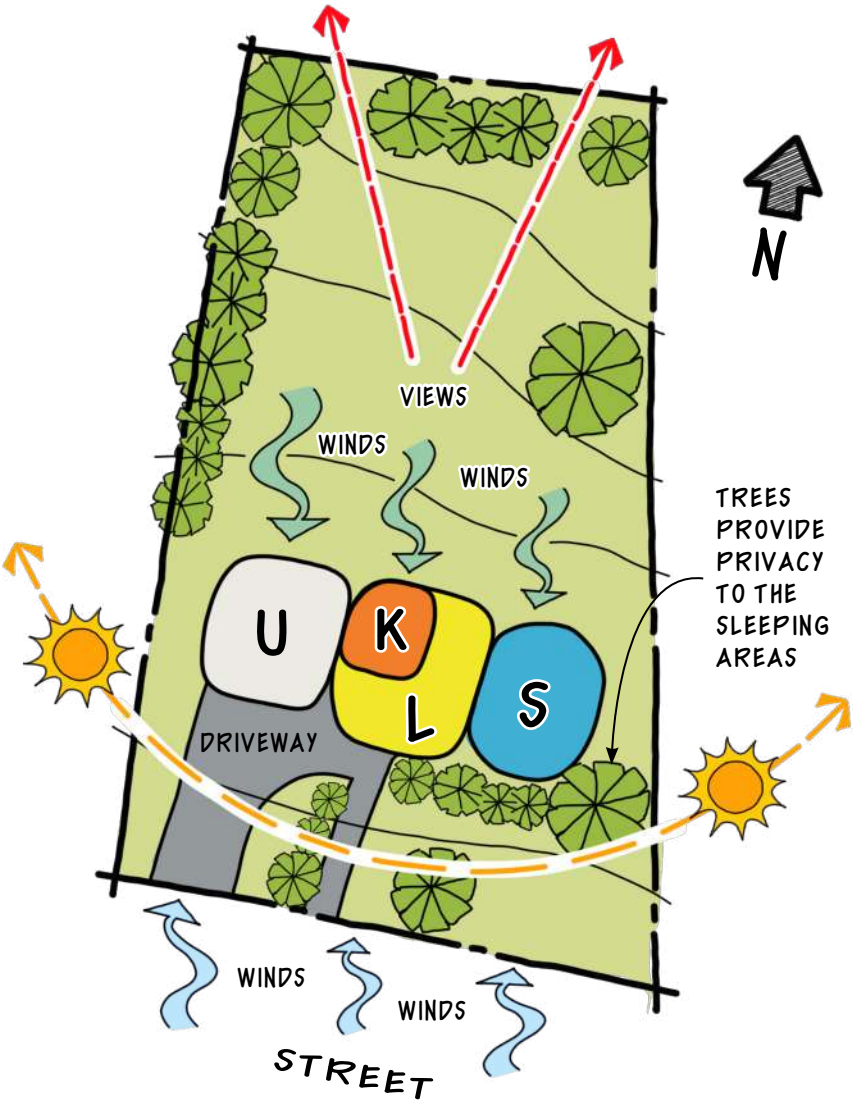
Based on the existing conditions of the site, we start locating our resulting bubble diagram.

The orientation of the lot, the existing climate conditions, the views, and the location of your neighbor's house are all crucial factors that can impact the final design.

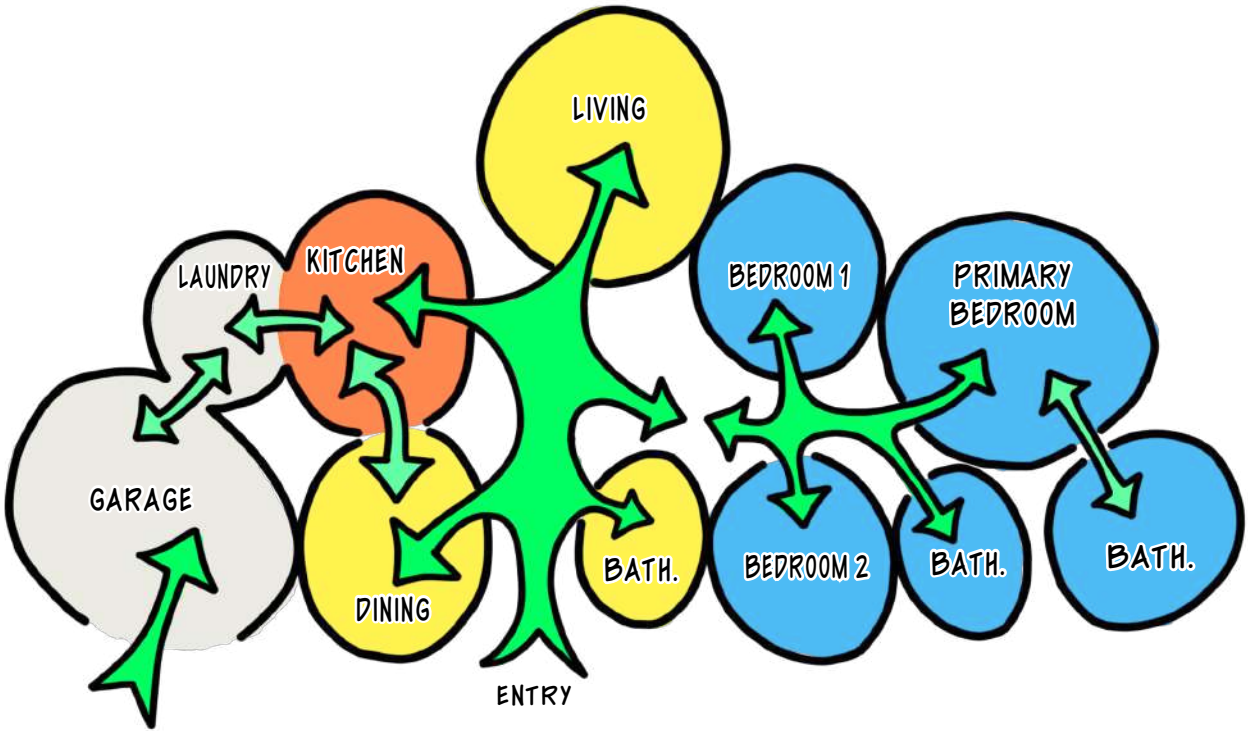
The linear arrangement oriented in the same direction of the sun path with minimal openings on west and east sides helps protect the house from the heat generated by the sun.

The arrangement also takes advantage of the winds coming from the south and north to provide cross ventilation through the narrowest side of the house.

The use of natural barriers like trees and shrubs helps control solar heat gain during the summer months and provides privacy to the sleeping areas facing the front of the lot.

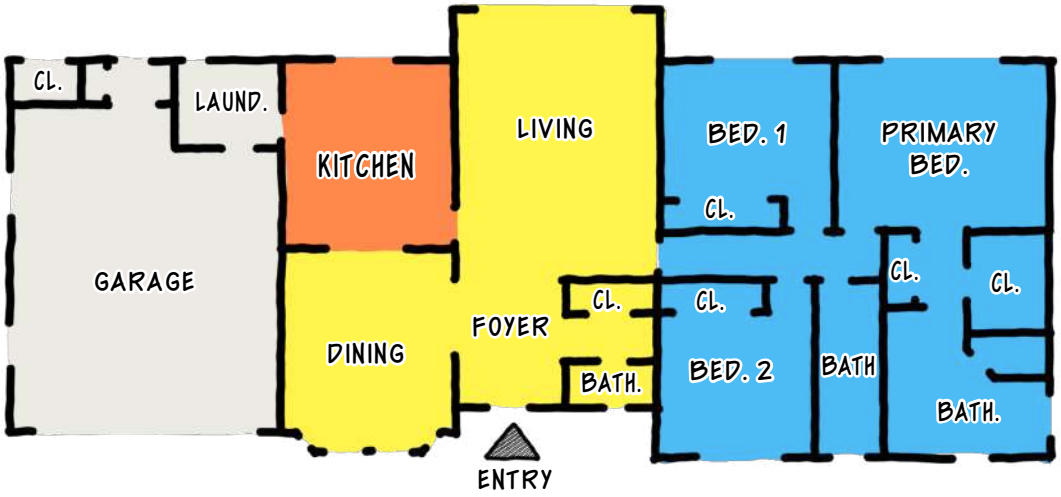


FROM DIAGRAMS TO PLANS



TRAFFIC DIAGRAM

Room-by-room traffic diagrams help to demonstrate the traffic patterns of the future residents of the house. This will become the basis for the first rough scale floor plan. The scale of the bubbles is not important in this phase.



SINGLE-LINE SCHEMATIC FLOOR PLAN

After you define the traffic pattern, you can start creating a single-line schematic floor plan to scale. The design process is a constant exchange of ideas, and a single-line-floor plan provides the flexibility to easily make changes to your drawing. After you define the schematic floor plan, you can start adding wall thickness and creating a more finished-looking floor plan to scale.

Chapter 2

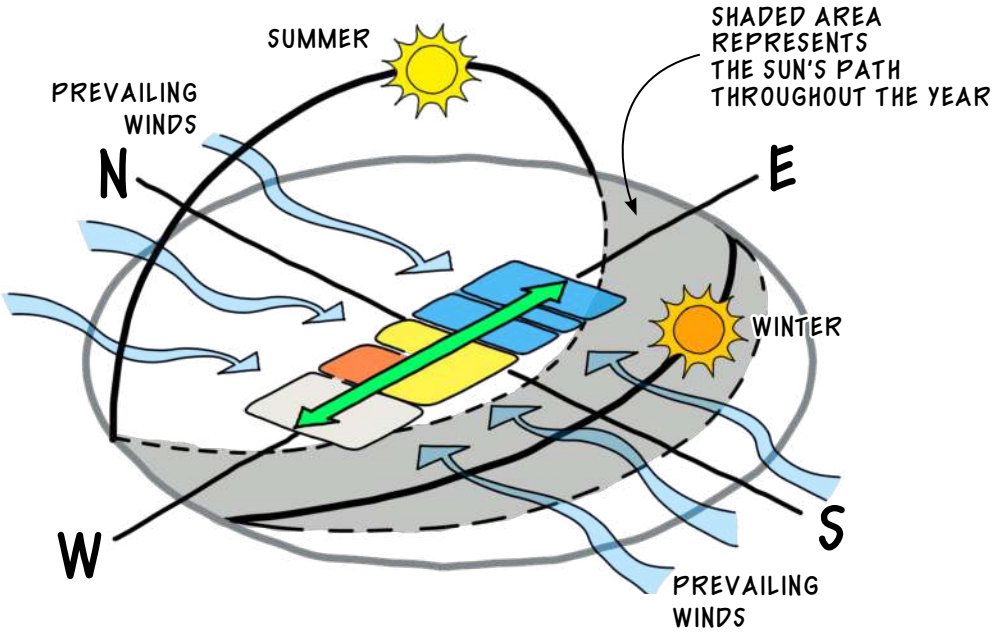
EXTERIOR DESIGN CONSIDERATIONS

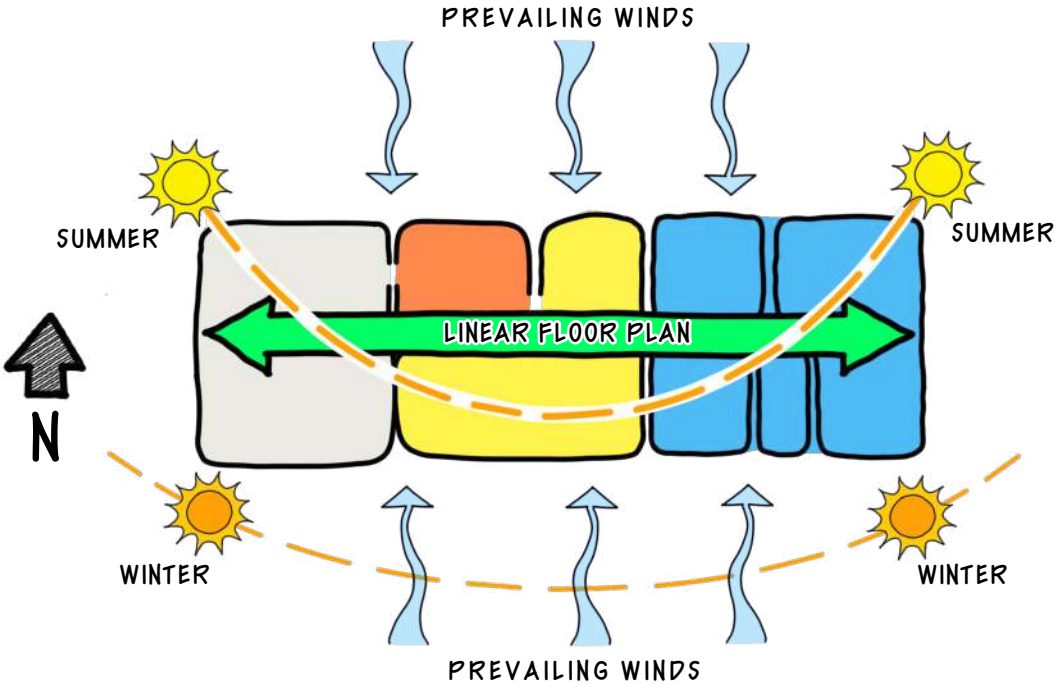
EXTERIOR ENVIRONMENT

One of the most common mistakes we make during the early stages of the design process is to just focus on developing the interior functionality of our design. There are several exterior environmental factors like the building orientation, the prevailing winds, and the sun path that can significantly impact the final exterior volumetric design of our project.

ORIENTATION

Orientation is the position of your house in relation to the path of the sun in different seasons and the prevailing wind patterns in your location. The concept is very simple; if you are located in a hot region, your house should be oriented to minimize solar gains, and the opposite is applicable for cold regions.



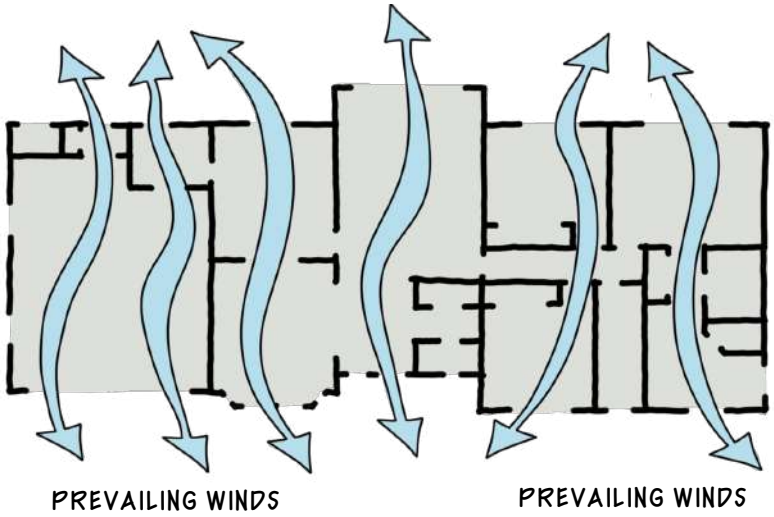


PREVAILING WINDS

Prevailing winds are the direction that the wind blows predominantly at a particular place or in a particular season. Wind direction, frequency, and speed can greatly impact the design of your house, including the exterior design, the shape of the floor plan, and the type of roof you want to use.

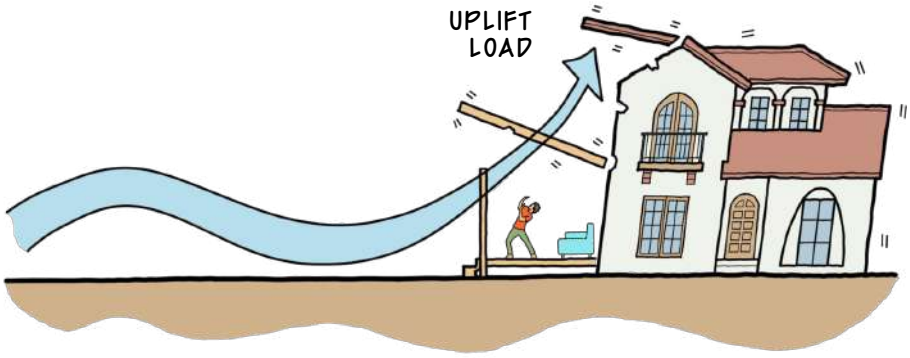
CROSS VENTILATION

In hot climates, a linear floor plan takes advantage of the winds coming from the south and north, generating a cross ventilation system and providing the necessary natural method of cooling.



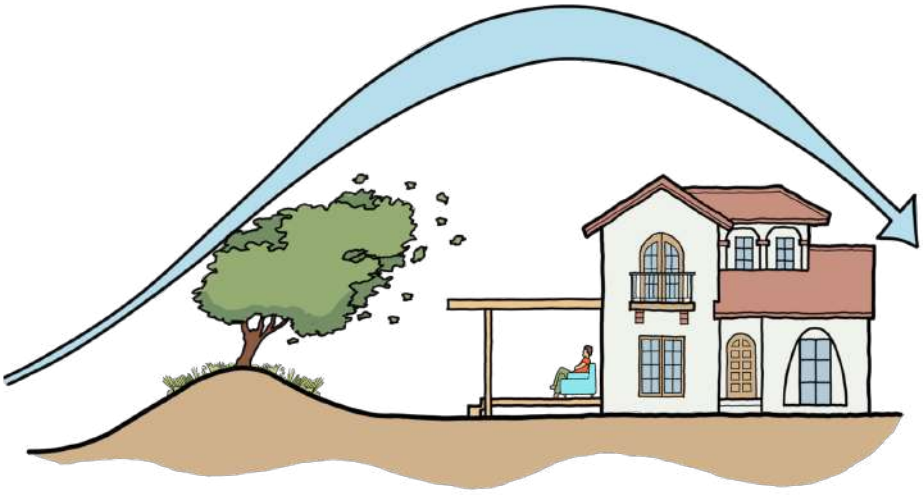
HIGH WIND REGIONS

Gable roofs with overhangs and patio covers are prone to damage from strong winds. Wind forces on a roof tend to be uplift. A strong connection between the roof structure, walls, and foundation is necessary to avoid damage to the house structure.

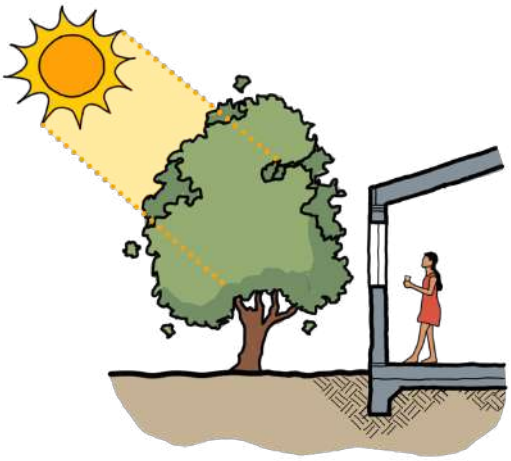


TREES AS NATURAL WIND BREAKS

The use of trees and vegetation combined with earth dunes serve as a natural windbreak, redirecting the wind over the house structure.

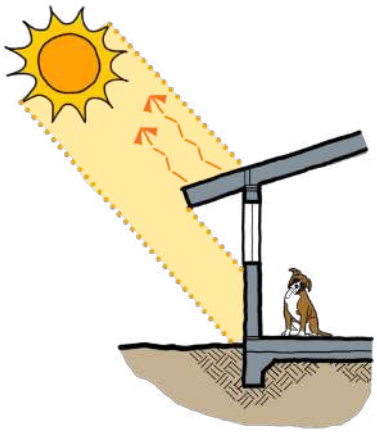


CONTROLLING SUN RADIATION AND HEAT GAIN



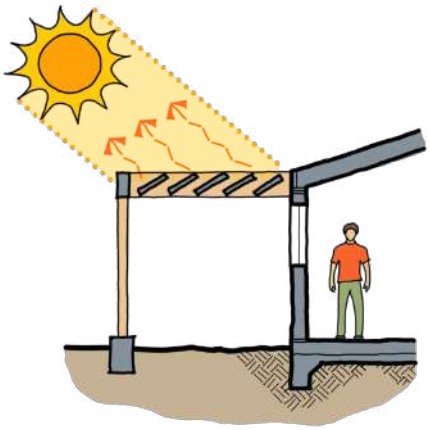
USE OF VEGETATION

Trees and vegetation provide many benefits controlling solar penetration. The shading that they offer helps make homes energy-efficient by creating a cooling effect during the hot summer months and allowing passive solar gain during cold winter months.



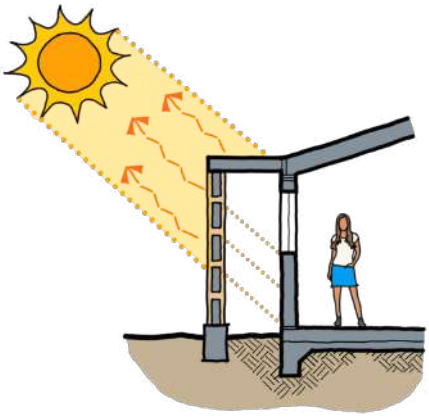
USE OF ROOF OVERHANGS

Sometimes we undervalue the importance of roof overhangs as a functional part of the design of a new house. They help to shade windows, controlling heat gain and sunlight during the summer months.



USE OF LOUVERED PERGOLAS OR AWNINGS

If a roof overhang is not possible, the addition of a horizontal awning or pergola over the window will provide the required shade for controlling heat gain during hot months.

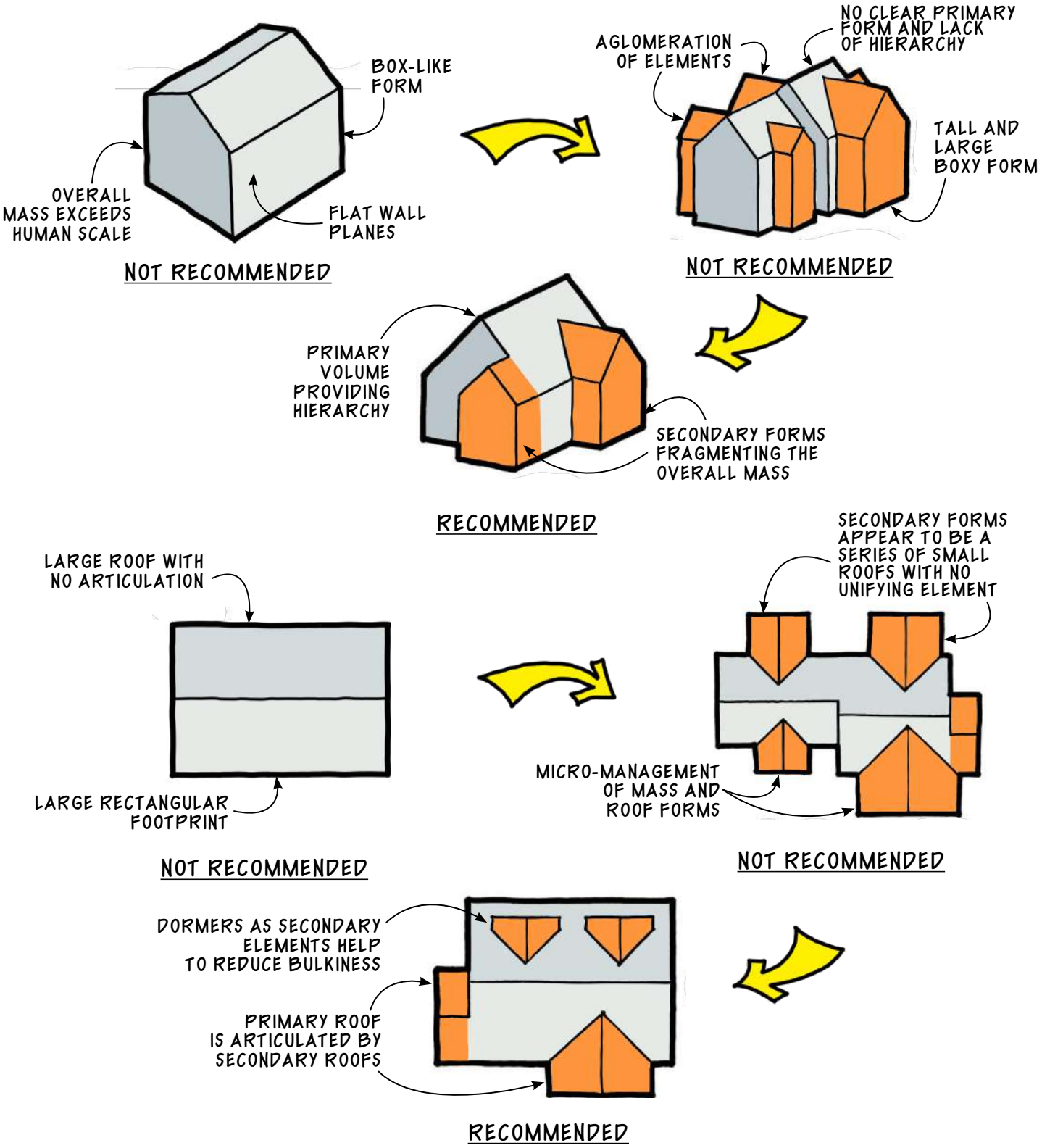


USE OF VERTICAL STRUCTURES

In some cases, the use of roof overhangs is not enough to provide the desired shading for large windows. The addition of vertical structures like timber batten screen walls or wood lattice screens helps to improve the control of heat gain.

MASS, SCALE, AND PROPORTIONS

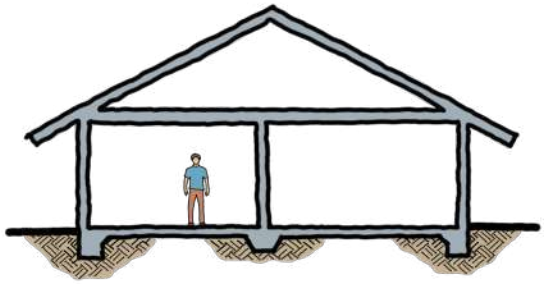
Managing the mass, scale, and proportions of a building is a fundamental design task that you must consider from the earliest part of the design process. As floor plans evolve, room sizes and arrangements will change to accommodate exterior requirements.



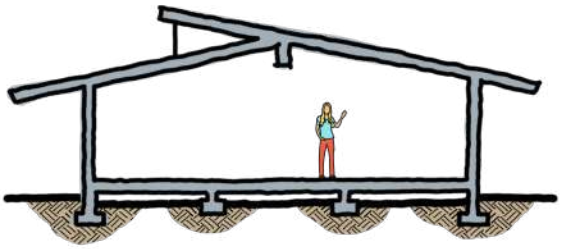
EXTERIOR DESIGN CONSIDERATIONS

TYPES OF ROOFS

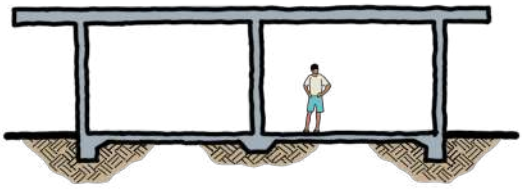
There are several types of roof shapes for a house, but the most used are gable, hip, and flat roofs.



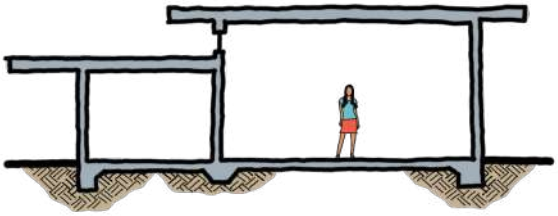
PITCHED ROOF GABLE OR HIP



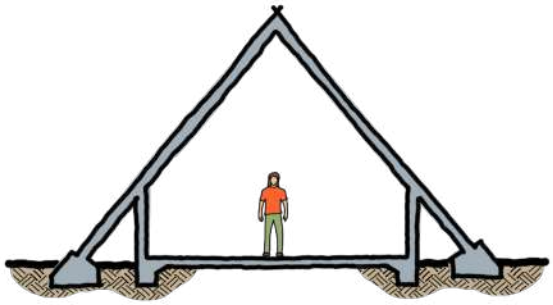
PITCHED ROOF WITH CLERESTORY



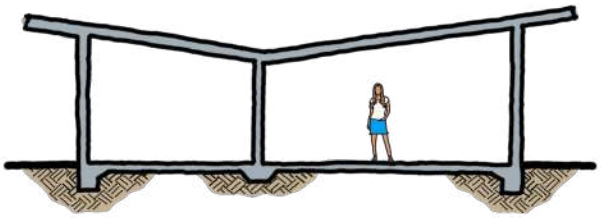
FLAT ROOF



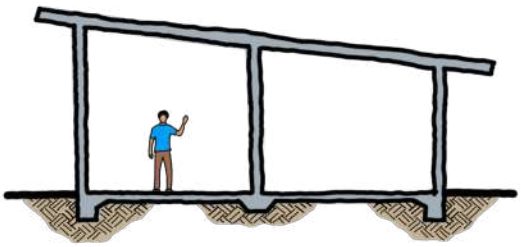
FLAT ROOF WITH CLERESTORY



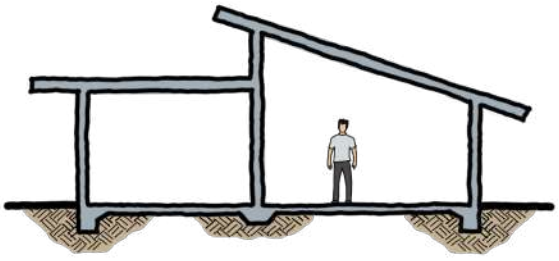
"A" FRAME ROOF



BUTTERFLY ROOF



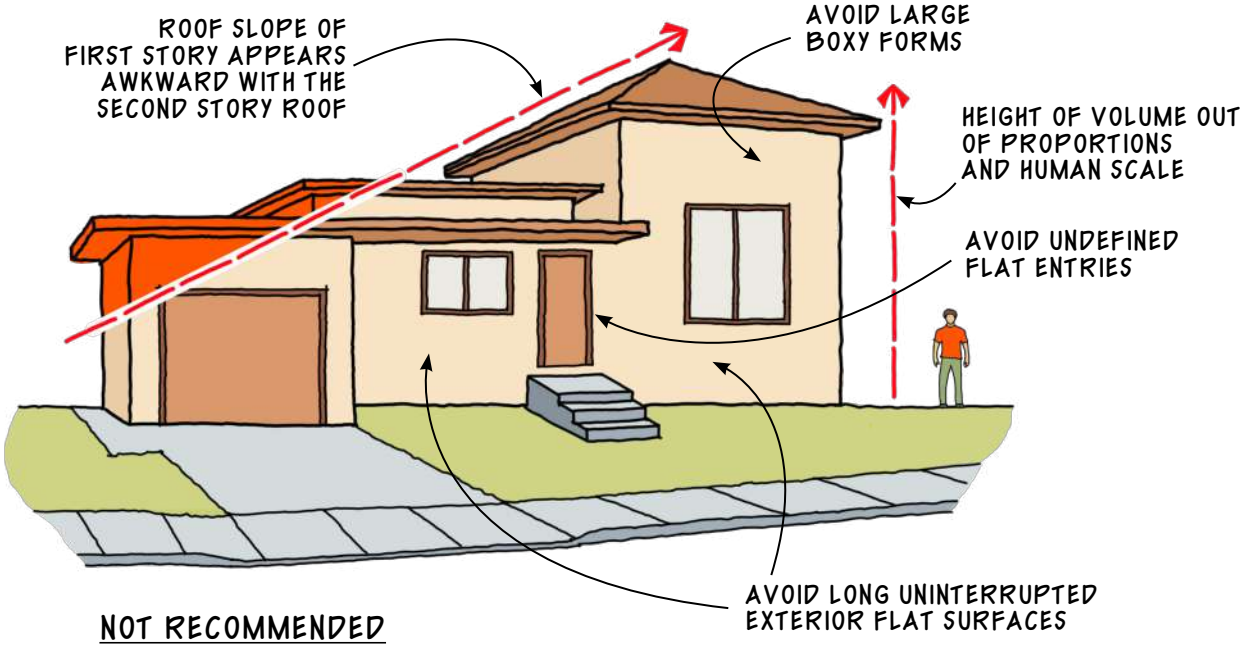
SHED ROOF



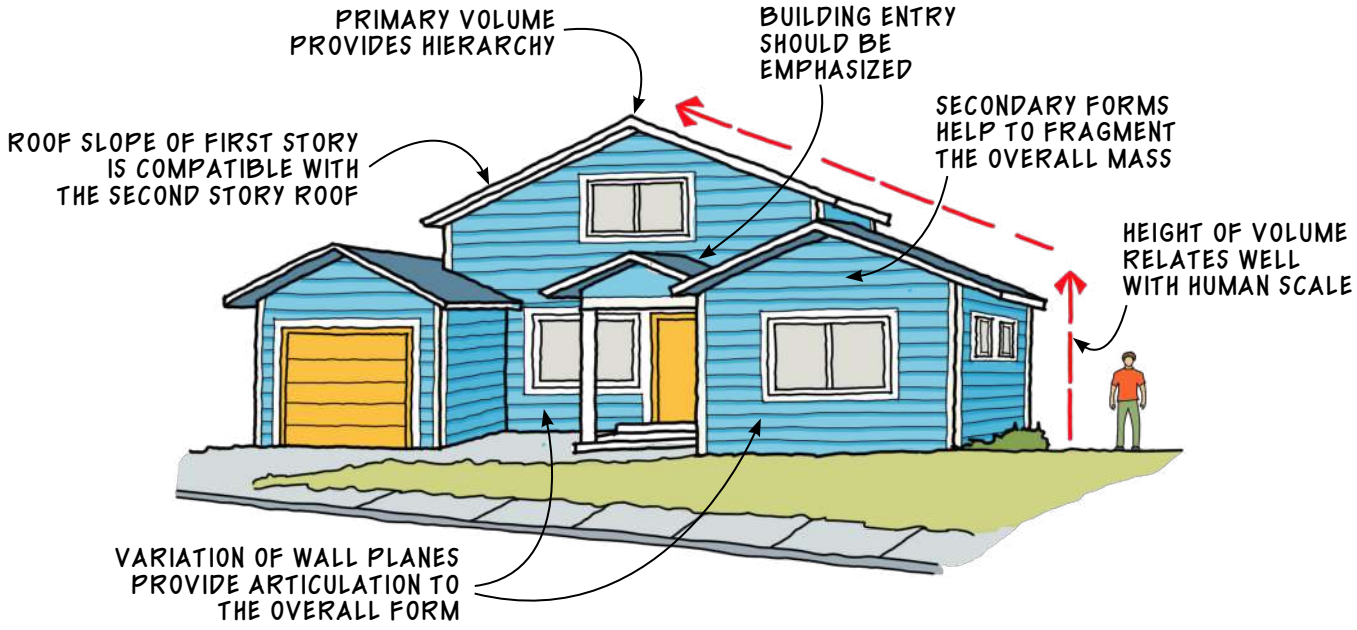
FLAT AND SHED ROOF

MASS, SCALE, AND PROPORTIONS

The construction of a new house can have a negative impact if mass and scale management are not taken into account. When designing the building, it is recommended to avoid long uninterrupted exterior surfaces lacking visual interest and that don't relate to human scale. Articulating the exterior wall planes, alternating different textures, and reinforcing the human scale with entry porches are some techniques that can help you to enhance the overall visual character of the building.



NOT RECOMMENDED

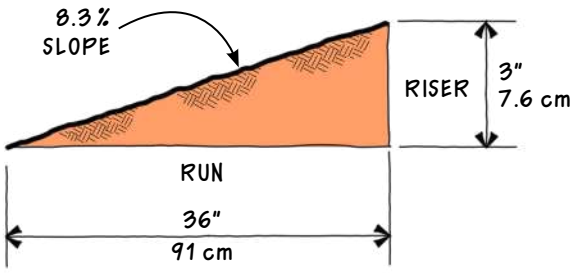


RECOMMENDED

GRADING AND HILLSIDE CONSTRUCTION

CALCULATING THE SLOPE PERCENTAGE

To calculate the percentage of a slope, convert the rise and run to the same units, and then divide the rise by the run. Multiply the result by 100 and you obtain the percentage slope. This example uses inches and centimeters.



USING IMPERIAL UNITS:

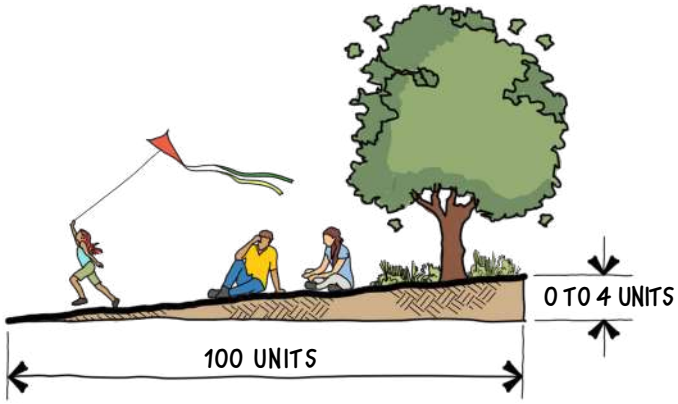
$$\text{SLOPE} = \frac{3"}{36"} = 0.083 \times 100 = 8.3\,\%$$

USING DECIMAL UNITS:

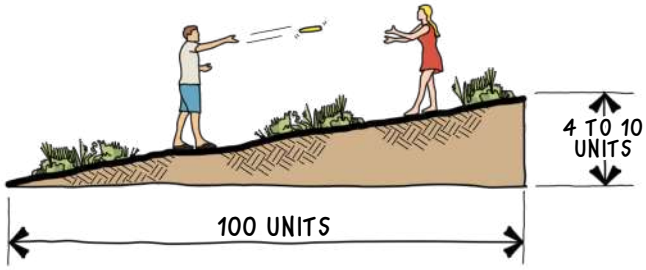
$$\text{SLOPE} = \frac{7.6\text{cm}}{91\text{cm}} = 0.083 \times 100 = 8.3\,\%$$

GENERAL RULES OF GRADING

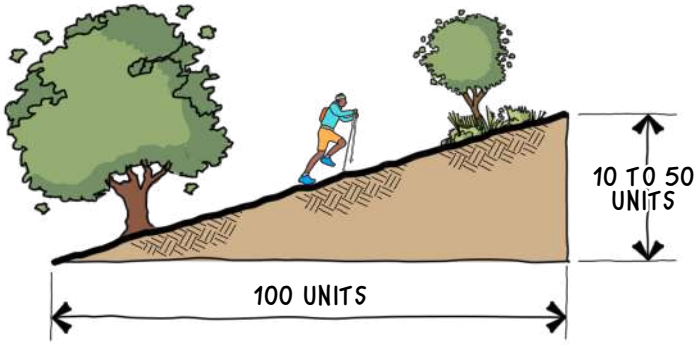
Grading is the work associated with moving portions of the earth to make a site level or create a site with a specified slope. Ground slope is important in determining how the site can be used.



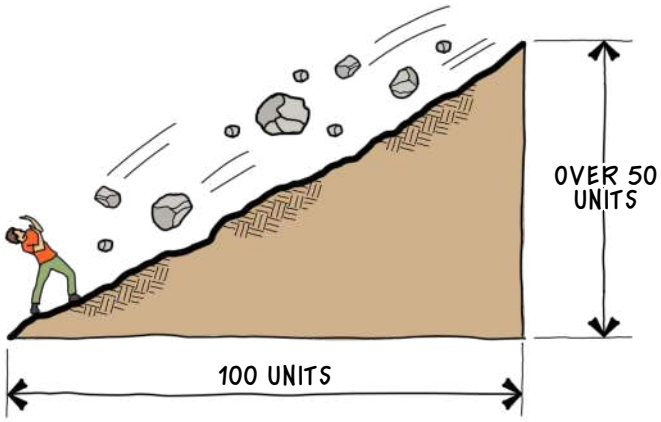
FLAT
LESS THAN 4 % SLOPE
SUITABLE FOR ALL ACTIVITIES



MODERATE SLOPE
BETWEEN 4 % AND 10 % SLOPE
INFORMAL ACTIVITIES



STEEP SLOPE
BETWEEN 10 % AND 50 % SLOPE
LIMITED ACTIVITIES

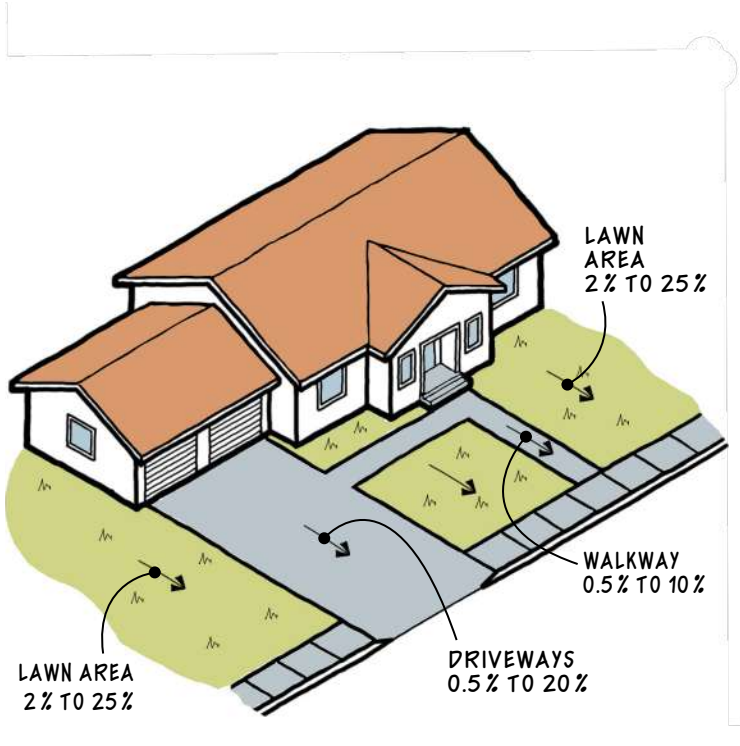


VERY STEEP SLOPE
OVER 50 % SLOPE
SUBJECT TO SOIL EROSION AND COLLAPSE

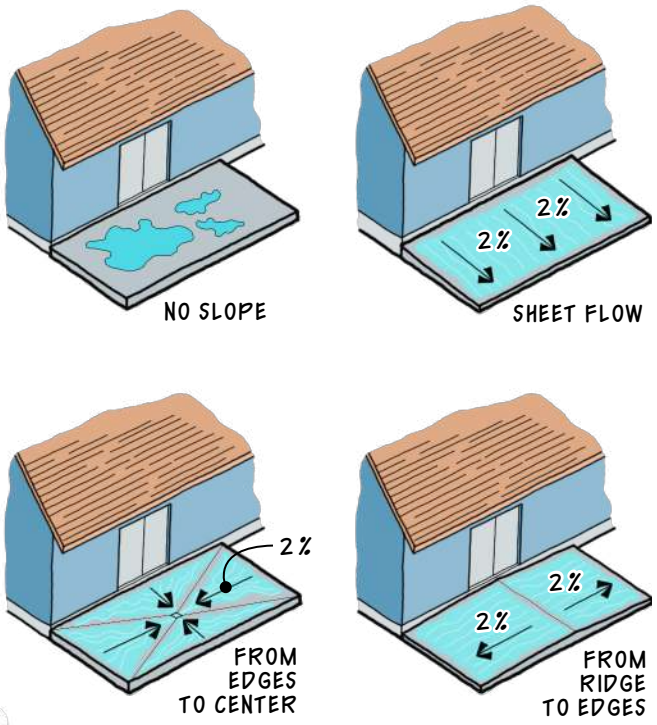
GRADING AND DRAINAGE

Surface drainage relies on gravity and the ability of water to efficiently flow and discharge towards the desired areas. The table below shows the maximum and minimum recommended slopes per type of surface and material.

	Max	Min	Recommended
Driveways			
- Longitudinal	20%	0.5%	1% to 10%
- Cross Slope	10%	0.5%	1% to 3%
Walks			
- Longitudinal	10%	0.5%	1% to 5%
- Cross Slope	4%	1%	2%
Patios			
- Concrete	2%	0.5%	1%
- Flagstone or Brick Pavers	2%	0.75%	1%
Greenspace			
- Lawn Areas	25%	2%	Varies
- Planted Slopes	30%	2%	Varies



SLOPES AND DRAINAGE FOR DRIVEWAYS, WALKS AND, GREEN SPACES



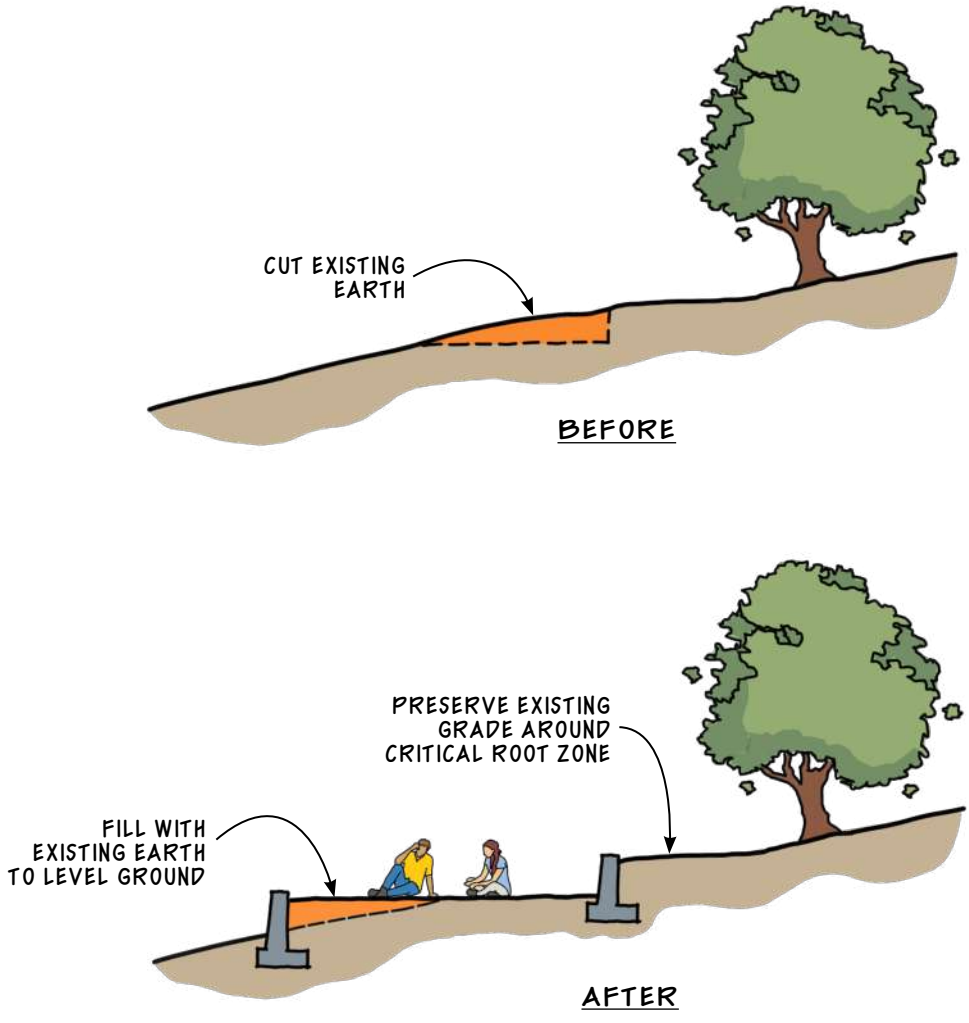
SLOPES AND DRAINAGE FOR IMPERMEABLE PAVING SYSTEMS

CUT AND FILL

Cut and fill is the process of moving earth from one place to another to make ground more level. Cut refers to the earth removed from an area, and fill refers to the earth brought into an area. To avoid needing to fill in or remove the excess mass, the cut and fill process should be planned in a way to keep both the cut and fill masses approximately equal.

Extensive cut and fill operations are expensive, generate extensive earth moving, promote the use of large retaining walls, and require soil stabilization. Consider using concrete piers in some areas, stepping floor levels to follow the natural grade, and setting a portion of the structure into the hillside. Using the slope to your advantage is less expensive and minimizes grading on hillsides.

Grade change devices like retaining walls help to level out sloped areas to provide space for construction or recreation.



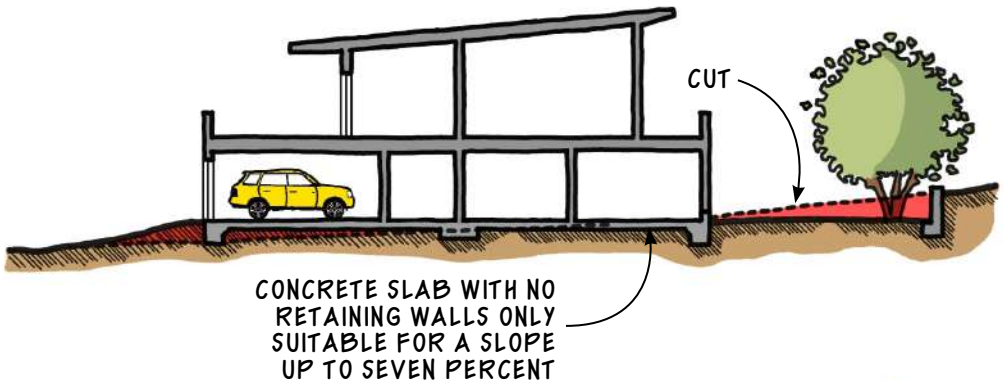
COST OF BUILDING ON HILLSIDES

Sloping sites usually offer the best views and unique opportunities for architectural design, but always make sure to consider cost vs benefits. Building on a steep hillside is not easy, sometimes expensive, and requires a certain level of expertise compared to building on a flat site.

GENTLE SLOPE

Less than 10%
Least expensive to build.

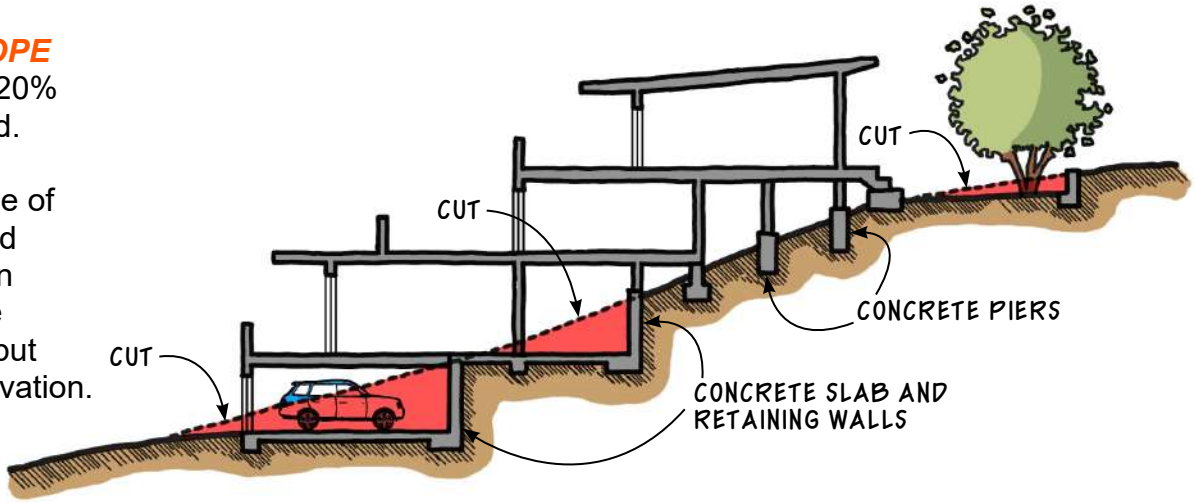
Concrete slab on grade is the least expensive option for gentle slopes. More than 7% requires the use of a raised foundation.



MODERATE SLOPE

Between 10% to 20%
Expensive to build.

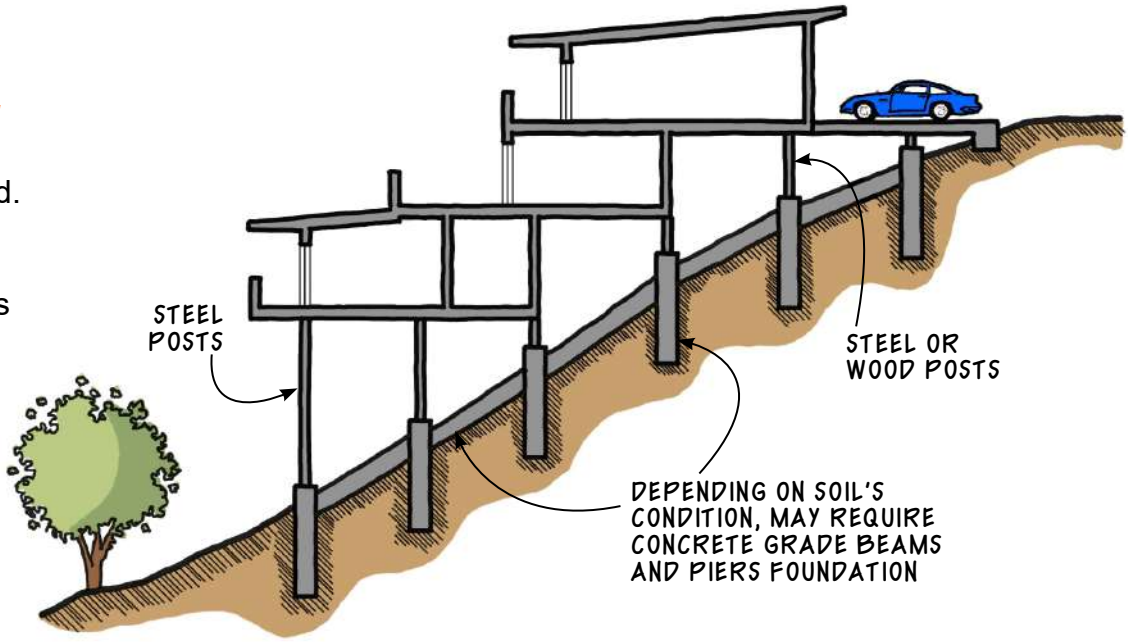
Combining the use of retaining walls and concrete piers can prevent extensive earth movement but still requires excavation.



VERY STEEP SLOPE

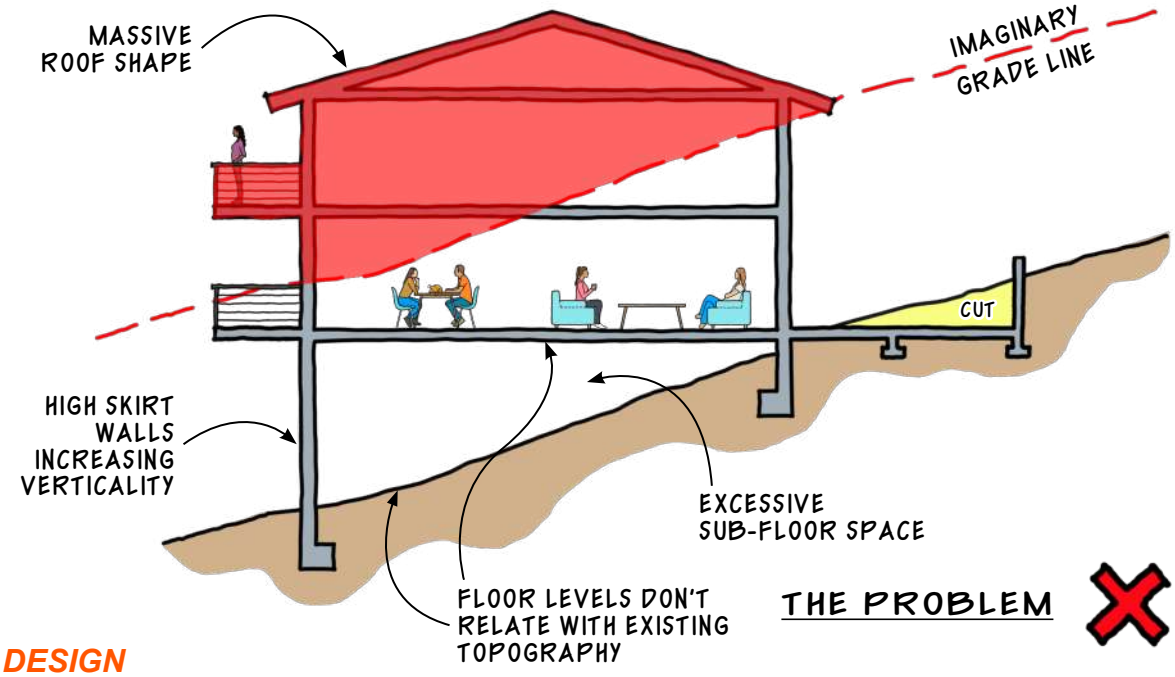
Above 20%
Very expensive to build.

The use of concrete piers and grade beams avoid extensive earth work, but it requires a skilled structural engineer to design and build to ensure safety and flood protection.



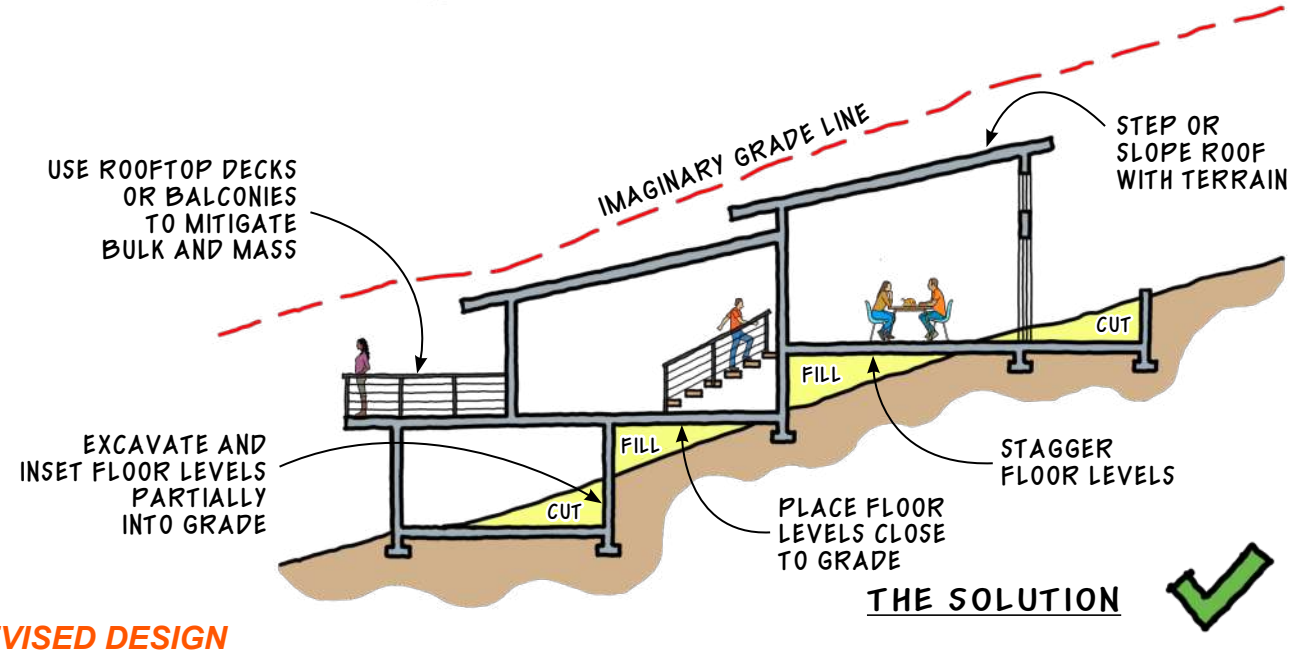
DESIGN CONSIDERATIONS ON HILLSIDES

Appropriate design on a sloped lot includes stepping the building massing with the terrain, breaking it into multiple volumes, and avoiding large rectangular footprints with poor proportions.



INITIAL DESIGN

The initial design does not blend well with the hillside, and the high skirt wall, used for supporting the house, emphasizes its prominence. The overscaled roof shape does not relate to the existing terrain and increases the mass of the proposed building, making it look monolithic and out of proportion.



REVISED DESIGN

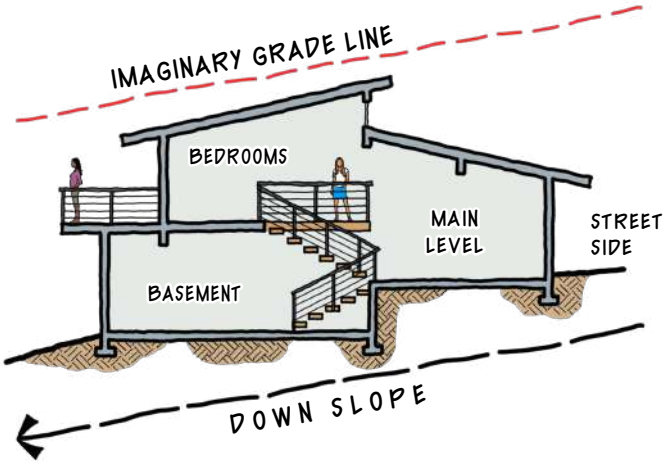
The revised design steps the rooflines with the slope to blend with the existing terrain. The floor levels are placed close and partially inset into the grade to avoid the need of a skirt wall to support the house. The cut and fill process keeps both masses approximately equal, avoiding unecessary earth work.

MULTIPLE LEVEL HOUSE ARRANGEMENTS

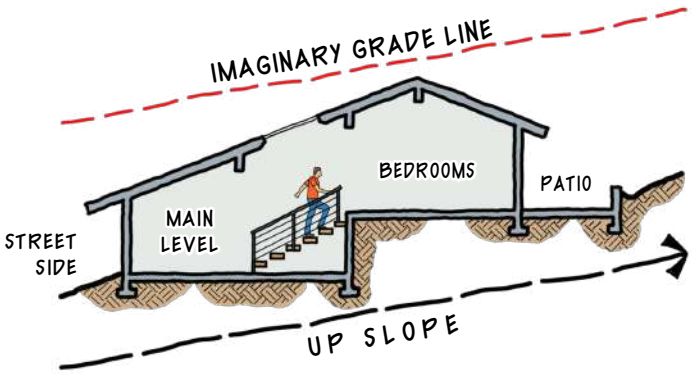
Stepping floor levels to follow the natural grade minimizes large scale earth-work and helps control the bulk and mass of the building. Split-level house designs are an alternative solution to divide the living spaces into multiple levels.

Split-level homes are typically divided into two or three different levels with a living room, kitchen, and dining on the main floor, bedrooms and bathrooms on the upper floor, and the den or garage in the basement area.

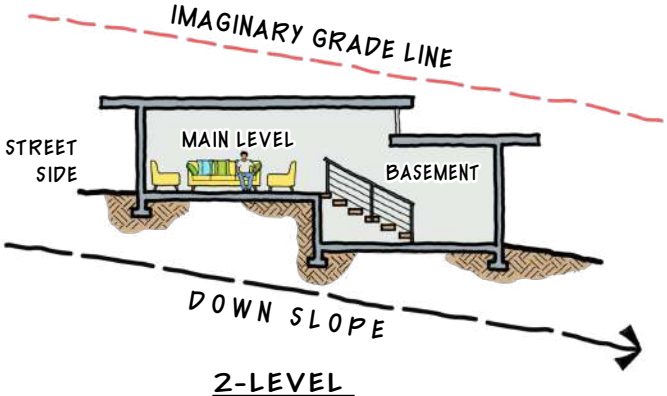
The main disadvantage of split-level homes are the stairs that can be a challenge for people with mobility issues. For new families, blocking stairways becomes an issue in a home with crawling babies or kids not yet ready for staircases. However, split level homes separate the living, active areas of the home from the sleeping areas, which provides more privacy and quietness.



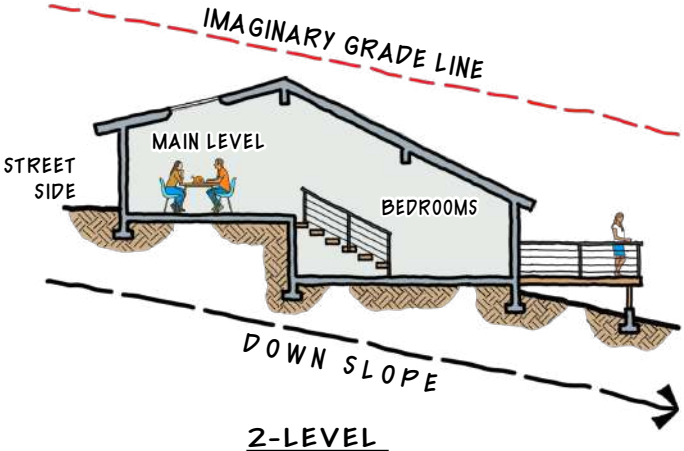
3-LEVEL DOWNSLOPE HOUSE



2-LEVEL UPSLOPE HOUSE



2-LEVEL DOWNSLOPE HOUSE



2-LEVEL DOWNSLOPE HOUSE

HOUSE STYLES IN NORTH AMERICA



PRAIRIE SCHOOL

Charcterized by its horizontal lines, hip and flat roofs, and large overhangs, this style became common in the Midwestern US between 1900 and 1915.



AMERICAN CRAFTSMAN

Inspired by the British Arts and Craft movement, this became one of the most popular house styles in the US between 1900 and 1929.



TUDOR REVIVAL

Inspired by the English Tudor style, these houses became popular in North America between 1910 and 1940.



MEDITERRANEAN

Resmbling the aesthetics of Mediterranean villas, this style became popular in warm weather locations like Florida and Califronia between 1918 and 1940.



RANCH

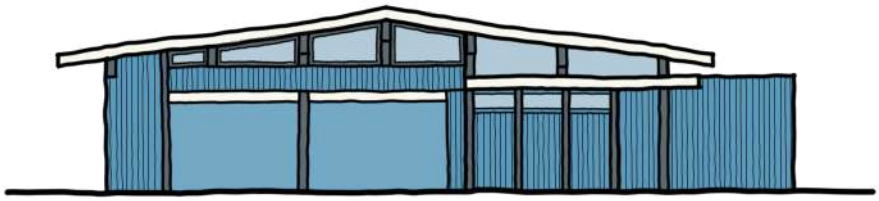
Originally from California, this style became popular in most suburban areas of North America after World War II, between 1945 and 1970.

HOUSE STYLES IN NORTH AMERICA



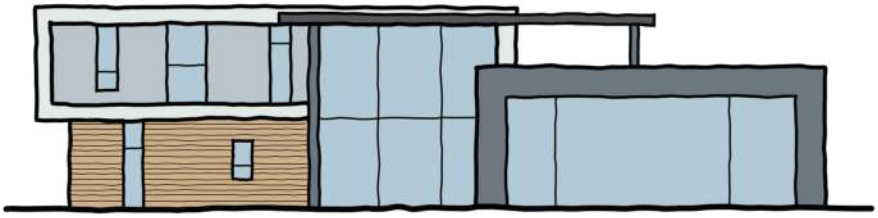
MODERN FARMHOUSE

This style appeared in the late 90s, replicating the cozy feel of early American farmhouses and utilizing sleek clean lines to add contrast to the final design.



EICHLER

These types of houses were built between 1949 and 1966 in California. The name comes from Joseph Eichler, a real estate developer who comissioned these type of houses for middle-class Americans.



CONTEMPORARY

This refers to a style that evolves to reflect the architecture of today. Most contemporary designs take a lot of characteristics from modern design, emphasizing clean and simple lines.

Chapter 3

LIVING AREAS

GENERAL ANALYSIS

The living areas are the social core of a house where most of the interaction between the members of a social group happens. These groups can include family units of all kinds, roommates, and their guests. It's a place where you get together, eat, entertain your guests, or just relax. These areas include the foyer or entry, the living room, and the dining room.

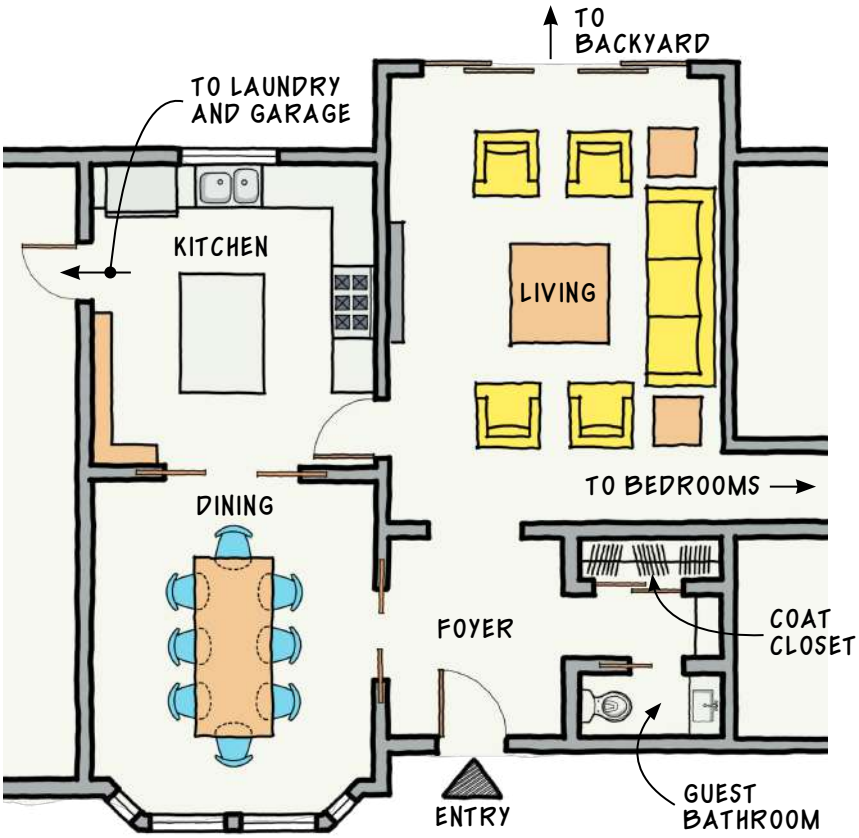
The transition between these spaces should be flawless so that a person is able to move from one place to another without any obstacles. In the following examples, I am also including the kitchen area in some of these drawings, as it is strongly related to the dining room and living room areas.

DESIGN 1

In this typical arrangement, you can clearly identify four formal areas divided by partition walls: a foyer with a guest bathroom and coat closet, a large living room, a kitchen, and a formal dining room.

All the formal rooms are connected through openings where size depends on the amount of traffic required to go from room to room. This traditional layout maintains the home classic style.

Formal enclosed spaces provide privacy and coziness to each room. Sound and temperature are also easier to control, and the high number of walls allows you to decorate the space with art and more furniture.



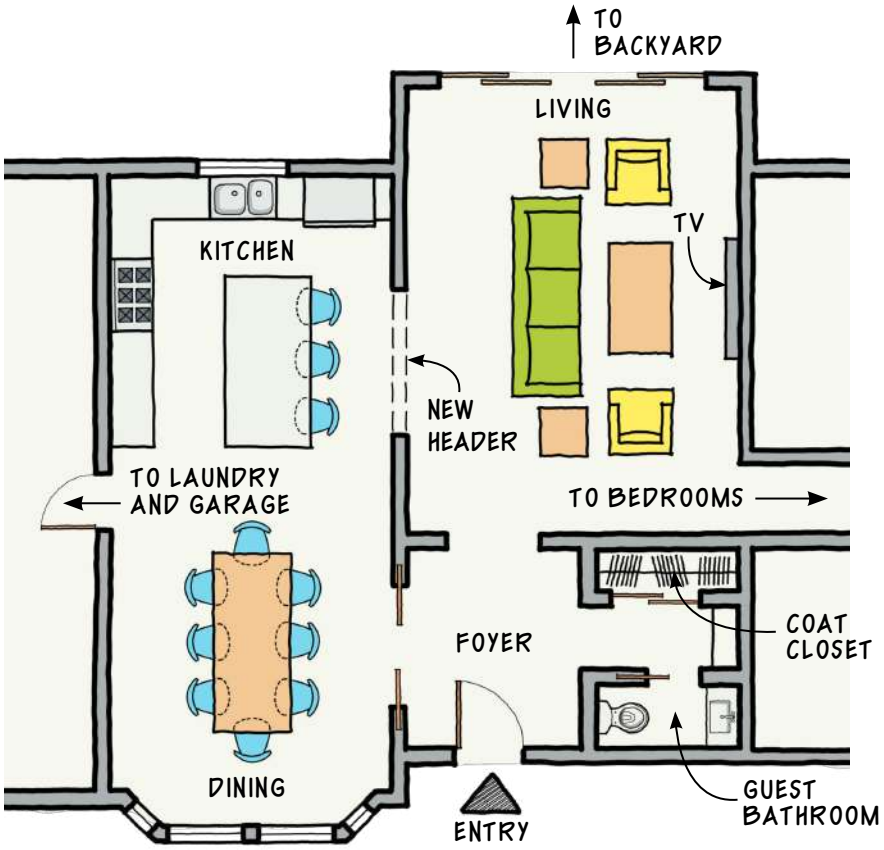
GENERAL ANALYSIS

DESIGN 2

The enlargement of the openings emphasizes the visual connection between rooms without losing the sense of separation between them.

The kitchen and dining area share a common space, but the location of the kitchen island defines the two spaces.

The sliding doors in the dining room provide privacy to the space and flexibility for access to the guest bathroom via the foyer area.

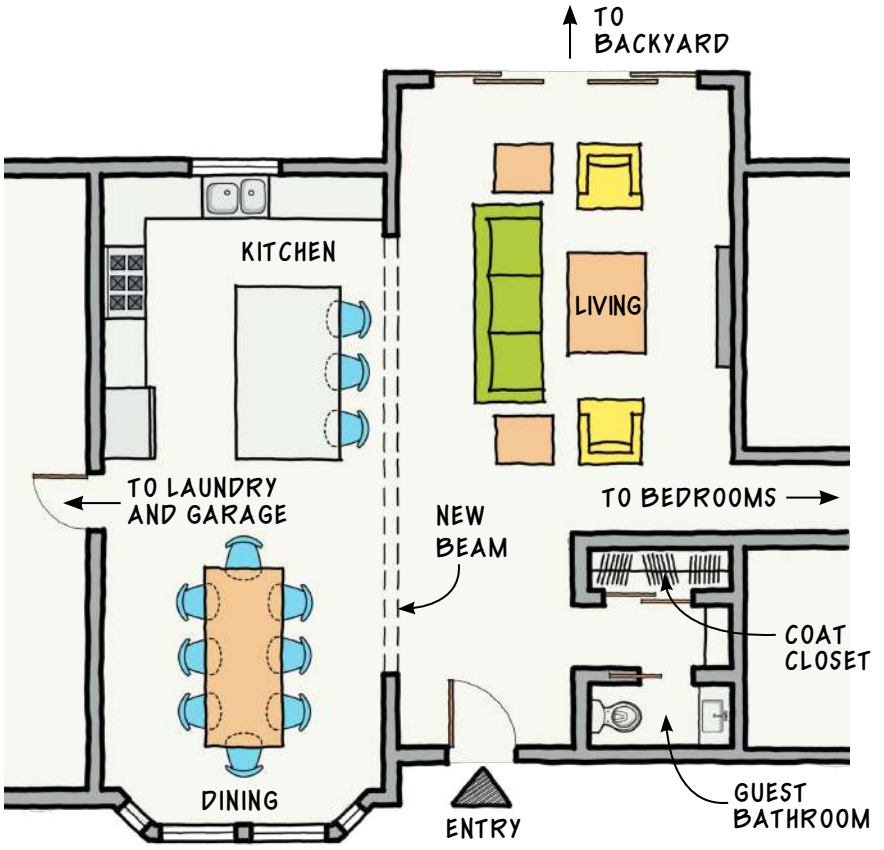


DESIGN 3

The removal of the existing partition walls provides a better traffic flow between the spaces and more flexibility to accommodate furniture. You can easily convert the dining room into a living room and vice versa.

On the downside, open floor plans don't provide a sense of privacy, and the spaces are visually hard to control and define.

Because of the removal of load bearing walls, a structural beam may be required to support the ceiling and roof structure, which could increase the cost of the project.



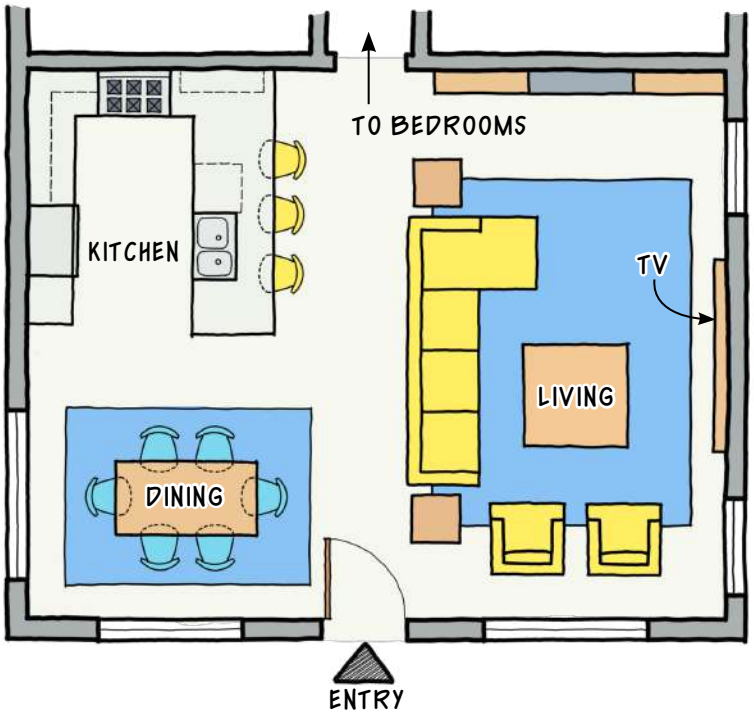
GENERAL ANALYSIS

DESIGN 4

The compact version of the open floor plan. The front door opens directly to the living areas with no transitional space.

To control the space of this open layout, the furniture and the placement of rugs help define the dining room and living room areas.

You can find this type of compact layout in small houses and apartment buildings.

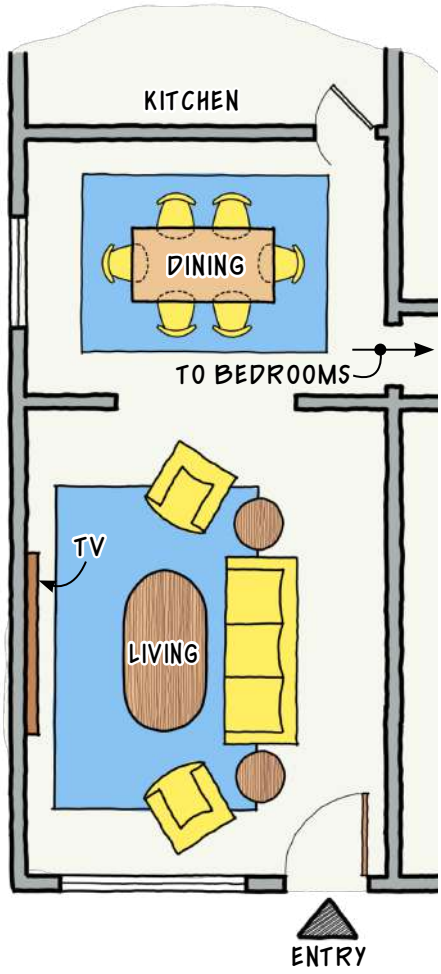


DESIGN 5

The compact version of a typical closed floor plan.

An opening creates a virtual connection between the living room and dining room, generating two formal spaces.

A door connects the kitchen with the dining room, creating a sense of privacy.

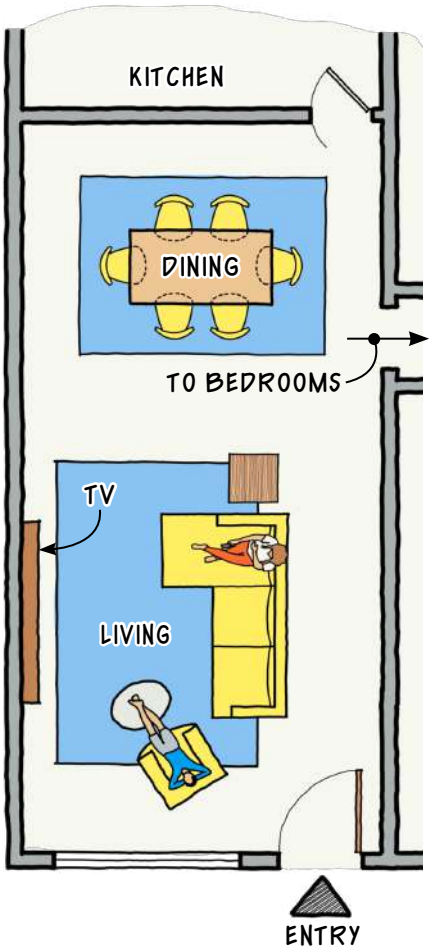


DESIGN 6

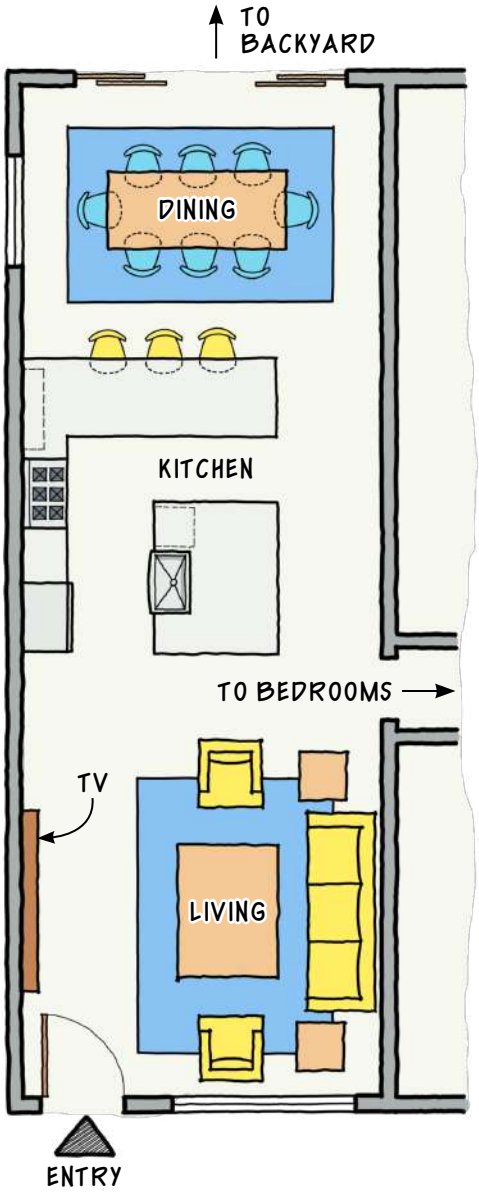
One single space shared by living room and dining room.

As in design 4, the furniture and rugs help define the two spaces.

As in design 5, a door connects the kitchen with the dining room, creating a sense of privacy.



GENERAL ANALYSIS

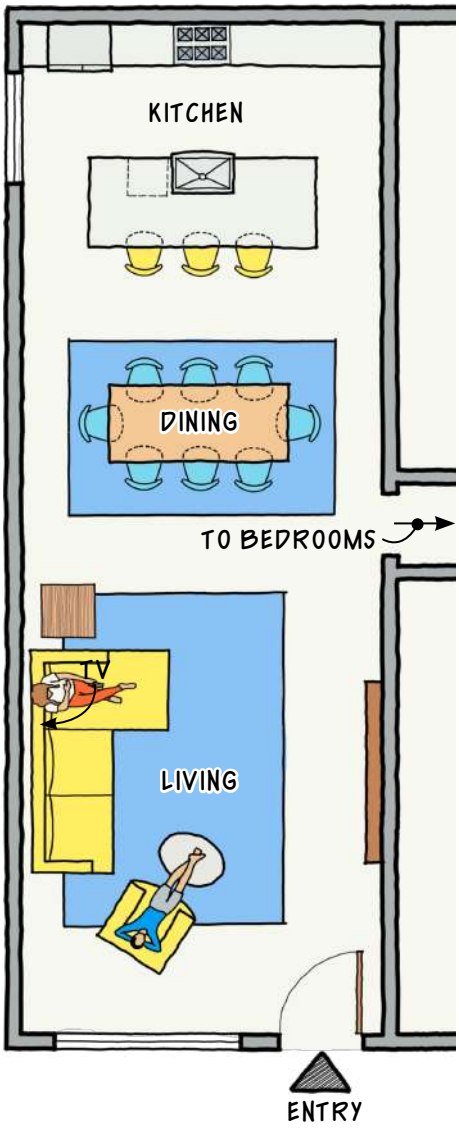


DESIGN 7

Elongated version of the open floor plan.

The location of the kitchen in the middle of the space creates a partial separation between the living room and dining room.

The addition of a large opening at the back provides plenty of natural light.



DESIGN 8

The same space as in design 7 but with the kitchen at the end of the space.

The placement of the furniture in the living room emphasizes a linear traffic path on one side of the room.

The location of the kitchen limits the number of doors and windows.

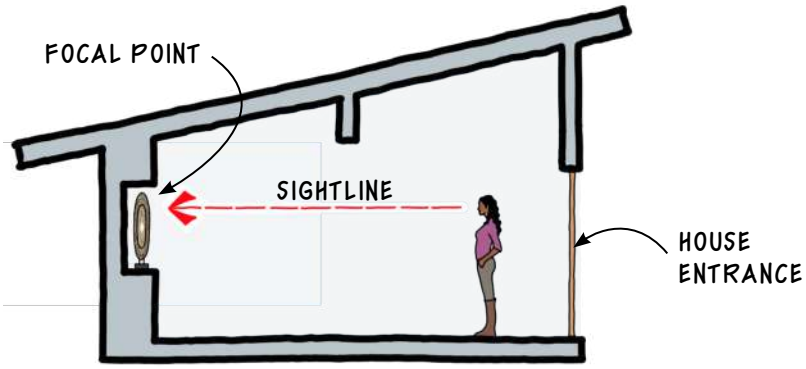
FOYER / ENTRY HALL DESIGN

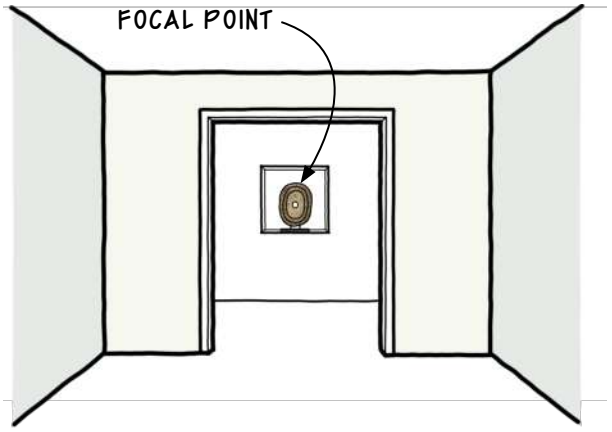
A foyer is a small transitional area that connects the home entrance with the rest of the interior. It is the first space you see when you walk into a home, and it is where you greet your guests. Originally, "foyer" was a French term used to refer to a space where actors waited when they were not on stage.

Foyers are sometimes provided with a small closet where you can store coats and jackets, umbrellas, boots, and dog-walking supplies. If large enough, the space may also serve to place a small bench or table as a decorative piece or to drop your mail and packages. As it is the first space when you enter your house, a foyer should feel welcoming.

FOYER SIGHTLINES AND FOCAL POINTS

One of the most fascinating things during the design process, is that you can control what you see from any given point in the home. Imagine opening the front door of your house and having a series of points of interest that draw your eyes along the travel route within the house. Sightlines and focal points can make a significant impact on how you sense the space in your house.





SIGHTLINE

A sightline is an unobstructed imaginary straight line extending from your eye to the objects or areas you see. Great sightlines lead your eyes to multiple points of interest.

FOCAL POINT

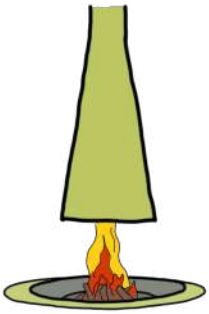
A focal point is an area in a room that immediately captures the viewer's attention. Symmetry and the use of an architectural feature combined with textures and colors helps to emphasize that specific area.

FIREPLACES AS FOCAL POINTS

Fireplaces are mainly used as a source of heat to warm a space in your home. Nowadays, with the conveniences of modern heating systems, the necessity fireplaces has become, in some cases, almost obsolete. However, that hasn't stopped their use as the main focal point of a living room.



OPEN HEARTH



HUNG FROM ROOF



PREWAY



GAS STOVE



WOOD BURNING STOVE



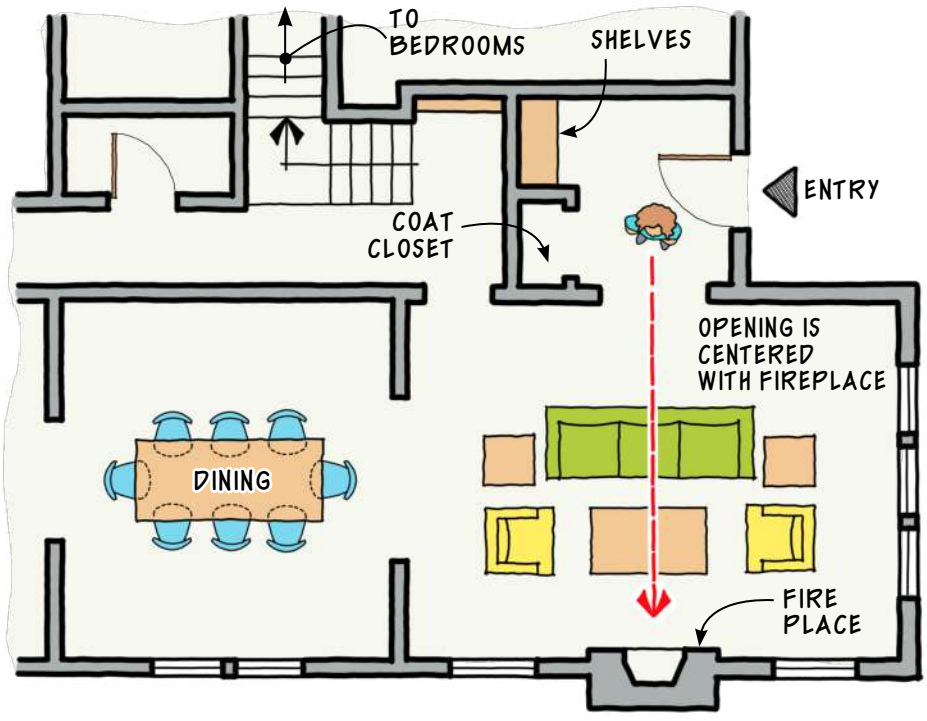
CORNER

CHIMNEY AS FOCAL POINT

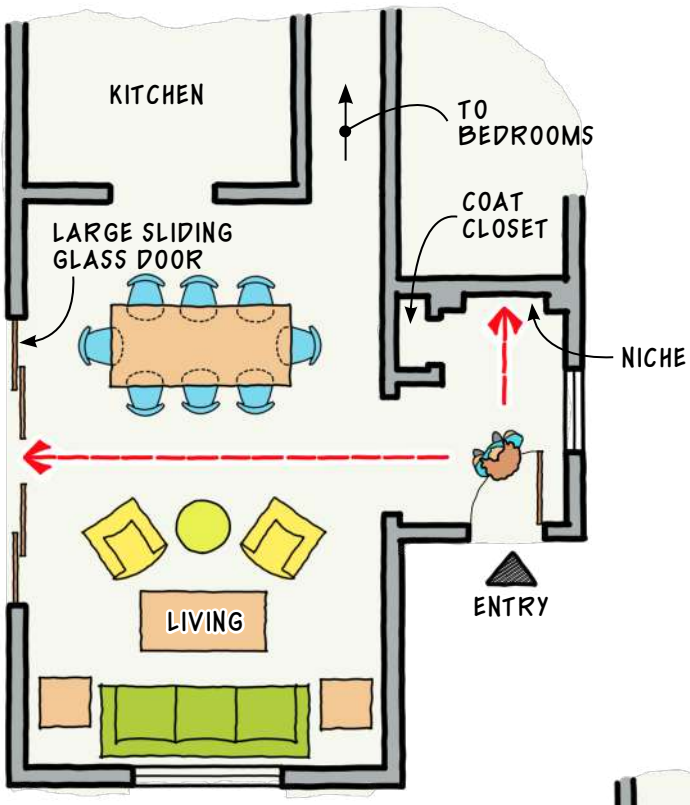
In this layout, the location of the fireplace instantly draws your eye once you pass the foyer area.

The opening leading to the living room and the two windows on each side of the chimney provide symmetry to the composition and emphasize its presence and hierarchy.

The location of the fireplace also defines the furniture arrangement in the room and how you are going to use and circulate in the space.



DOORS AND WINDOWS AS FOCAL POINTS

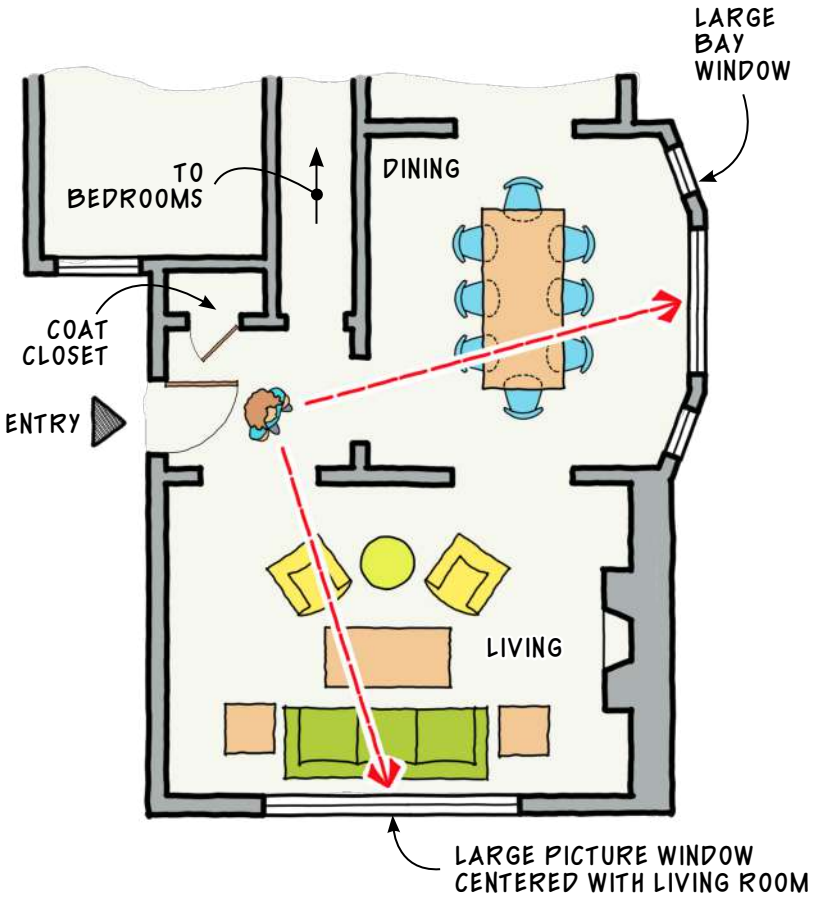


NICHE AND GLASS DOOR AS A FOCAL POINT

In this layout, two focal points unconsciously persuade you to move through the spaces, generating a sense of procession and guiding you where to go next.

After you enter the house, a niche centered with the foyer space immediately draws your eye, and when turning to the left, the large sliding doors in the dining area get your attention, inviting you to move from the foyer to the living room.

Centering the foyer opening with the large glass door also creates symmetry and hierarchy, emphasizing the desired effect.



WINDOWS AS A FOCAL POINT

Large windows make a great focal point to any room, especially if you have a fantastic view.

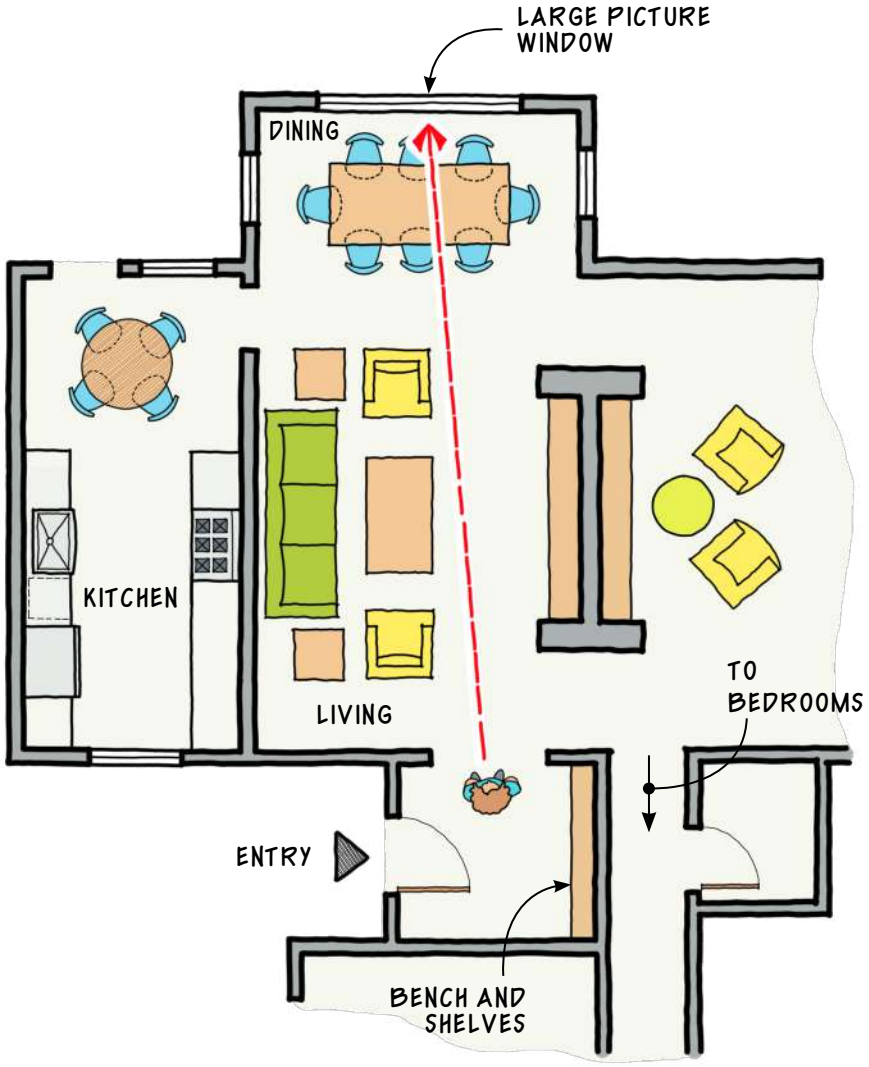
From the foyer area, the first thing you notice is natural light coming from the living room and dining room areas, inviting you to walk into these rooms and sit there.

DOORS AND WINDOWS AS FOCAL POINTS

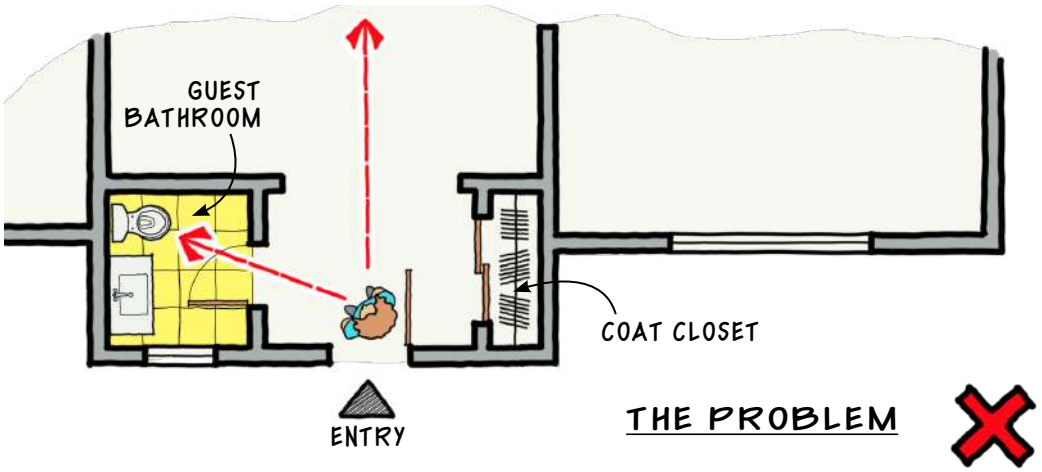
DINING NOOK AS A FOCAL POINT

The intention in this design was to draw the attention towards the dining nook from the foyer.

Despite the large picture window being placed a considerable distance from the foyer, its size and location bring a large amount of natural light, making that area the main point of attraction.

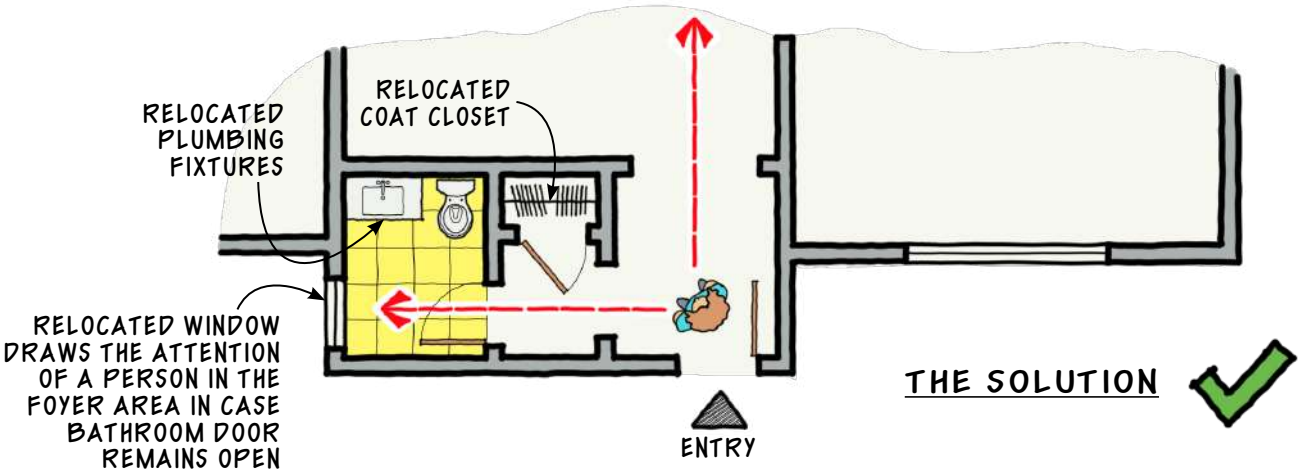


FOYER SIGHTLINES - MISTAKES AND SOLUTIONS



DESIGN 1 - The Problem

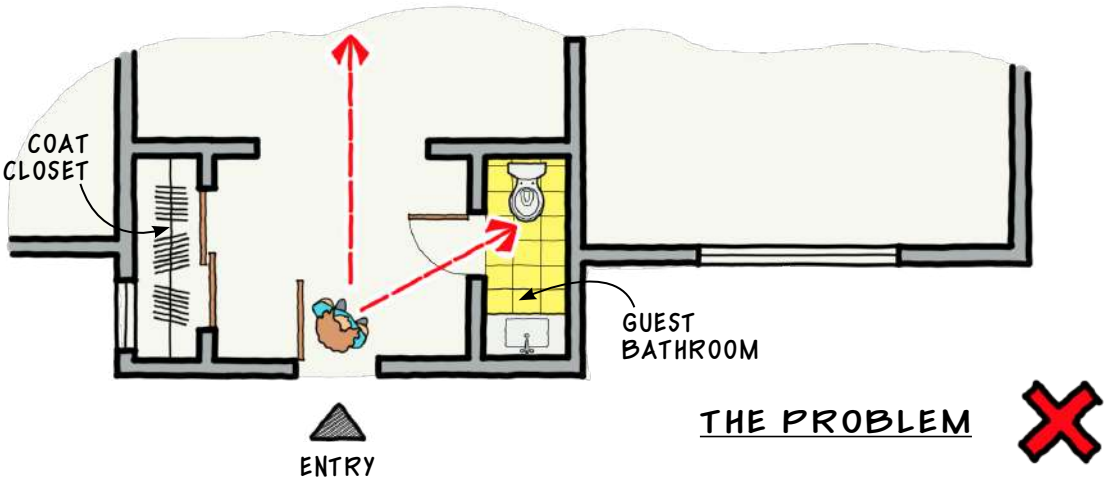
The location of plumbing fixtures can have a big impact on sightlines. In this floor plan, the guest bathroom opens off the foyer area, exposing the toilet directly from the main door.



DESIGN 1 - The Solution

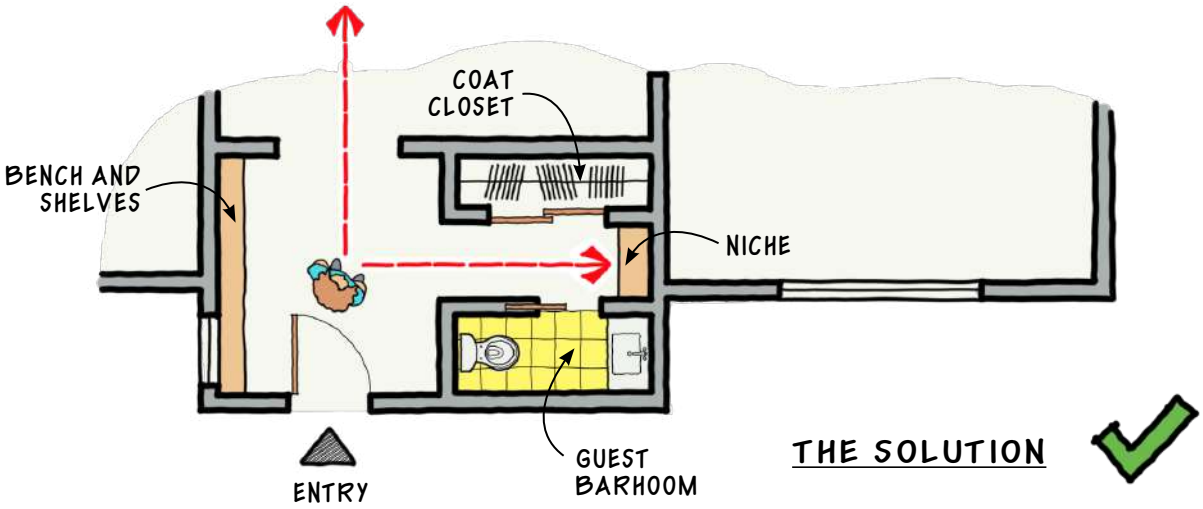
By relocating the existing coat closet, we create a small transitional hallway area for more privacy. The rearrangement of the plumbing fixtures against the back wall of the bathroom, helps hide the view from the entry door to the toilet.

FOYER SIGHTLINES - MISTAKES AND SOLUTIONS



DESIGN 2 - The Problem

Same problem as in design one. The door of the guest bathroom opens directly into the foyer and main door areas.



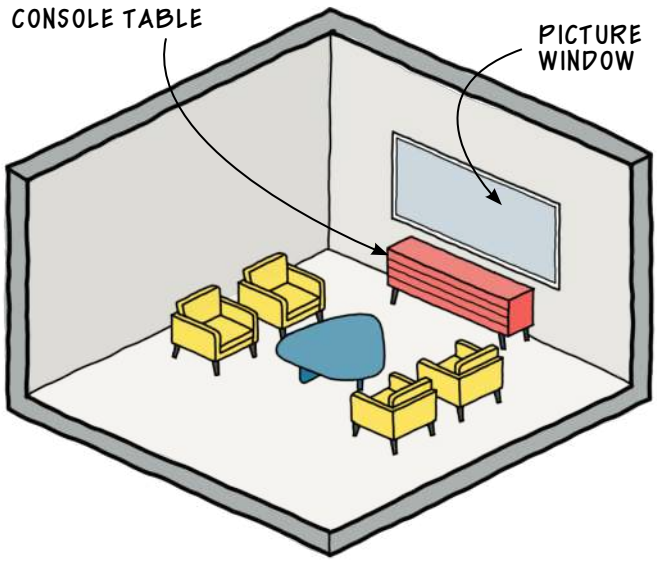
DESIGN 2 - The Solution

Similar solution as in design 1. By rotating the guest bathroom and coat closet, we create a transitional space that allows privacy and separation. Adding a niche also generates a focal point that draws the attention to that area.

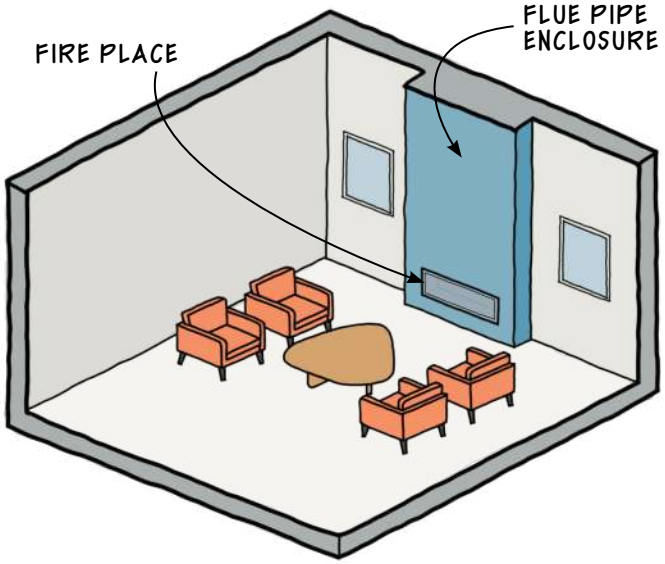
LIVING ROOM DESIGN

When designing a living room, adequate floor and wall sapce are necessary in order to arrange furniture and generate circulation paths. The use of focal points also defines how the furniture is placed in the room and how you are going to use and circulate in the space.

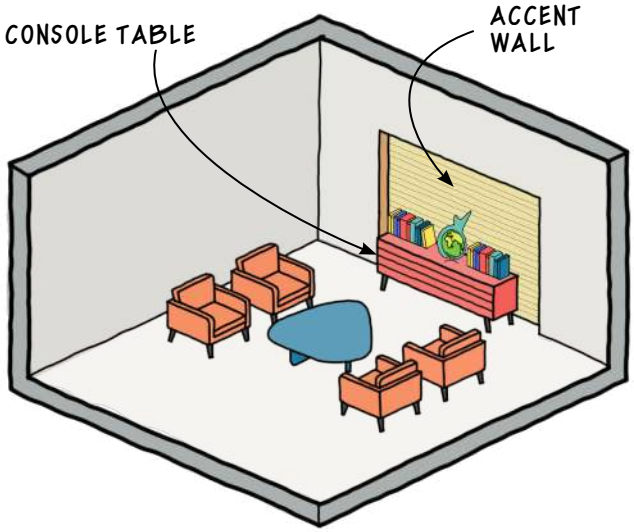
FOCAL POINTS IN LIVING ROOMS



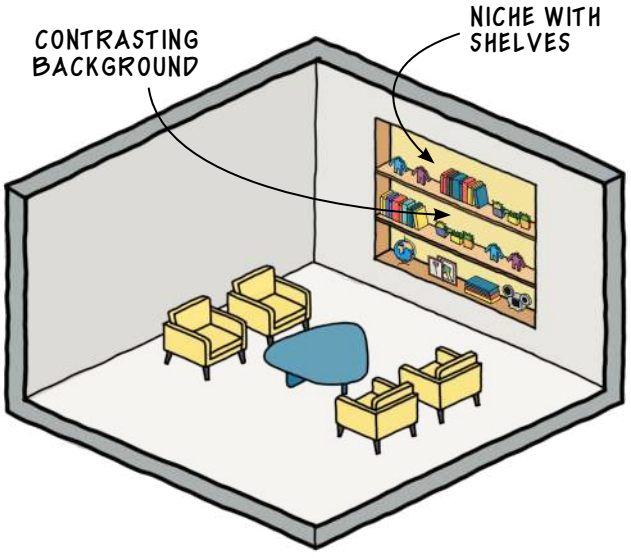
USE OF A PICTURE WINDOW AND A CONSOLE TABLE



USE OF A FIRE PLACE WITH AN ACCENT COLOR OR TEXTURE TO CREATE CONTRAST

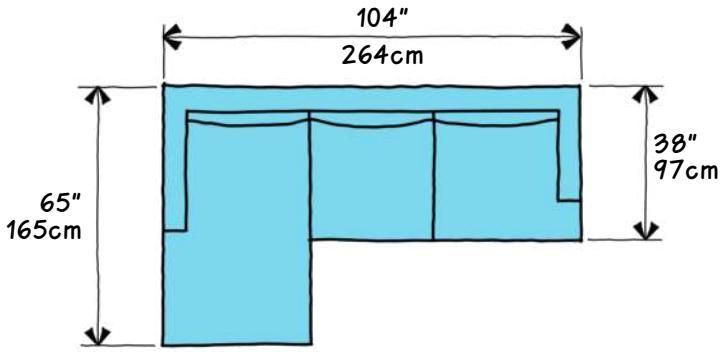


USE OF DIFFERENT MATERIALS AND TEXTURES AS A BACKGROUND FOR FURNITURE

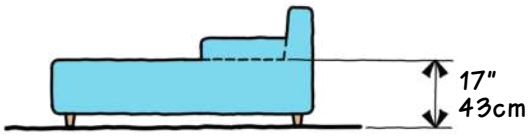


USE OF A NICHE WITH SHELVES WITH A CONTRASTING BACKGROUND

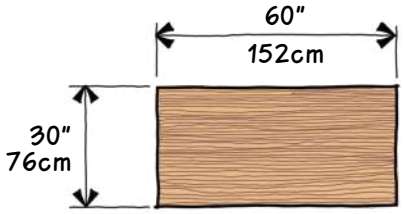
FURNITURE DIMENSIONS



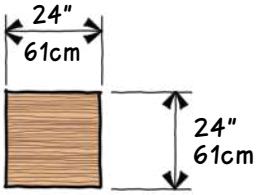
CHAISE SECTIONAL SOFA



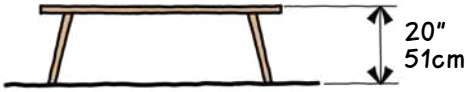
CHAISE SECTIONAL SOFA



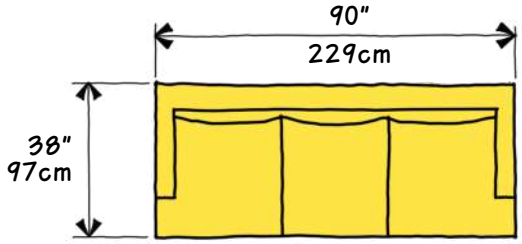
COFFEE TABLE



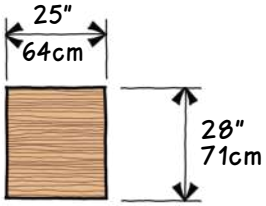
END TABLE



COFFEE TABLE



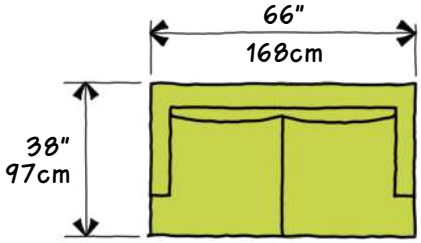
THREE-SEATER SOFA



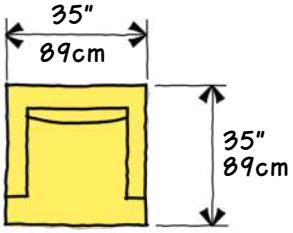
END TABLE



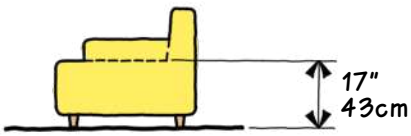
END TABLE



TWO-SEATER SOFA



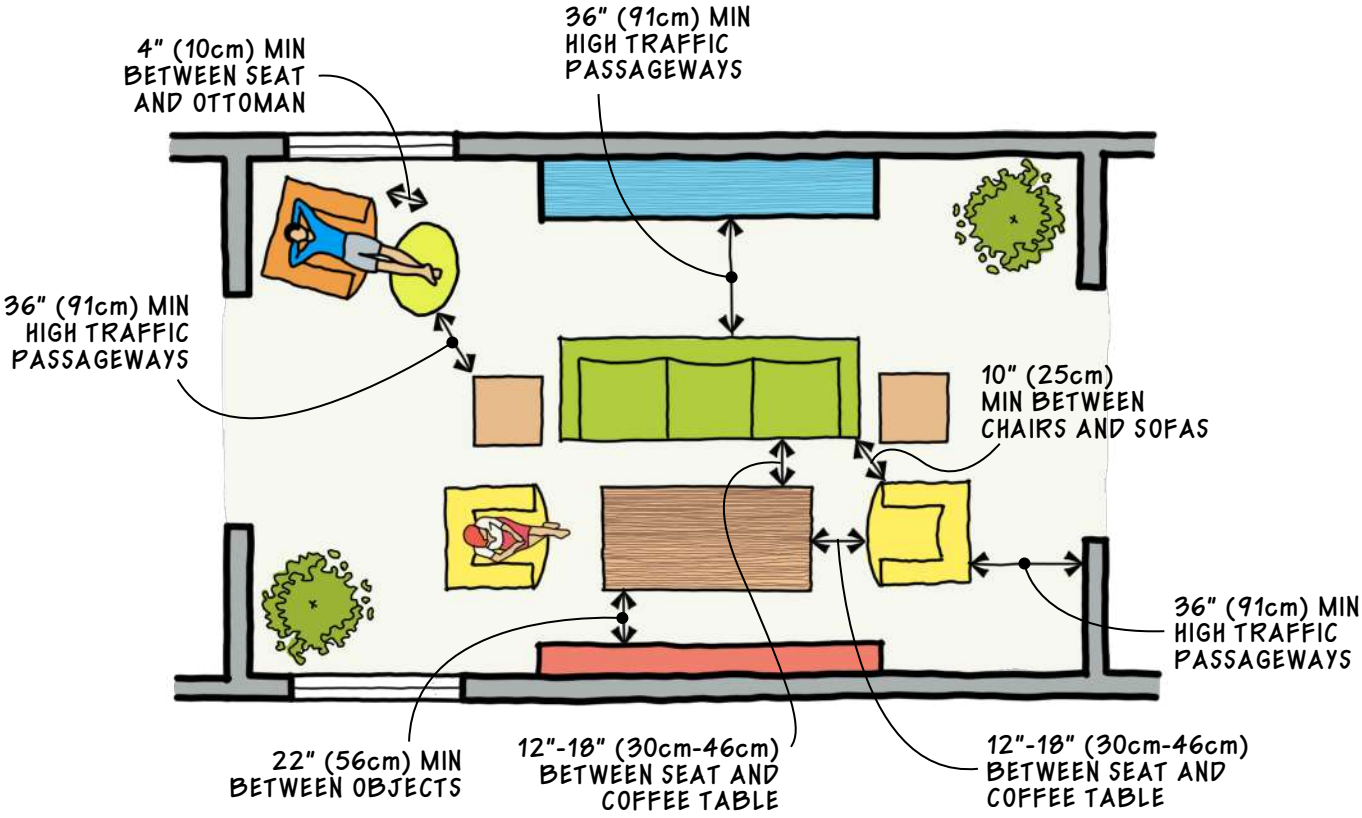
ARMCHAIR



SOFA - ARMCHAIR

FURNITURE CLEARANCE IN LIVING ROOMS

Circulation is an important part of planning a layout for a living room. The arrangement should enable you to move around the space and also move from one room to another. Providing adequate clearance space between furniture and objects creates those necessary passageways for high and low traffic flow.

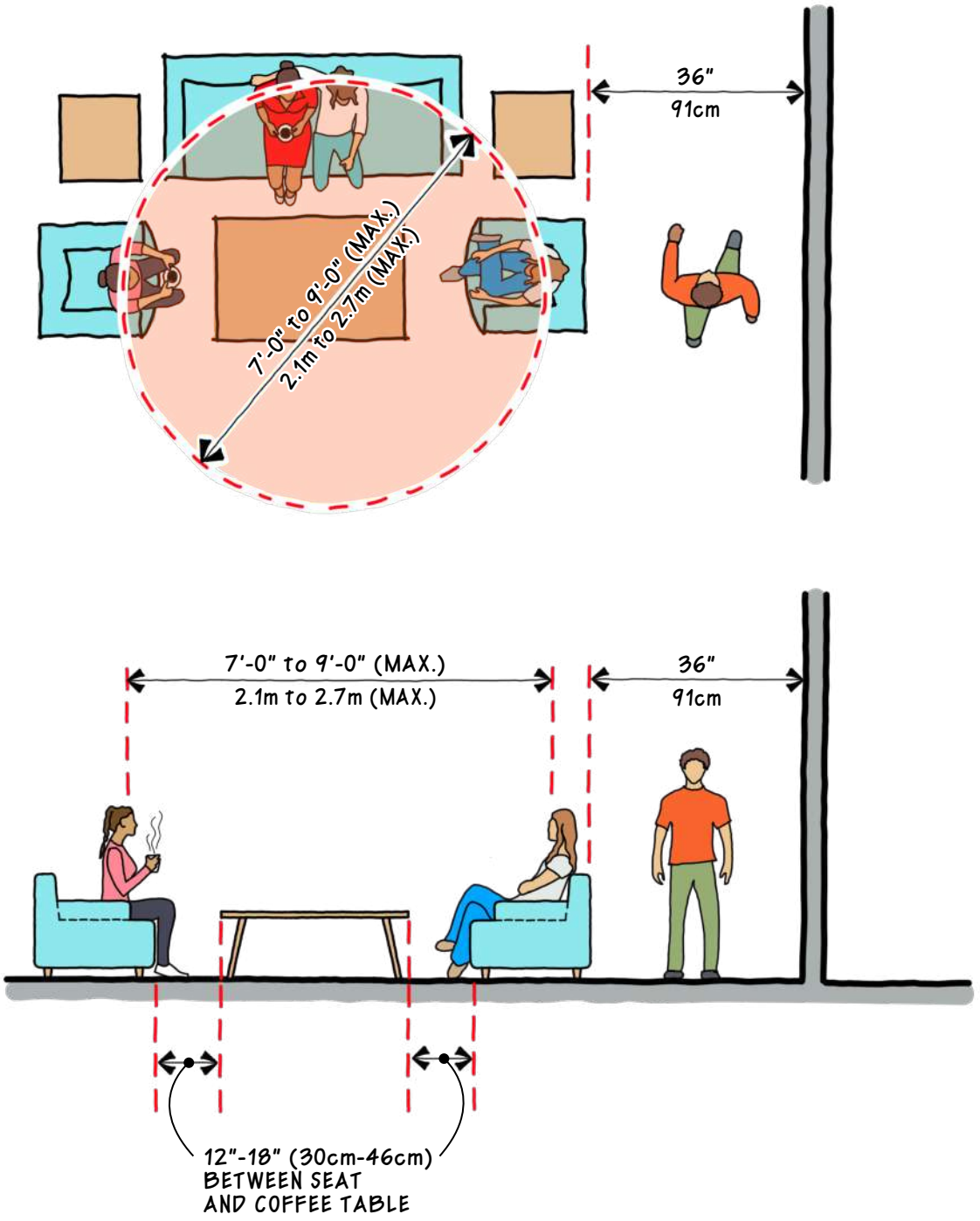


RECOMMENDED MINIMUM CLEARANCES

High traffic passageways	36" (min) 91cm (min)
Low traffic passageways	22" (min) 56cm (min)
Between the front of a sofa, armchair, and coffee table	12" (min) 30cm (min)
Between chairs and sofas	10" (min) 25cm (min)

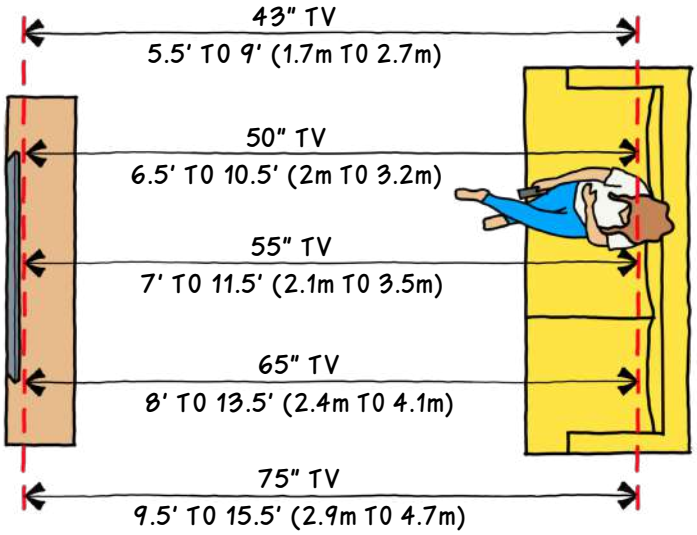
CONVERSATION AREA AND CIRCULATION PATH IN LIVING ROOMS

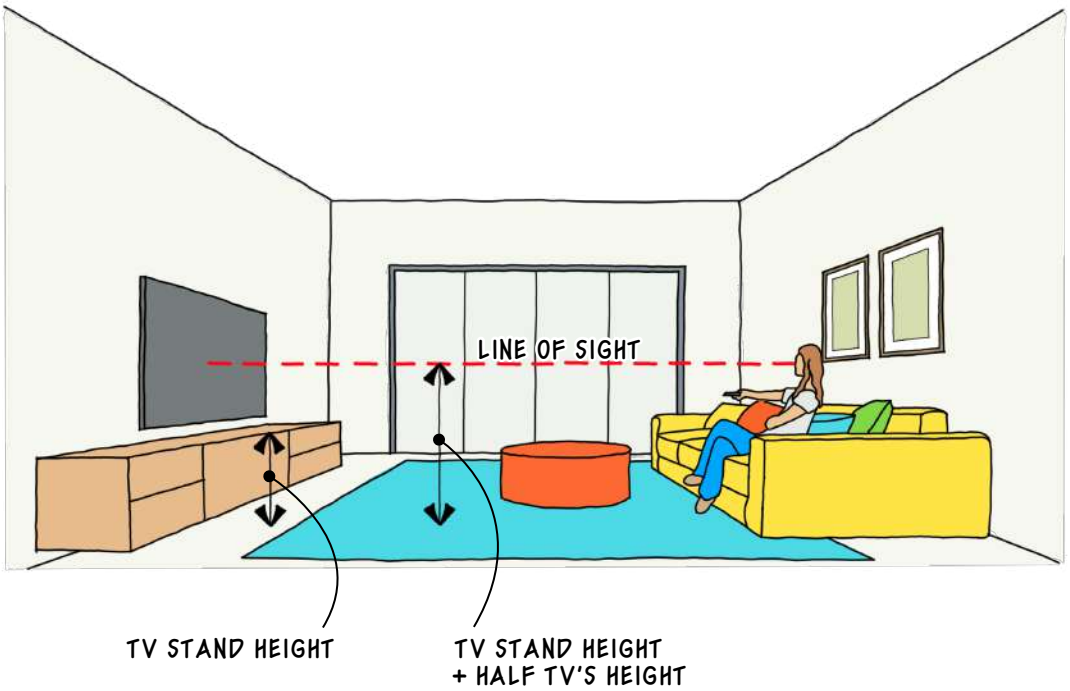
A conversation area is a seating area arranged in a way that encourages social interaction. The maximum distance for a seated person having a comfortable conversation with others is between 7'-0" (2.1m) and 9'-0" (2.7m). Anything bigger than this will require you to start raising your voice.



HDTV VIEWING DISTANCES IN LIVING ROOMS

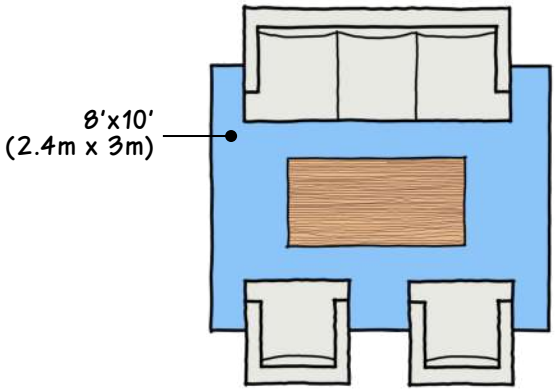
One important thing to consider when buying a TV is the size of your living room. A larger TV only improves your watching experience if you have enough space in your home to mount it and sit far enough away. The following distances apply to High Definition TVs.

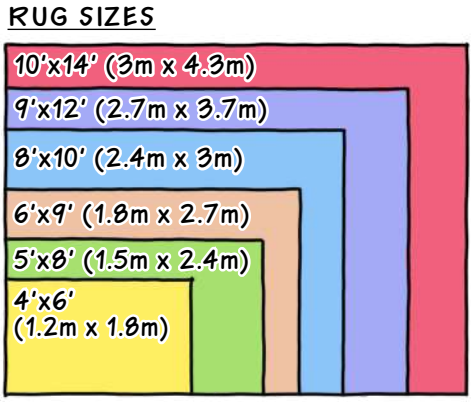


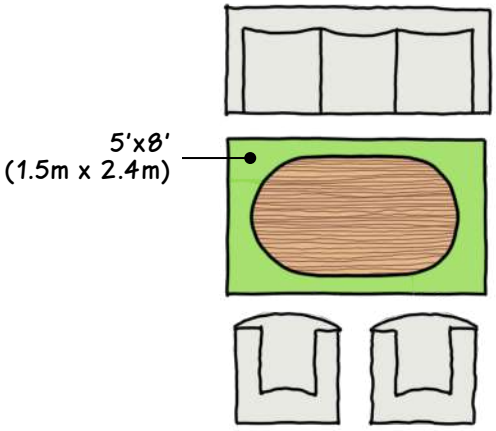


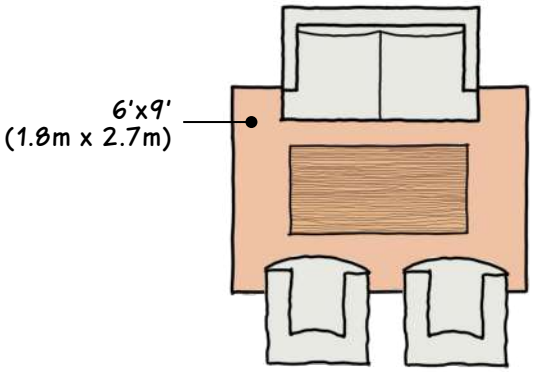
CHOOSING THE RIGHT RUG FOR YOUR LIVING ROOM

The living room is a space where you typically spend a lot of time with your family and friends to socialize or watch TV. The use of a rug can help layer the room's decor, add warmth, add texture, and anchor the space.

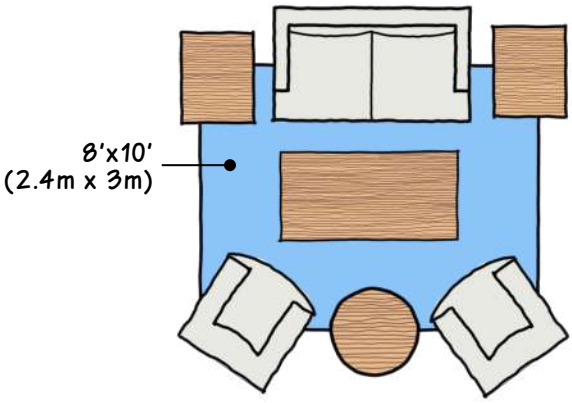


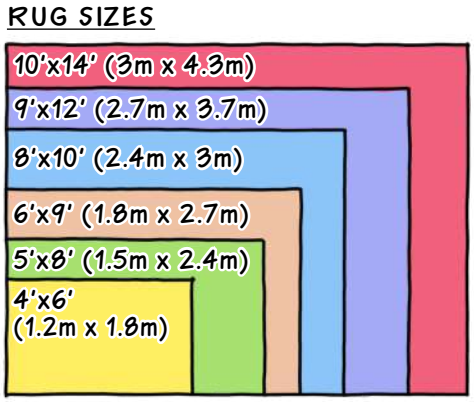


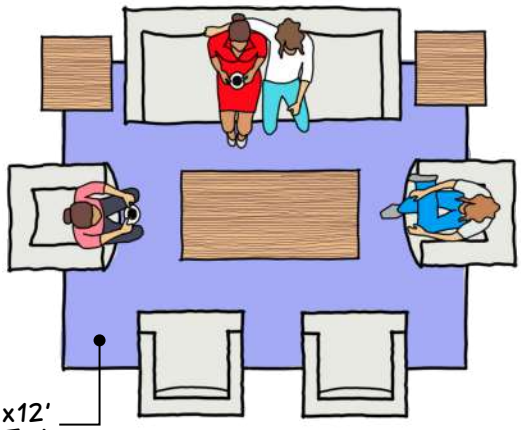


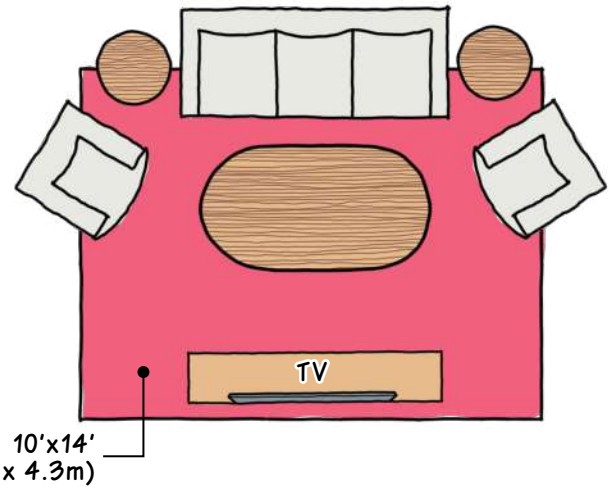


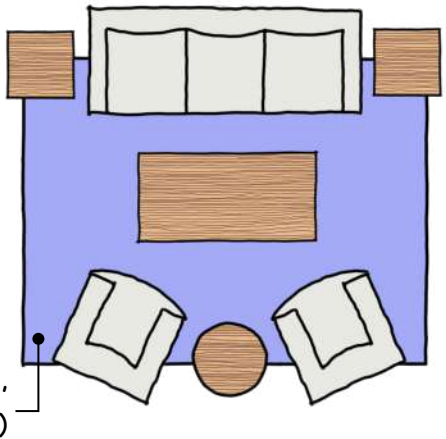
CHOOSING THE RIGHT RUG FOR YOUR LIVING ROOM

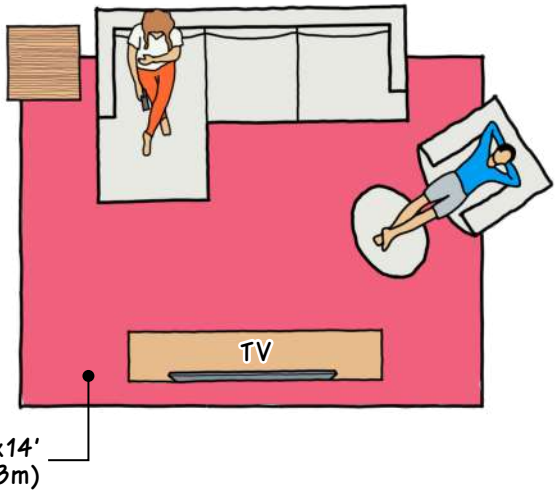












FURNITURE ARRANGEMENTS IN LIVING ROOMS

DESIGN 1

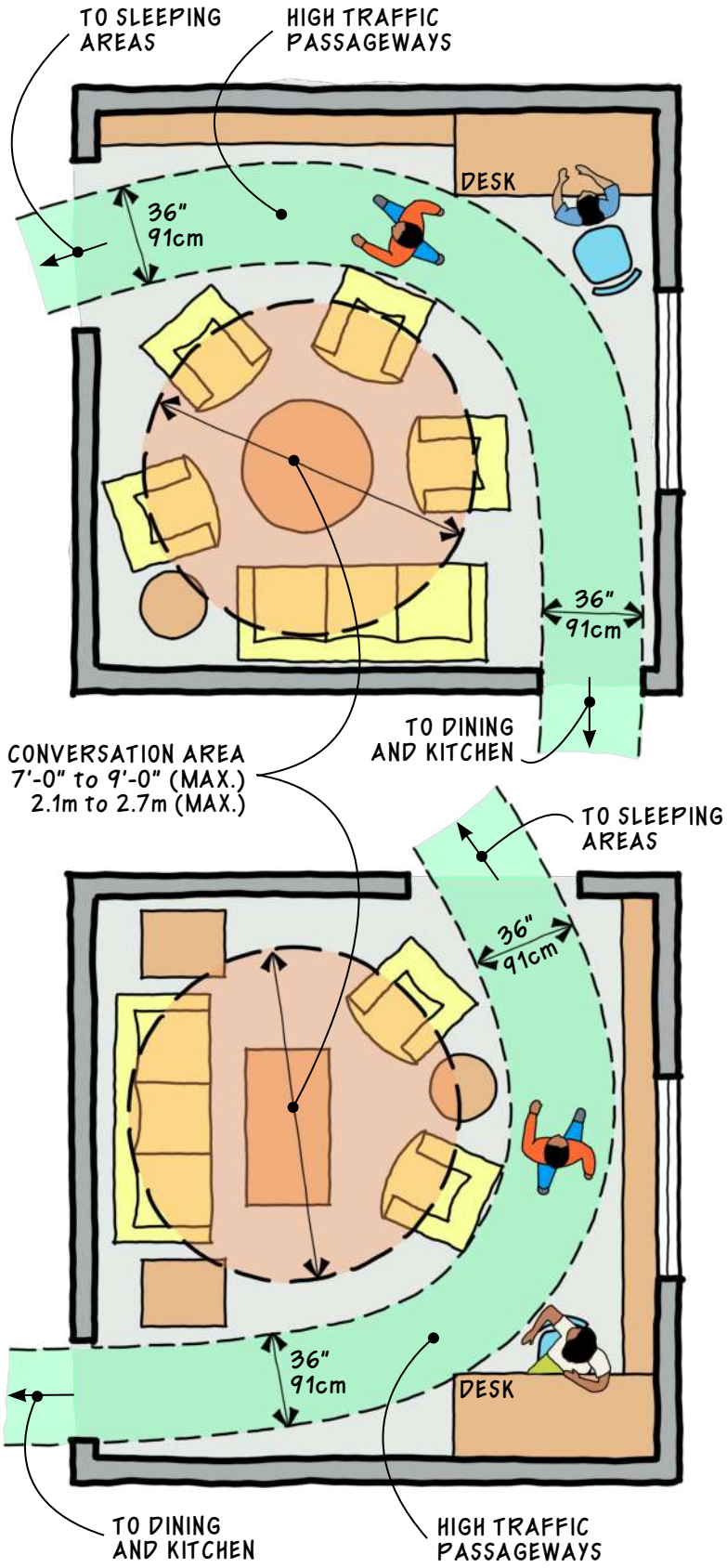
Having two doorways at opposite corners of a room makes it challenging to create a good circulation path and seating layout for the space. A circular arrangement is the perfect solution for this type of situation, which creates a curved circulation path behind the seating area.

What is great about this design is that all chairs are angled in towards each other, making the layout perfect for easy conversation. An optional space for a desk and a shelving unit along one of the walls adds extra functionality.

DESIGN 2

Similar location of doorways at opposite corners as in design one. The use of a bigger rectangular coffee table and end tables does not allow a circular arrangement, making the space too tight to add more armchairs.

With this arrangement, the circulation passageway is kept comfortable in width.



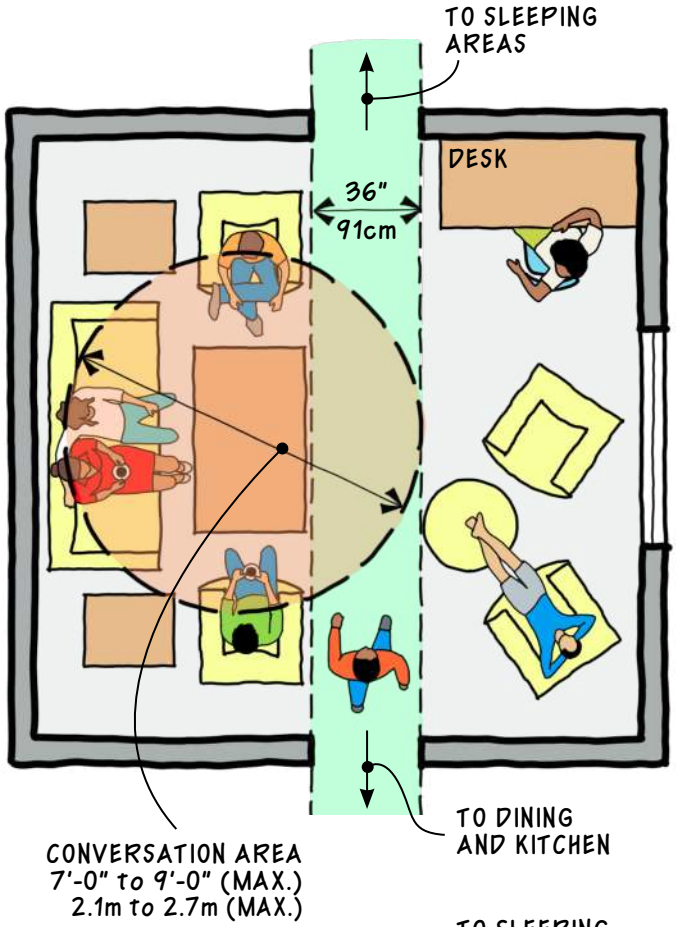
FURNITURE ARRANGEMENTS IN LIVING ROOMS

DESIGN 3

The best placement of a circulation path for a small living room is usually straight through. In this layout, the circulation path right in the middle of the living room divides the space into two areas.

On one half, we have the seating and conversation area, and on the other half, we have space for a small lounge area and a desk.

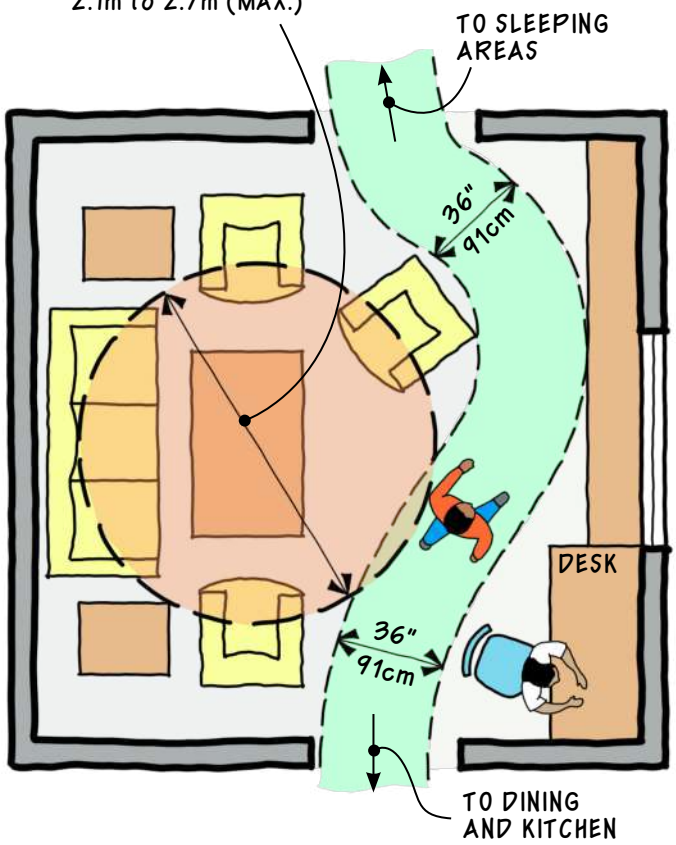
The lack of space due to the circulation in the middle of the room limits the furniture arrangement options.



DESIGN 4

We can transform how we feel, the space by just switching the layout and the seating from design 3.

The addition of one more armchair to the arrangement also changes the circulation path from straight to curved and allows space for a desk and a shelving unit along the east wall.

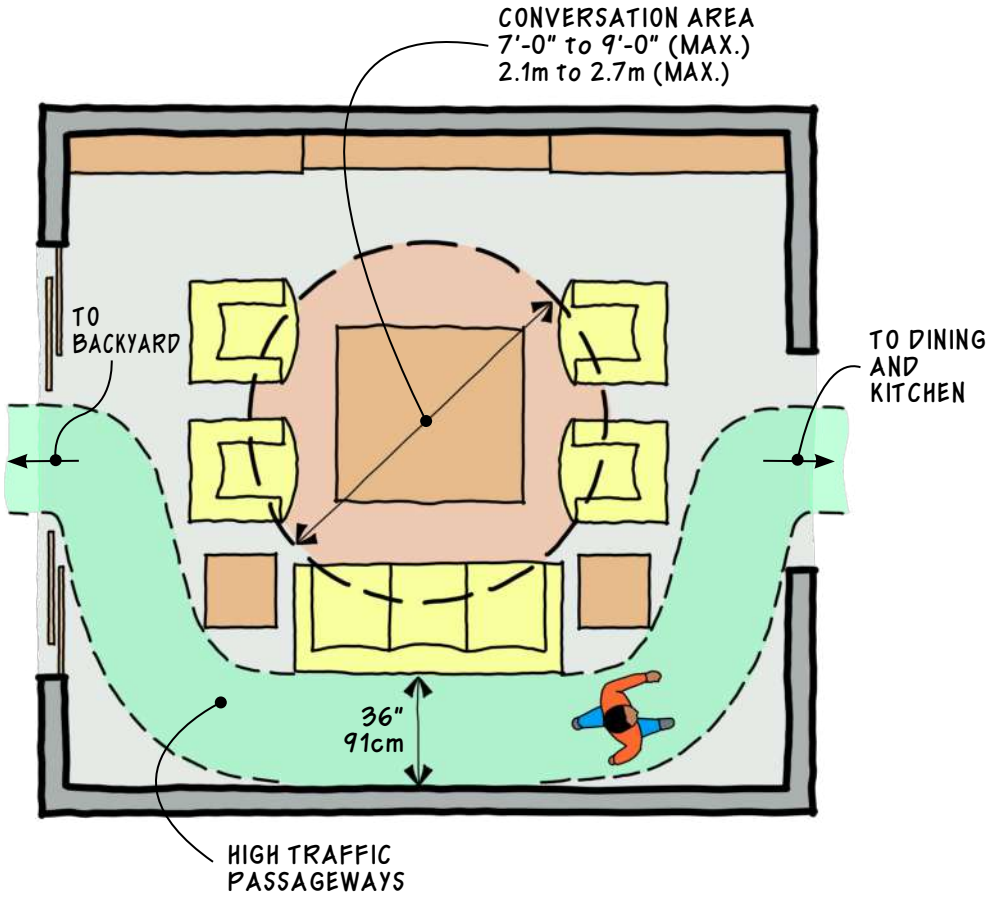


FURNITURE ARRANGEMENTS IN LIVING ROOMS

DESIGN 5

When designing a conversation area, you don't necessarily have to worry about having the pieces up against a wall.

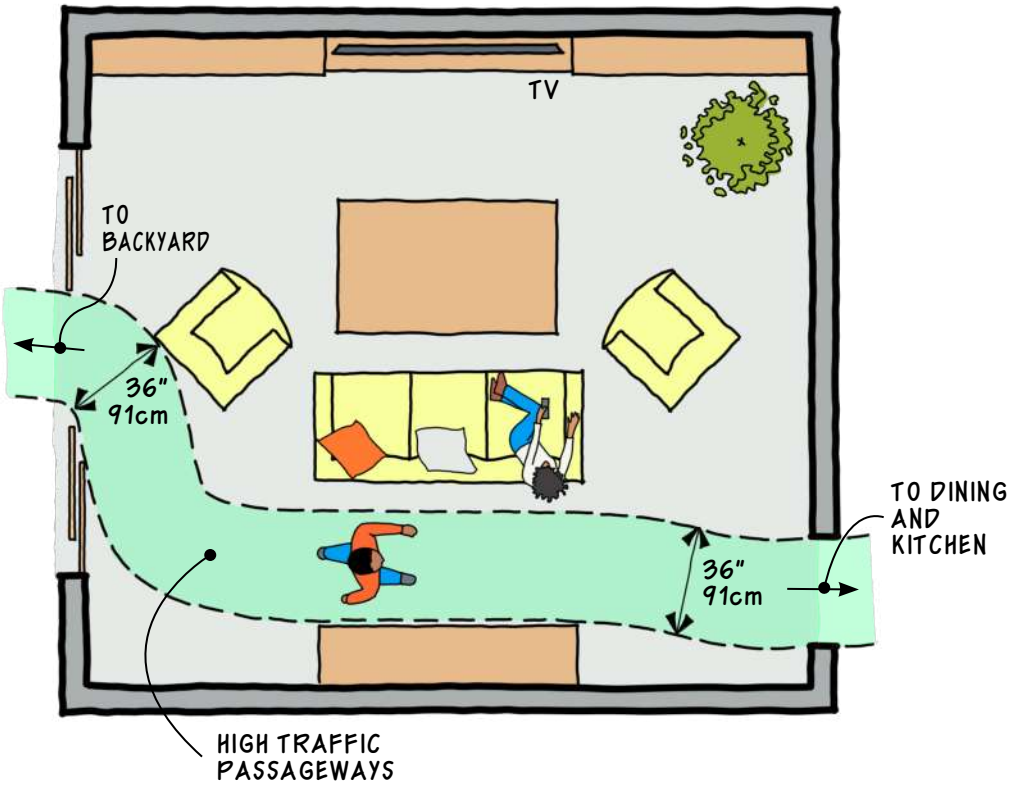
Furniture can be floating in the middle of the room like in this design, where the sitting area takes the center space of the room, leaving space for the circulation path around the furniture set.



DESIGN 6

An arrangement for watching TV requires a specific distance between the TV unit and the seating area depending on the size of the screen.

This arrangement leaves space for the circulation path behind the sofas.



DINING ROOM DESIGN

There are two types of dining rooms: the dining room as an enclosed formal room, and the dining area as part of an open concept floor plan where it shares the same space with the living room or kitchen.

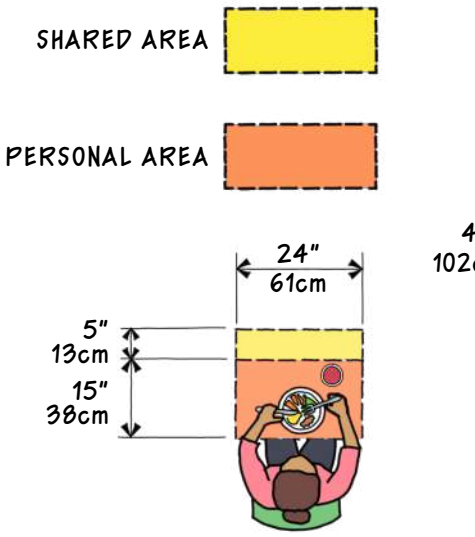
Open floor plans have become very popular since the 90s, and most new houses in North America incorporate this concept due to its high demand. Formal dining rooms are rumored to be disappearing and are being replaced by the open concept. The truth is, the formal dining room is still alive, and the idea of gathering around a table in a separate room to share a meal is still something many people find enjoyable and more practical.

You can definitely still find the formal dining room in old houses, but these days, the trend is also to take a more casual approach to gathering for day-to-day family meals. In some cases, the use of kitchen tables, kitchen islands, and breakfast nooks has made the formal dining room reserved for special occasions but still in use.

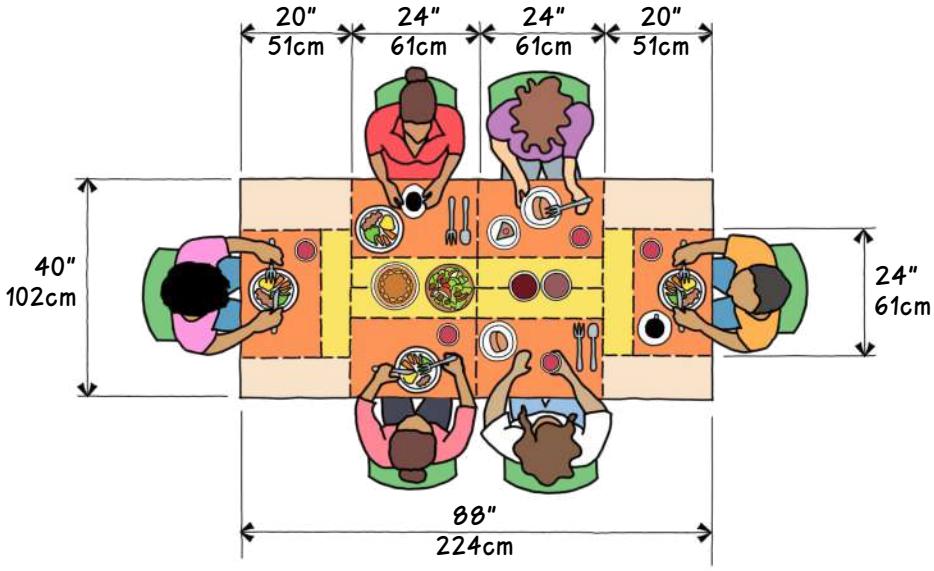
IDEAL DINING TABLE SIZES

The ideal dining table size is determined by the combination of two zones: the required personal area that you need while having a meal, and the shared space for condiments, serving dishes, trays, and decorations.

Here, I am showing two recommended sizes as a reference. The first one is for regular use, and the second one is for sharing a big meal or for a special occasion.



MINIMUM SPACE DIMENSIONS FOR ONE PERSON

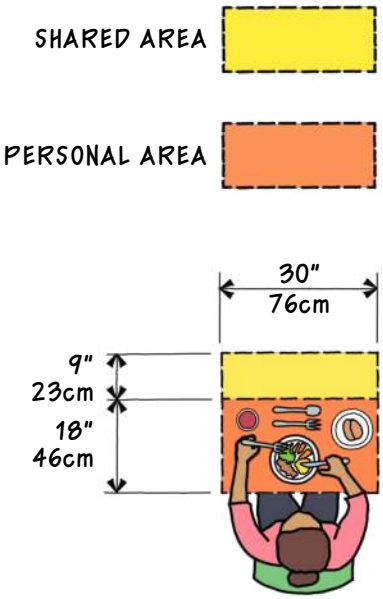


MINIMUM DINING TABLE SIZE FOR 6

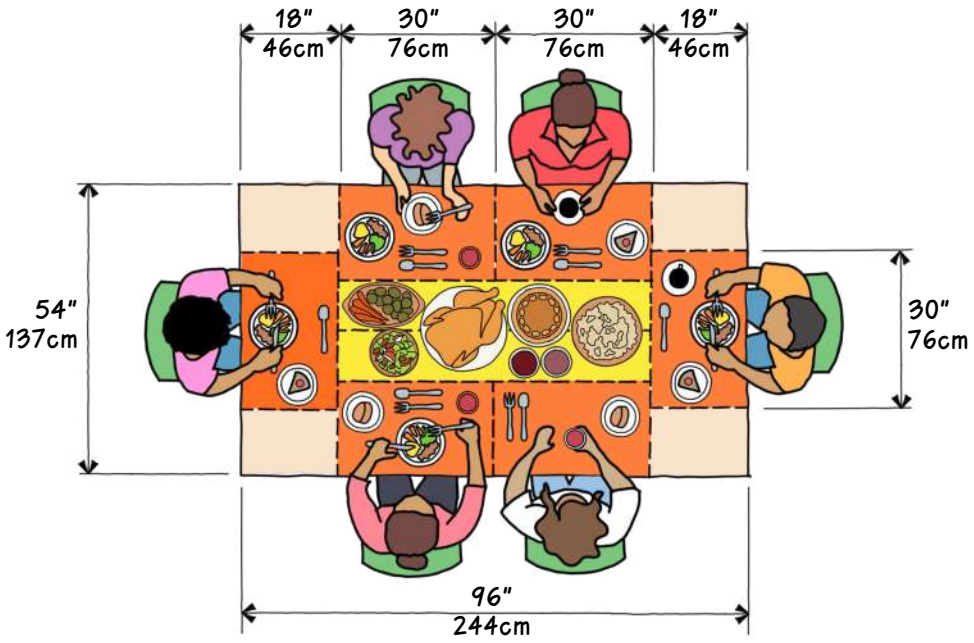
IDEAL DIMENSIONS FOR A DINING TABLE FOR SIX

Based on the personal and shared areas, we come up with 40”X78”(102cmX198cm). You can still make a 36”X72” workable for six people, but it would be the minimum you can go.

IDEAL DINING TABLE SIZES



MINIMUM SPACE DIMENSIONS
FOR ONE PERSON

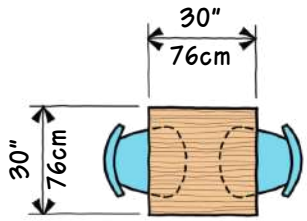


MINIMUM DINING TABLE
SIZE FOR 6

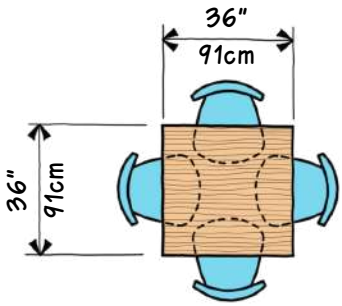
IDEAL DIMENSIONS FOR A SIX PERSON DINING TABLE TO ENJOY A LARGE MEAL

Sharing big meals for special occasions or having large family gatherings means that you need a large table. With a 54”X96” (137cmX244cm) table, the extra shared area and more personal space allows for more cutlery, dishes, glasses, and big serving dishes.

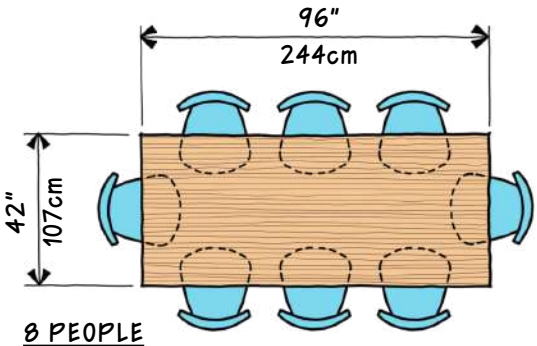
DINING ROOM TABLE DIMENSIONS



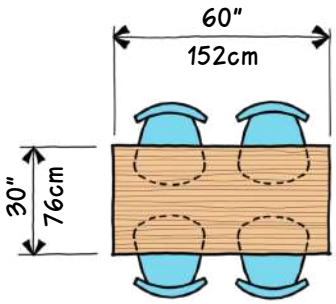
2 PEOPLE



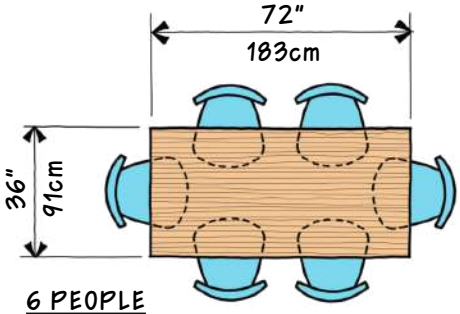
4 PEOPLE



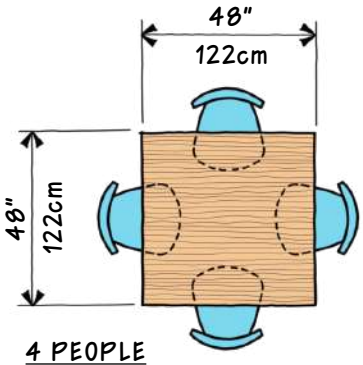
8 PEOPLE



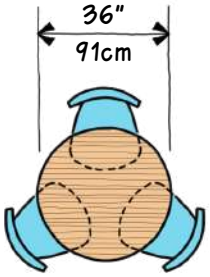
4 PEOPLE



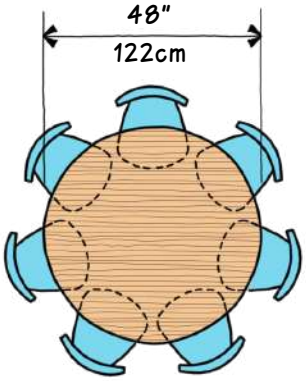
6 PEOPLE



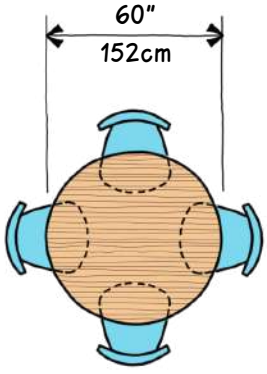
4 PEOPLE



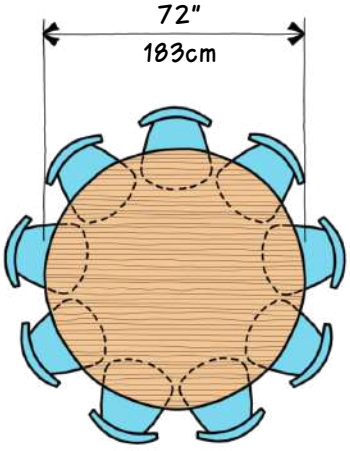
3 PEOPLE



7 PEOPLE



4 PEOPLE

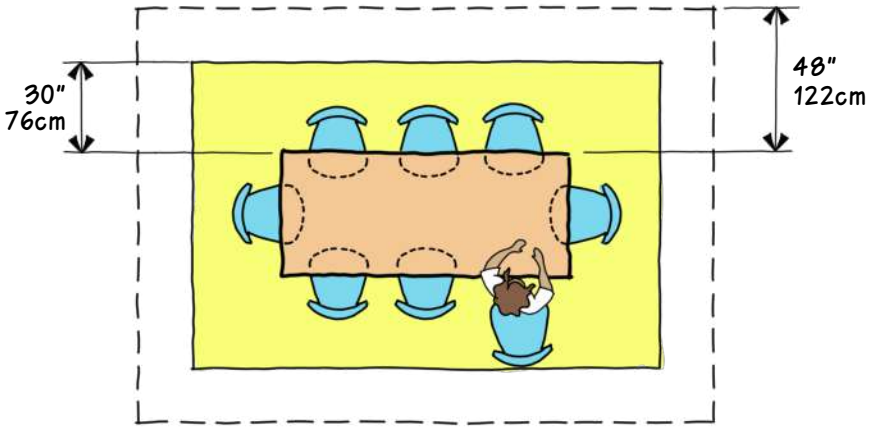


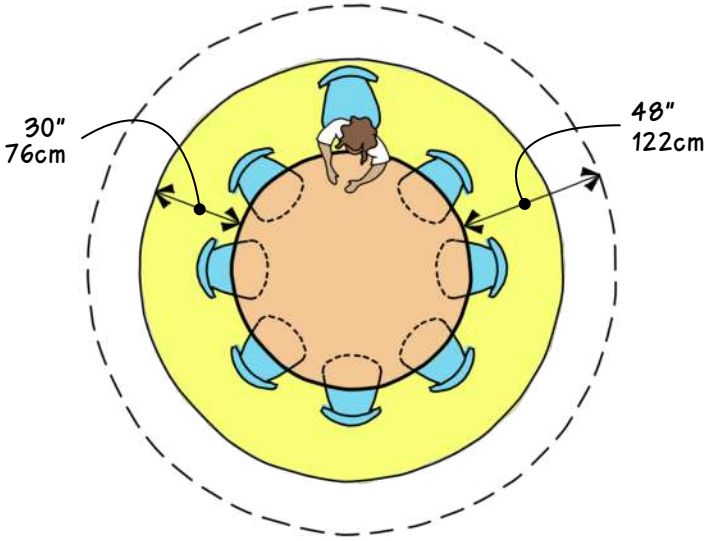
9 PEOPLE

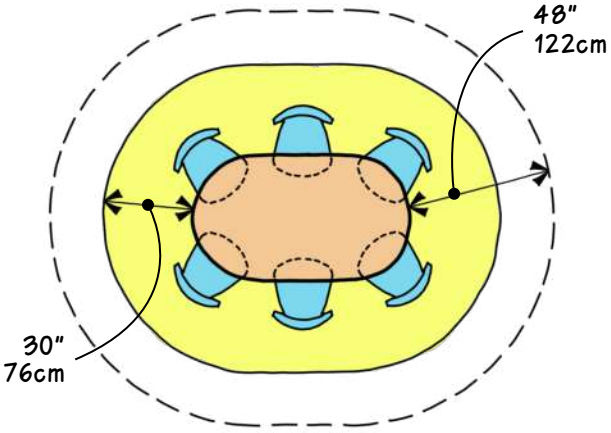
CHOOSING THE RIGHT RUG FOR YOUR DINING TABLE

The use of rugs for dining tables is not intended just to protect the floor or to provide visual appeal to the area. Rugs also help to define and anchor the space around the table, especially in open floor plans, where sometimes the dining area is integrated with the living room or kitchen.

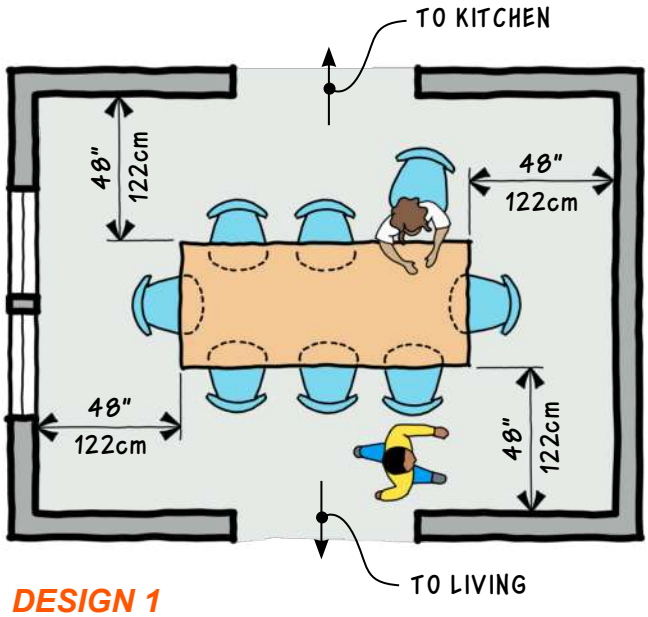
The basic rule is to choose a rug that matches the shape of your dining table. Make sure the rug is at least two to three feet away from each side of the dining table; you could go even larger if you want. The reason for this is that the dining chairs should never go off the edge of the rug when you pull them out to sit down or stand up.



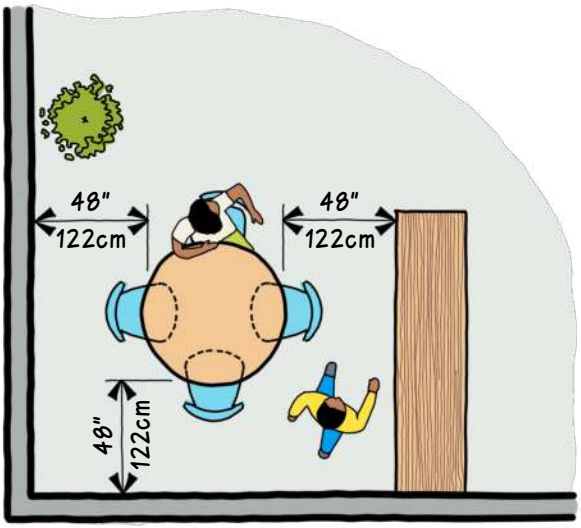




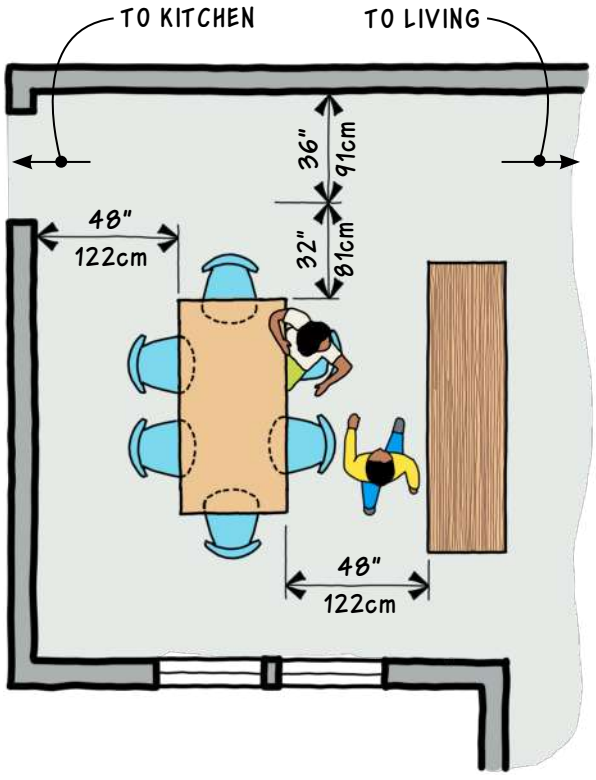
DINING ROOM ARRANGEMENTS AND CIRCULATION



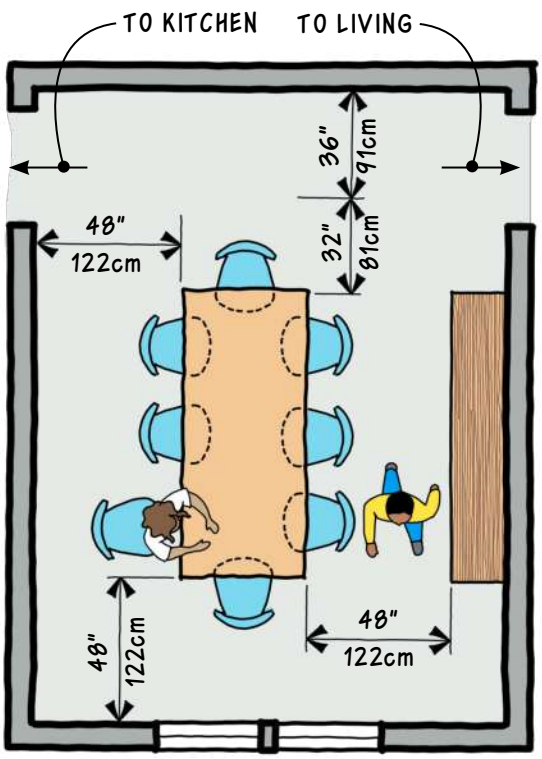
DESIGN 1
Circulation path around a table for a small dining room.



DESIGN 2
Circulation path around a table placed in a corner of a dining room.



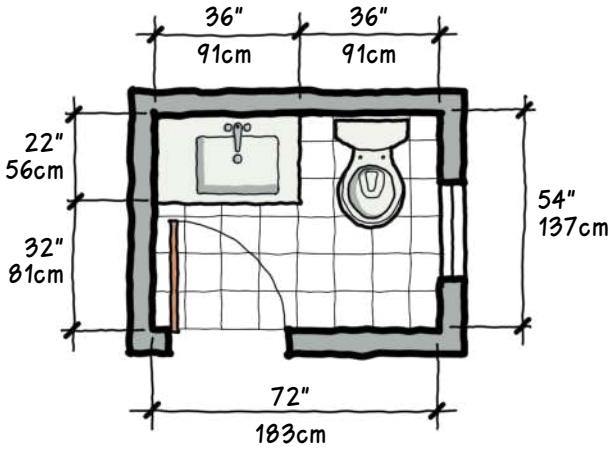
DESIGN 3
Circulation path around a table for a dining nook.



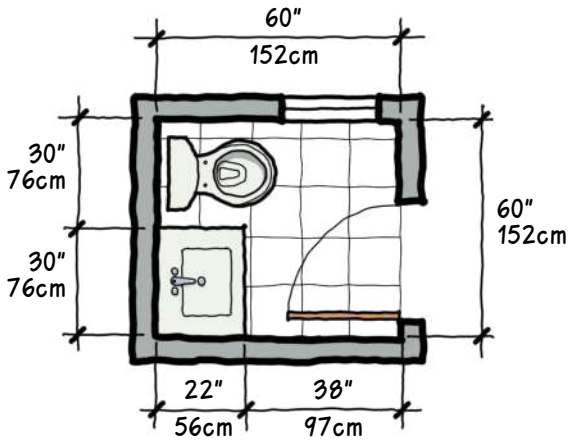
DESIGN 4
Circulation path around a table for a medium size dining room.

GUEST BATHROOM DESIGN

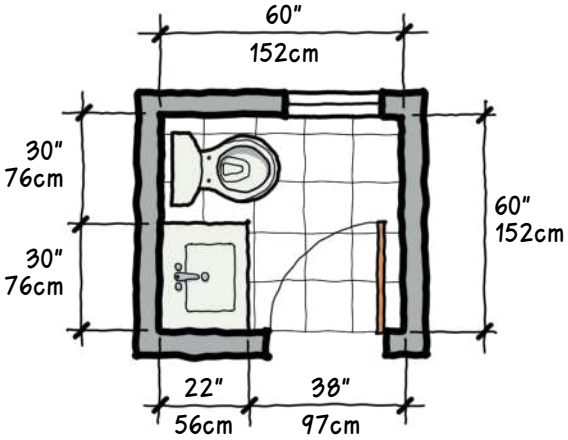
Guest bathrooms are small bathrooms with a toilet and lavatory, usually located on the main level of a house. As the name implies they are commonly used by guests, but also by family members because they are conveniently to be located near the living areas. The following are typical layouts of guest



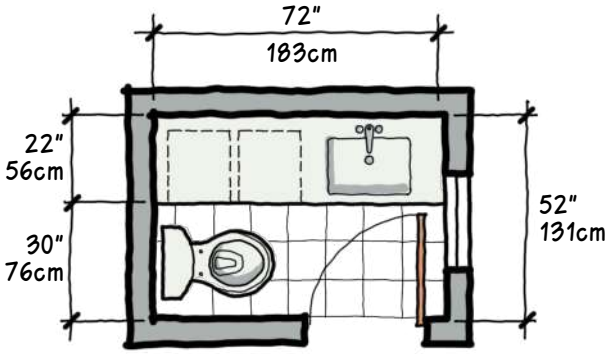
DESIGN 1



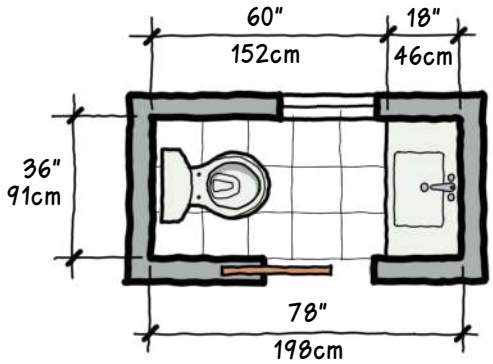
DESIGN 2



DESIGN 3



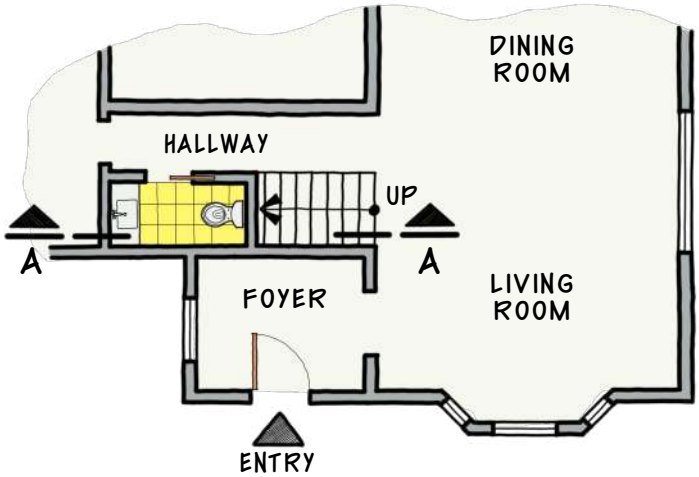
DESIGN 4

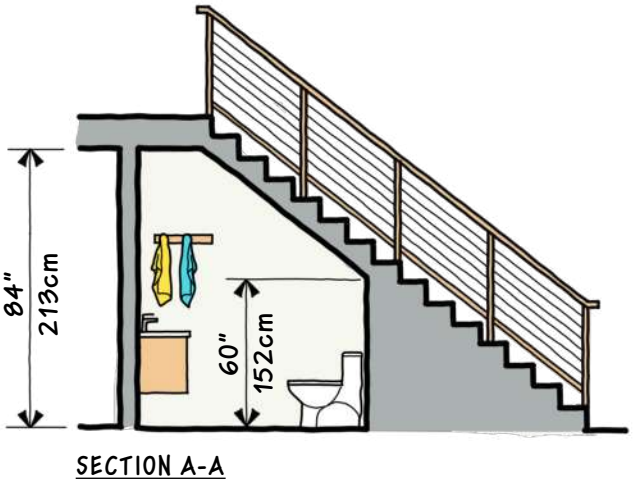


DESIGN 5

WHAT IS THE BEST LOCATION FOR A GUEST BATHROOM?

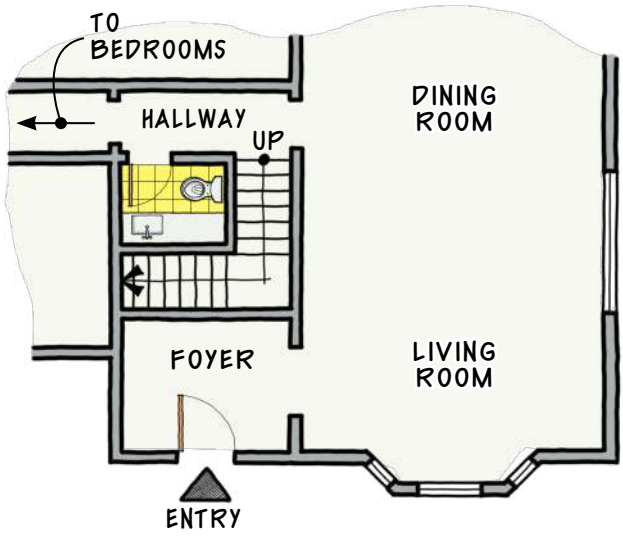
Guest bathrooms are usually at a centralized location and near the living areas for easy access for family members and guests. In some cases, these are located near the foyer area. There is not much space needed for this type of bathroom, and we are allowed to overlap the minimum required clear spaces in front of fixtures because the bathroom is not required to be accessible to multiple users simultaneously.

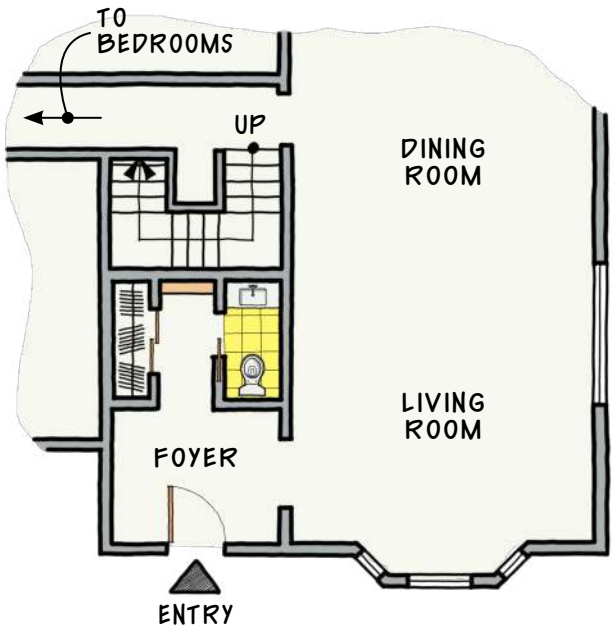




UNDER STAIRS

One of the best ways to maximize the space in your house is by adding a guest bathroom under your staircase. Always make sure that you have enough recommended clearance space to comply with your local building codes.





HALLWAY

Locating your guest bathroom in your sleeping area could become a privacy problem. Although you don't have guests in your house all the time, always consider a transitional space like a small hallway to divide the sleeping areas with the private areas.

FOYER

Having a bathroom by the entrance makes it convenient for your family and guests to wash up after entering the home. Always try to make sure the bathroom doesn't open directly to the entry to avoid a direct view of the toilet.

GUEST BATHROOM DESIGN SIGHTLINE ANALYSIS

Let's be honest: some family members don't always close the door to the bathroom when they are finished using it, and at the same time, it is not nice to be greeted by your toilet while you walk down a hallway. However, if there is not enough space to hide the toilet, you need to make sure what your priorities are.

These designs show different options utilizing the same space for a small guest bathroom in a narrow hallway. The type of door and the swing direction become key factors to the functionality and the way we sense the space.

DESIGN 1

Every time you walk down the hallway, the first thing you are going to see is the toilet, and at the same time, the door opening inwards does not leave much room for the user.



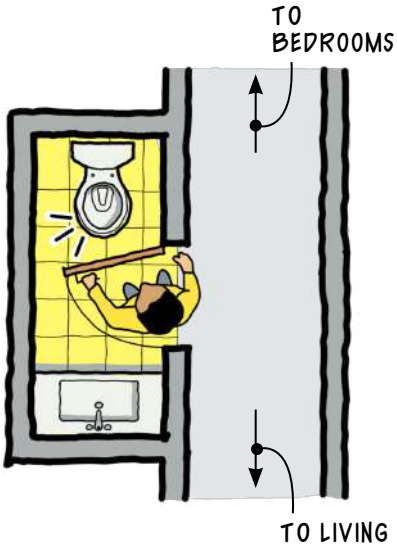
DESIGN 2

We solved the problem of the lack of space by opening the door outwards, but now, when you keep the door open, the toilet is in the sightline from the hallway.



DESIGN 3

The inward swing causes the door to collide with the toilet, making the room appear smaller than it already is. Not the best solution.



DESIGN 4

While this collision does not happen that often, an open door in a small hallway can be very annoying, especially for heavy traffic pathways.



DESIGN 5

A pocket door provides an alternative solution to the lack of space. The visibility of the toilet becomes secondary when we make comfort a priority.



Chapter 4

SLEEPING AREAS

BEDROOM ARRANGEMENTS

The most private area of your house are the spaces that you don't want your guests to see. These spaces are mostly the bedrooms, personal bathrooms, and in some cases, dens and home offices where only family are allowed into these spaces. In a well-designed house, you would find a logical sequence of spaces where you find public, semi-private, and private areas separated from each other.

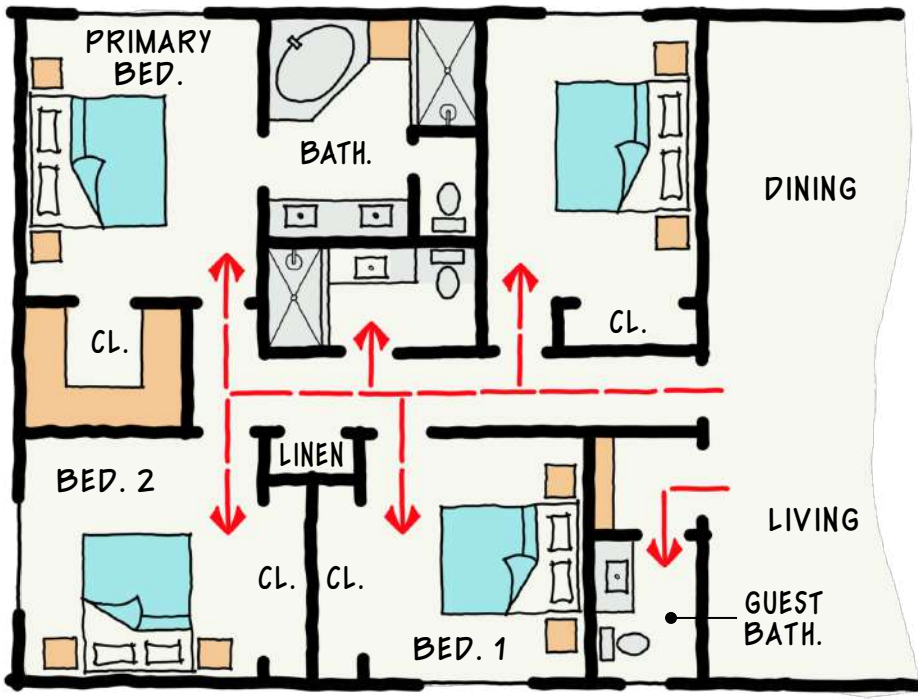
Providing a bedroom hallway to separate these spaces from your private and semi-private areas is crucial to create a sense of privacy and comfort for your family members.

DESIGN 1

A typical bedroom arrangement with a straight hallway leading to all bedrooms on both sides. In this design, I placed the doors as far as possible from the living room and dining room for privacy.

If your proposed design provides only one full bathroom for three bedrooms, try placing it a centralized area for easy access, as shown in this layout.

It is also very convenient if two bathrooms share the same plumbing wall, but don't make this a non-negotiable; make sure to understand the priorities in your design.

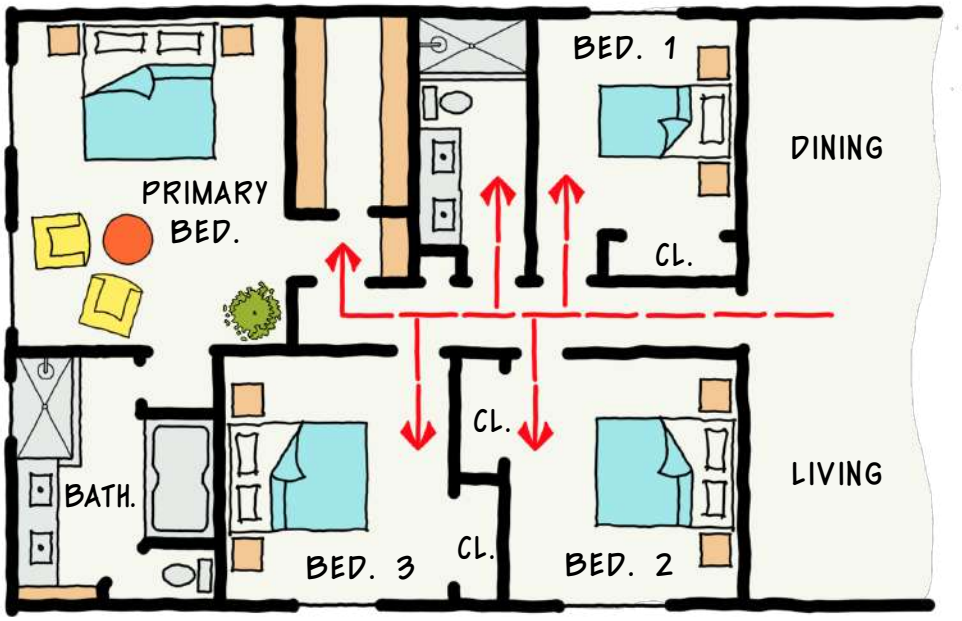


DESIGN 2

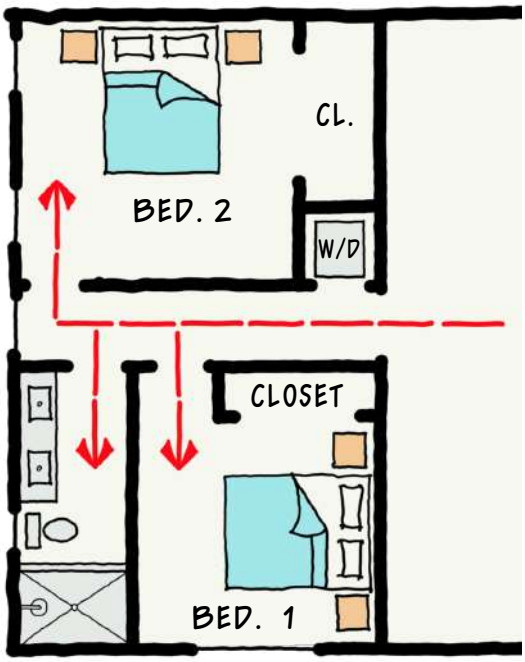
Similar arrangement to design 1. A straight hallway leading to all bedrooms on both sides.

The primary bedroom is larger and has extra space for a sitting area. The remaining three bedrooms are slightly smaller than in layout one.

The bathroom is in a centralized location for easy access from the three bedrooms.

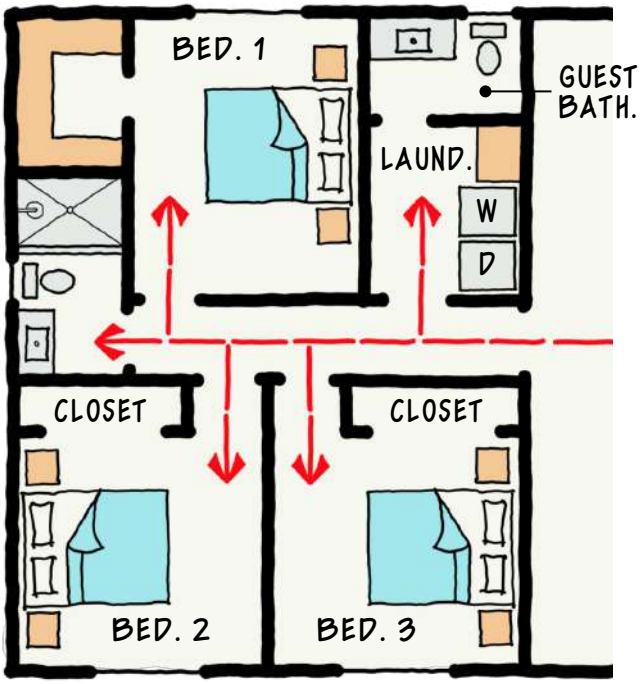


BEDROOM ARRANGEMENTS



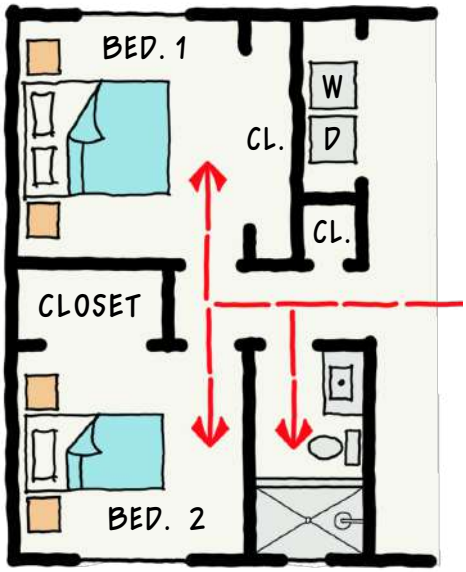
DESIGN 3

Two-bedroom arrangement with one full bathroom and a laundry closet facing the hallway. You can use this type of arrangement for designing small apartments.



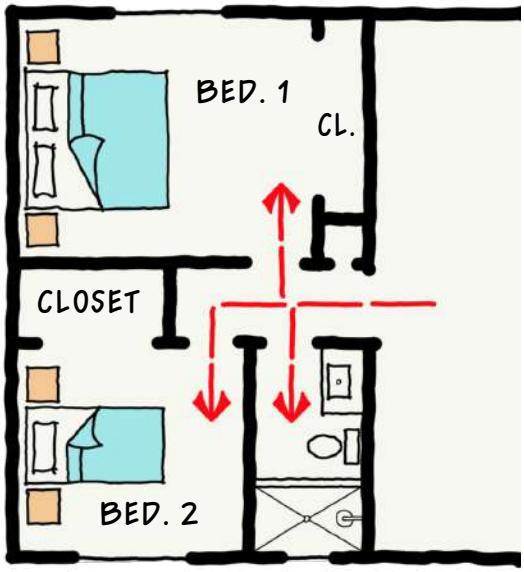
DESIGN 4

Three-bedroom arrangement with one full bathroom, a small laundry room, and a guest bathroom. You can apply this arrangement for designing small houses.



DESIGN 5

Smaller version of the two-bedroom, one-bathroom layout. You can use this type of arrangement for designing small apartments.

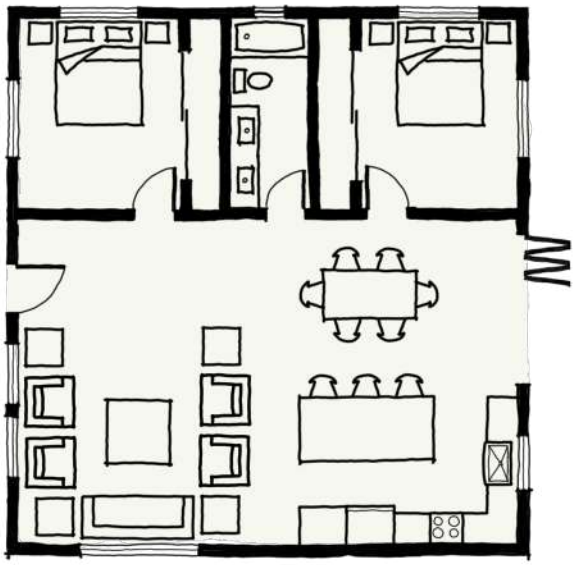


DESIGN 6

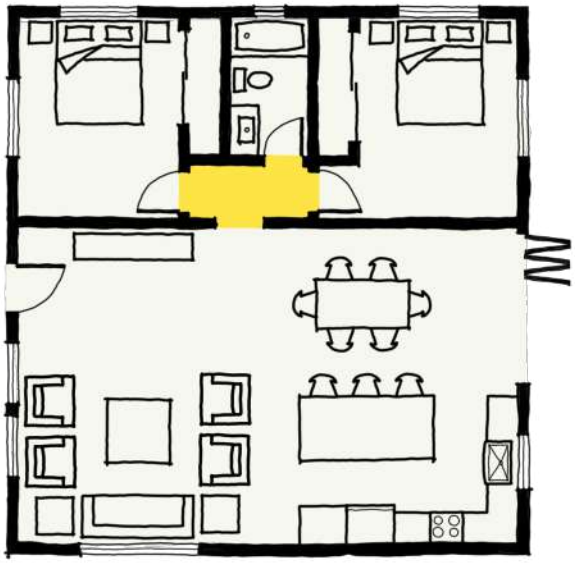
Two-bedroom, one-bathroom layout like design 5, with a larger bedroom 1 and no laundry closet.

PROVIDING PRIVACY TO SLEEPING AREAS

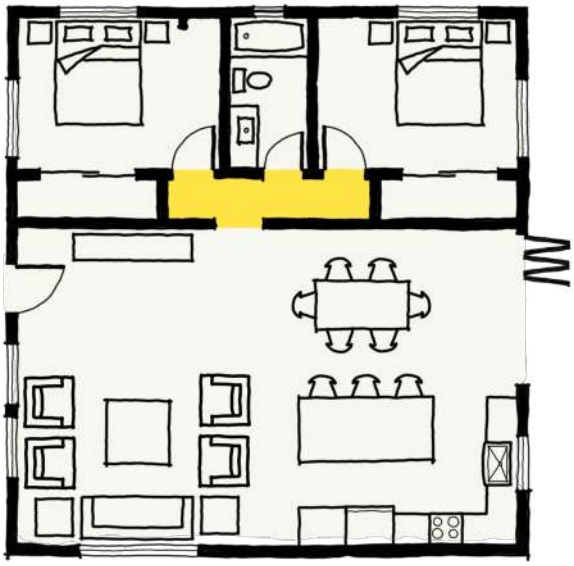
This technique is simple. If you want to create a sense of privacy between the sleeping areas and the living areas, you have to create a transitional space between them.



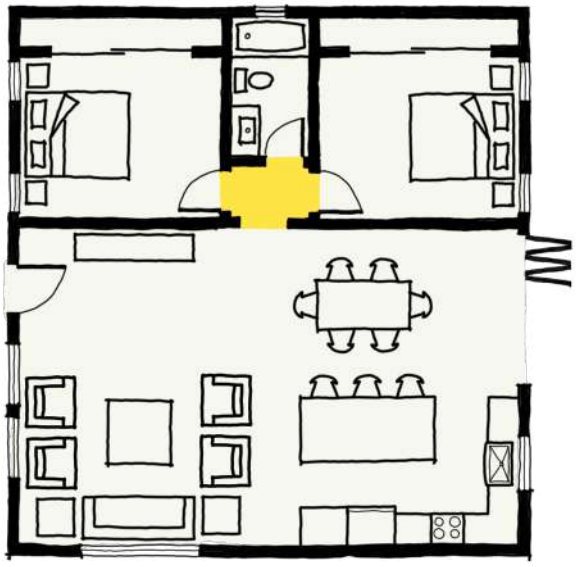
NO HALLWAY PROVIDED



HALLWAY PROVIDED



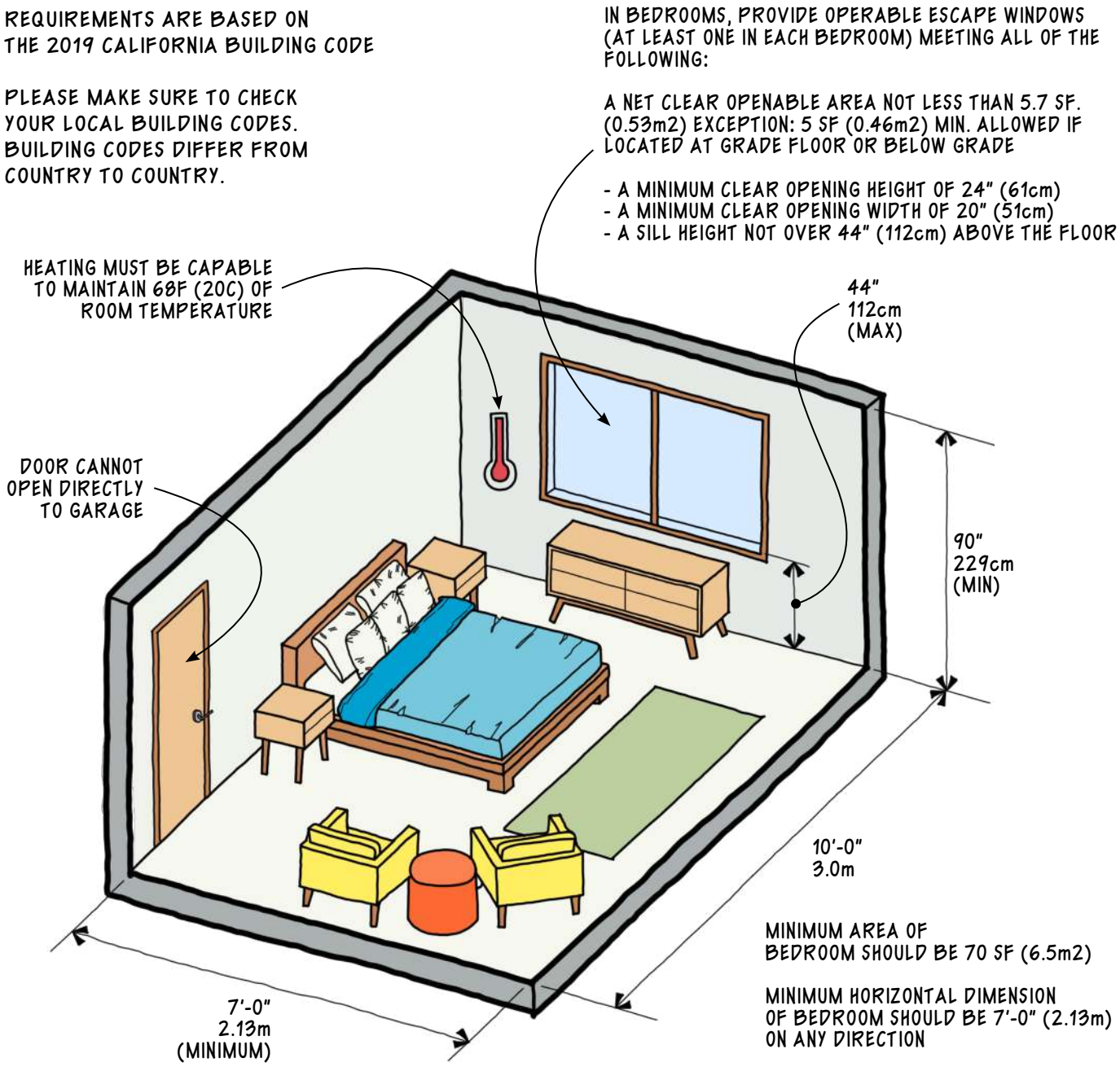
HALLWAY PROVIDED



HALLWAY PROVIDED

BEDROOM DESIGN

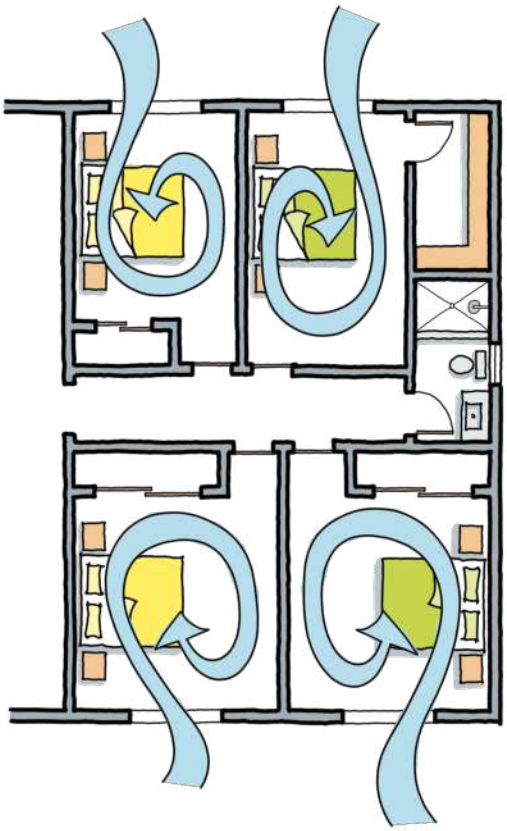
How do you know when a room can be legally called a bedroom? Here in North America, the legal term is based on the minimum size of the room, the minimum size of the openings required to provide emergency escape, natural light and ventilation, and how the room is connected with the rest of the house and the exterior.



PROVIDING NATURAL CROSS VENTILATION TO BEDROOMS

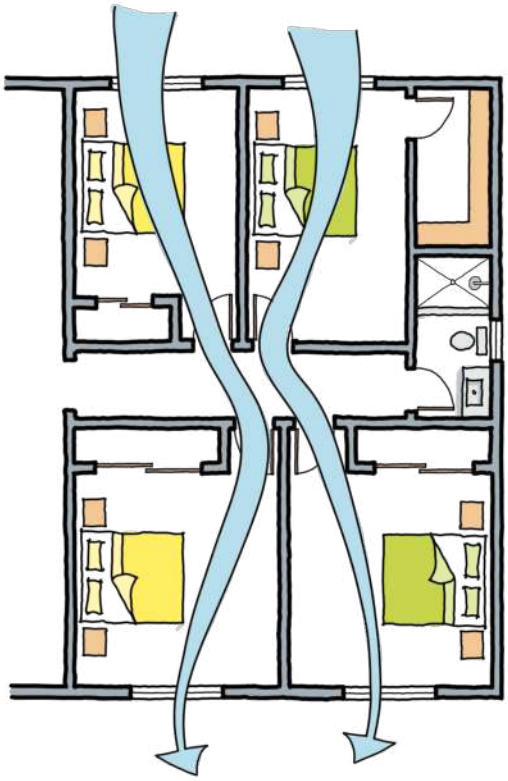
The purpose for this strategy is very simple. To clean and change the air of your bedroom, you have to open your windows, but also your door. High accumulation of CO2 reduces cognitive ability.

You can do this during the morning while not using the bedrooms. It doesn't have to be done permanently; a few minutes per day is enough.



ONLY WINDOWS OPENED

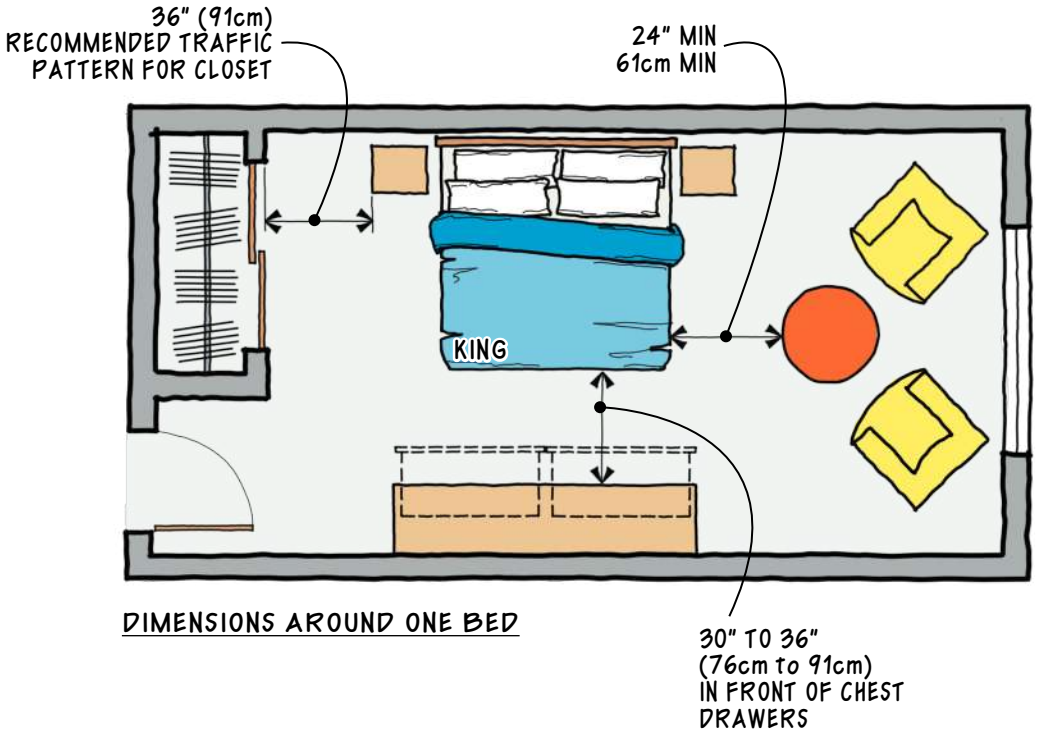
When it comes to ventilating a bedroom, most people only open the window with the bedroom door closed.



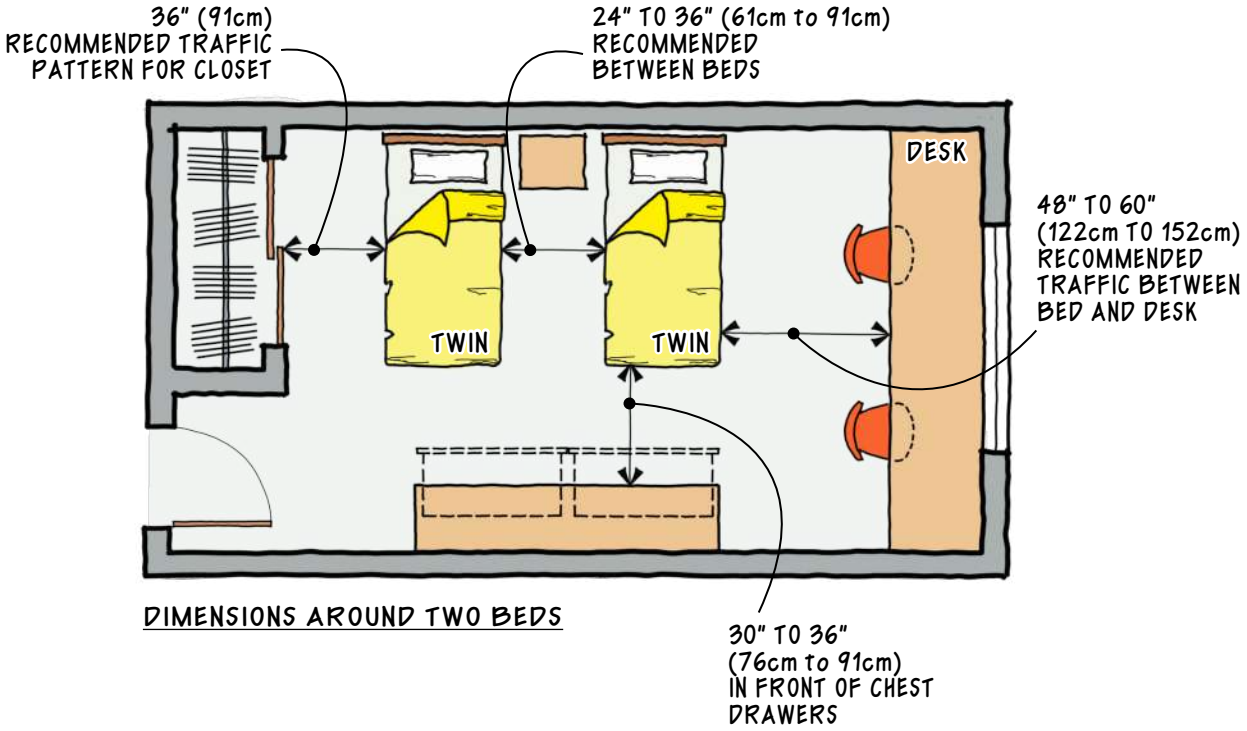
WINDOWS AND DOORS OPENED

The idea is to create a path for the air to pass through, opening the doors and windows of the opposite rooms.

BEDROOM FURNITURE AND CLEARANCES

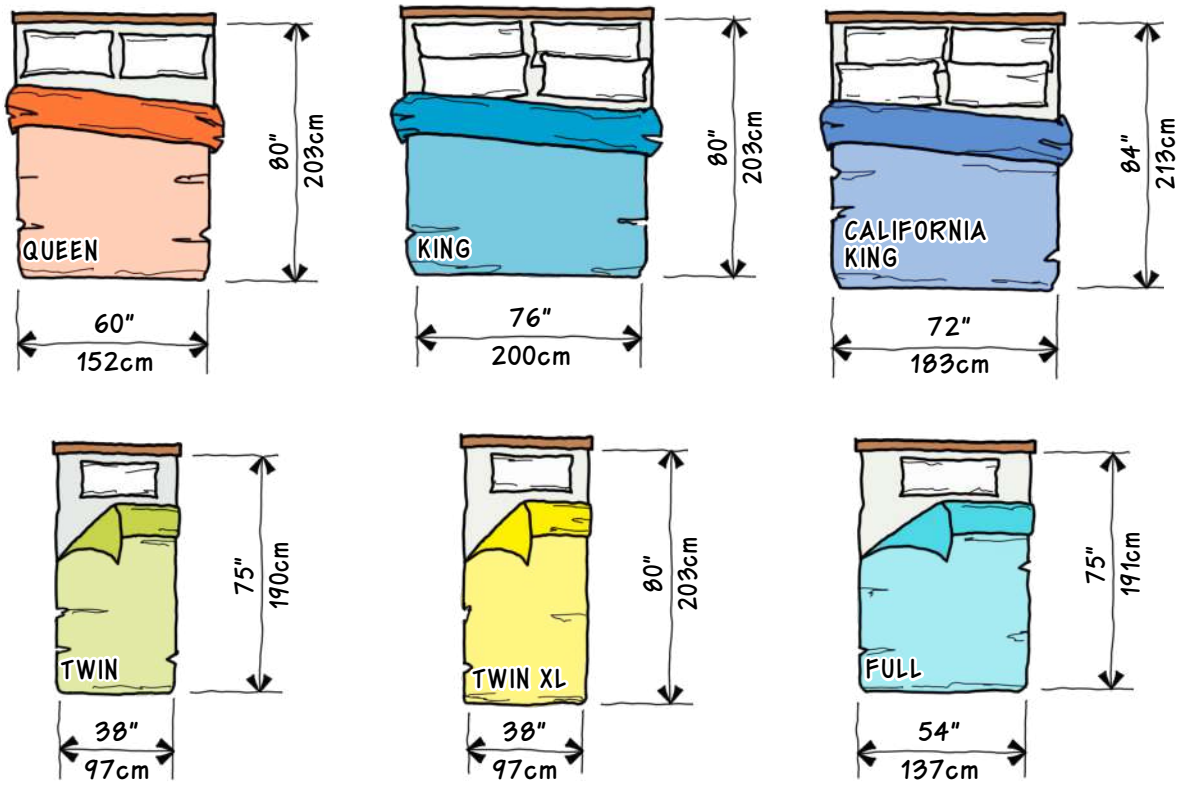


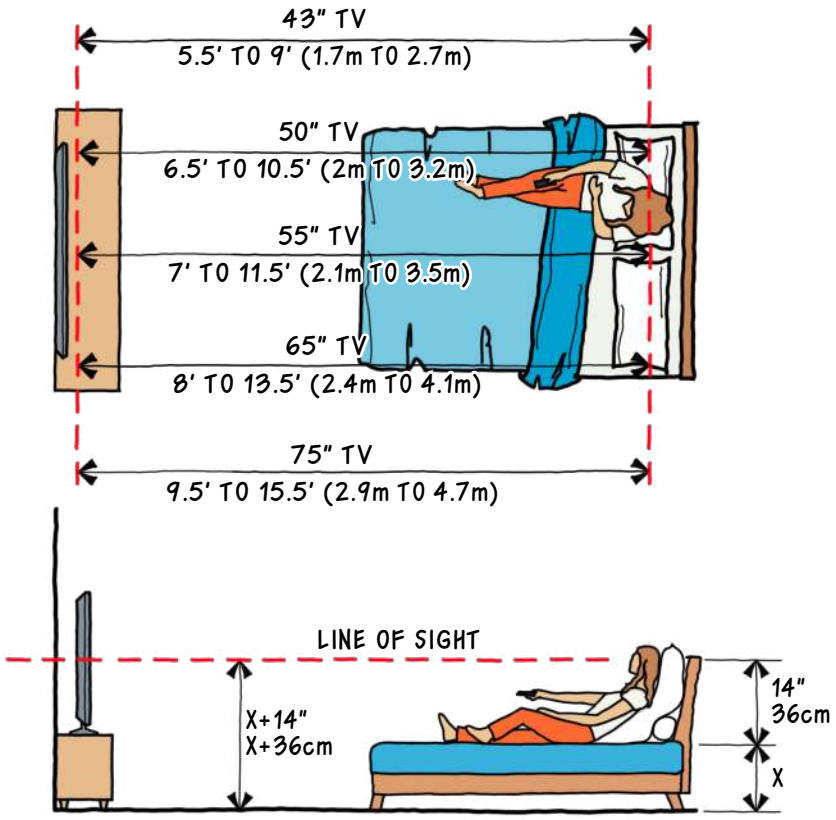
DIMENSIONS AROUND ONE BED



DIMENSIONS AROUND TWO BEDS

BED SIZES AND HDTV VIEWING DISTANCES FROM BED

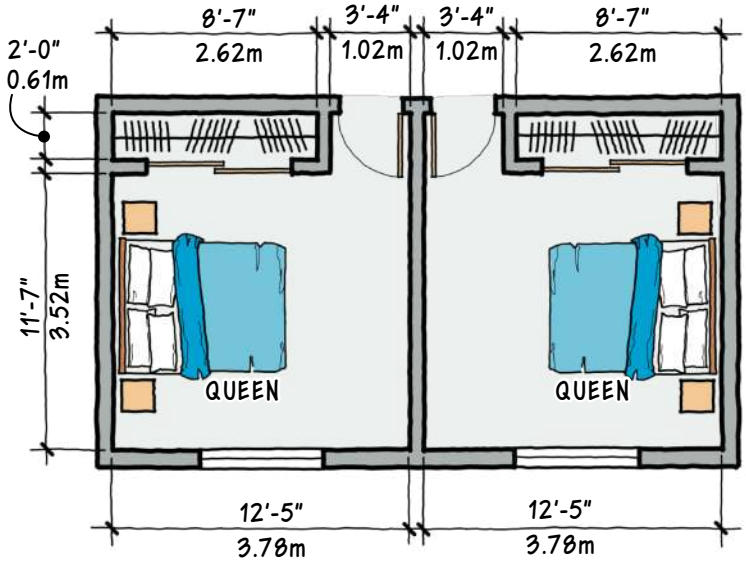


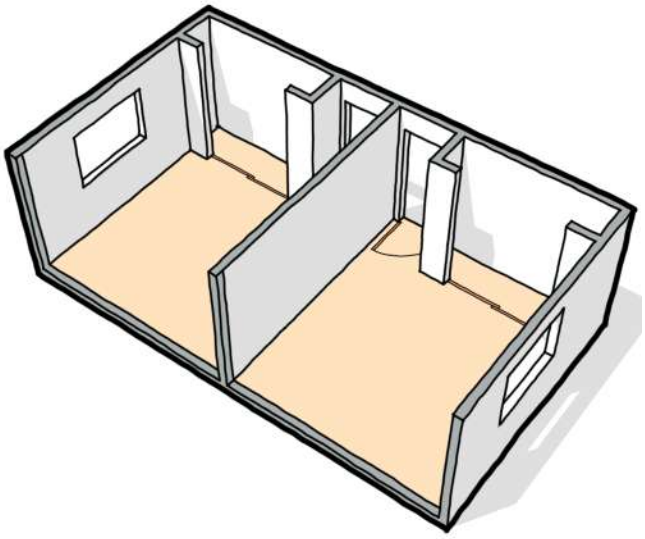


SIDE BY SIDE BEDROOM LAYOUTS

In design, there are situations where you can take many advantages in terms of the efficient use of space. Having two rooms next to each other that share the same use of the space is one of them.

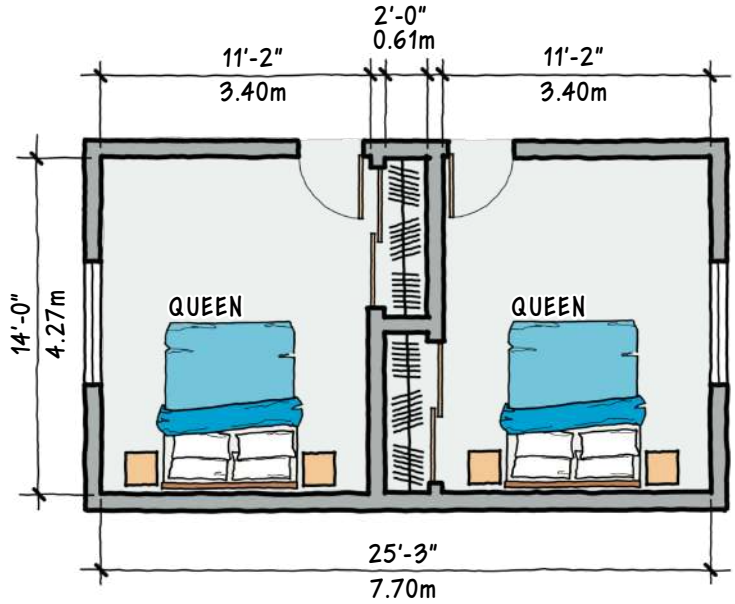
The need for both bedrooms to have a closet and the way you access them can help you provide an efficient design solution, replicating it for both of them. Keep in mind that all these solutions have their pros and cons.

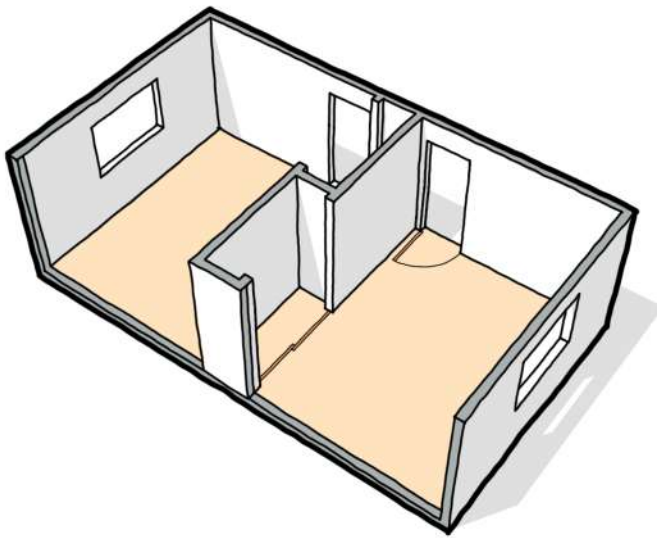




DESIGN 1

A simple design solution with closets along one of the walls. The downside about this design is that it does not provide sound control between both bedrooms, and a hallway may be needed to avoid doors opening directly to the living and dining room areas.

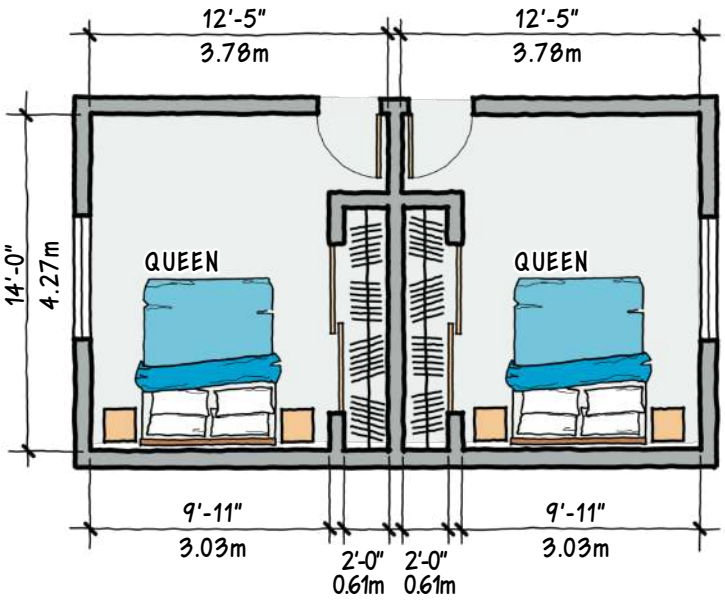


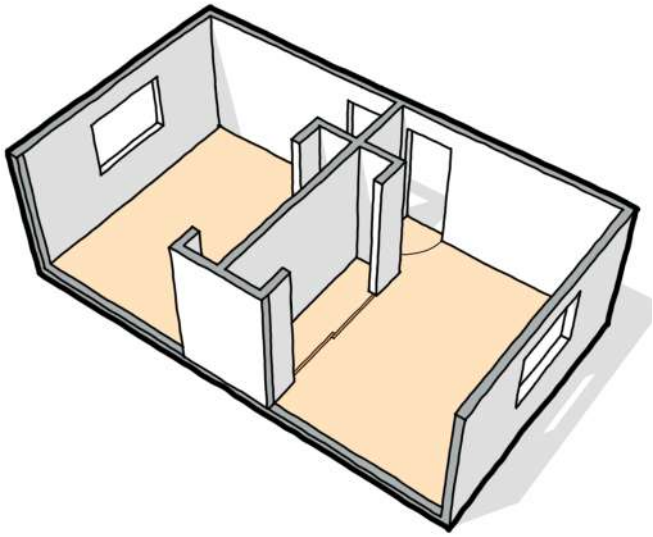


DESIGN 2

Placing the closets along the shared wall of both bedrooms can be a very efficient solution. It helps provide sound control, but it reduces the size of the closets in length. As in design 1, a hallway may be needed to avoid doors opening directly to the living and dining room areas.

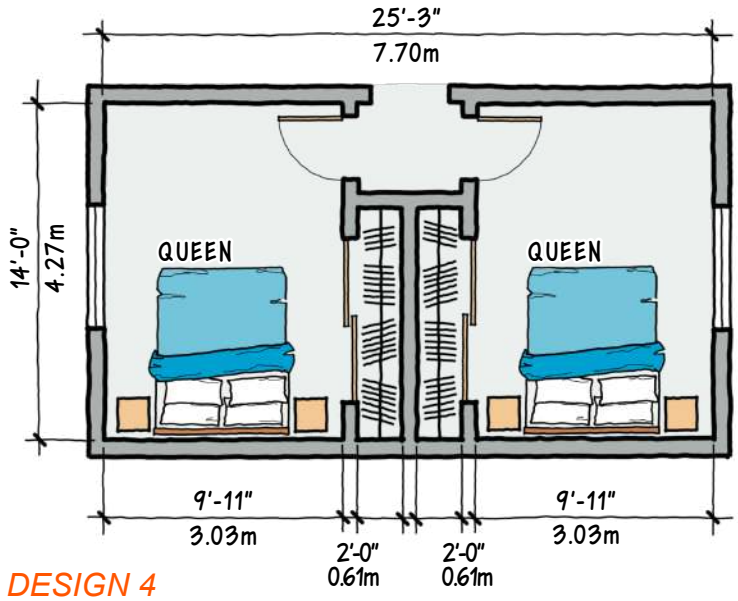
SIDE BY SIDE BEDROOM LAYOUTS

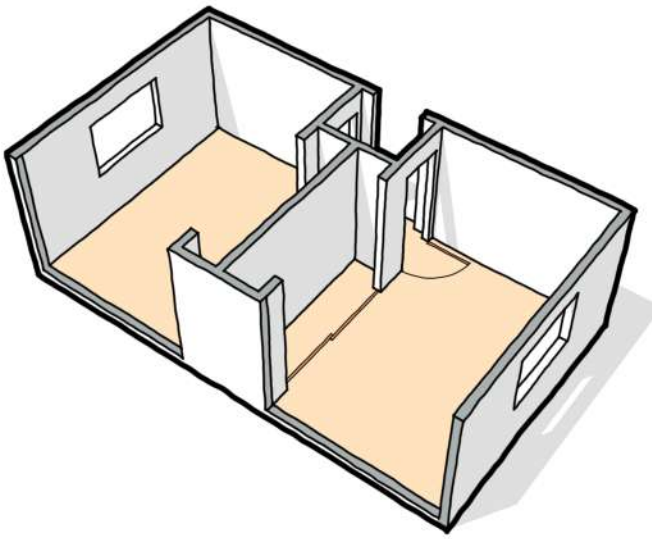




DESIGN 3

Similar design solution as in design 2 but with larger closets in between both bedrooms. The bedrooms become narrower on one side because of the closets location. The access to bedrooms seems a little awkward because of the door opening directly to the closet wall.



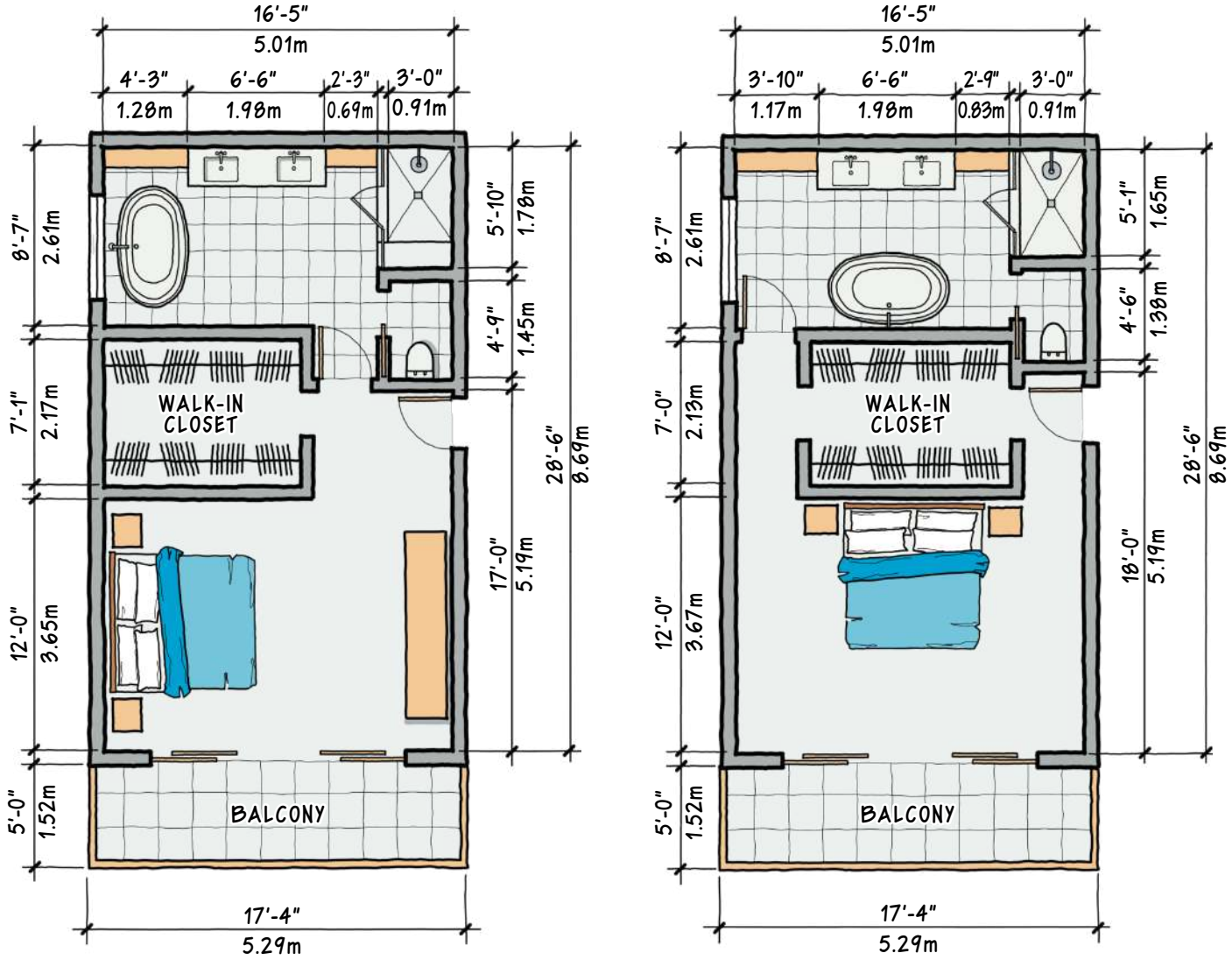


DESIGN 4

This is a very efficient solution for small houses or apartments when you don't have much space and want to provide a sense of privacy. The layout allows for a transitional space between bedrooms and the living room and dining room without the need for a hallway. Sound control is also provided by placing the closets in between the bedrooms.

PRIMARY BEDROOM DESIGN

The primary bedroom is the largest bedroom that has the most private and best location in the house. In some cases, a primary bedroom also has access to its own walk-in closet and a full bathroom with a vanity sink, bathtub, shower, and toilet enclosure.



PRIMARY BEDROOM - OPTION 1

PRIMARY BEDROOM - OPTION 2

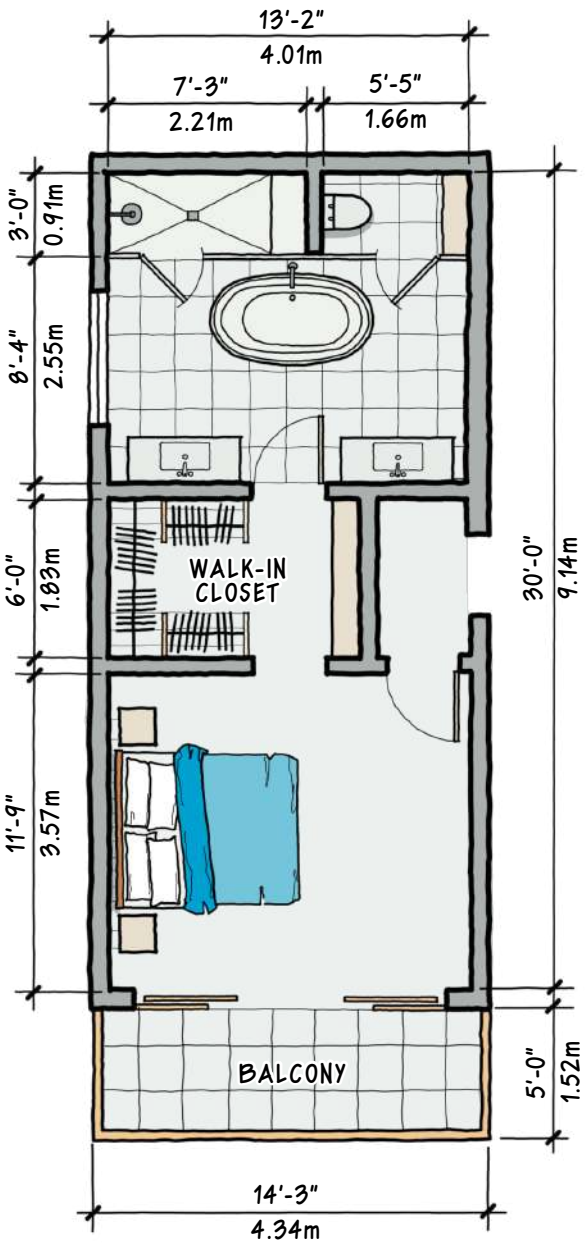
DESIGN 1

Here are two design options using the same rectangular space in size. In this case, we are assuming that the entry door leads directly to a hallway.

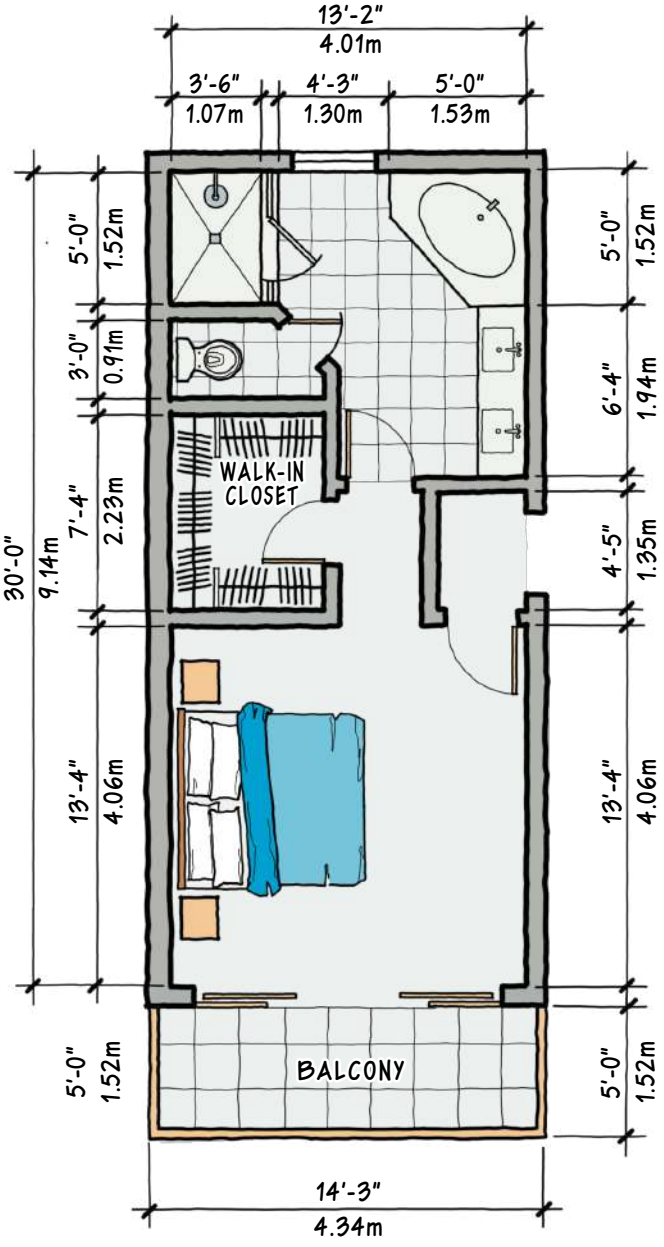
Option 1 has the walk-in closet on one side of the bedroom, which leaves a small transitional space for accessing the bathroom and the walk-in closet.

Option 2 has the walk-in closet right in the middle of the bedroom, creating a passageway connecting the bathroom with the entry door.

PRIMARY BEDROOM DESIGN



PRIMARY BEDROOM - OPTION 1



PRIMARY BEDROOM - OPTION 2

DESIGN 2

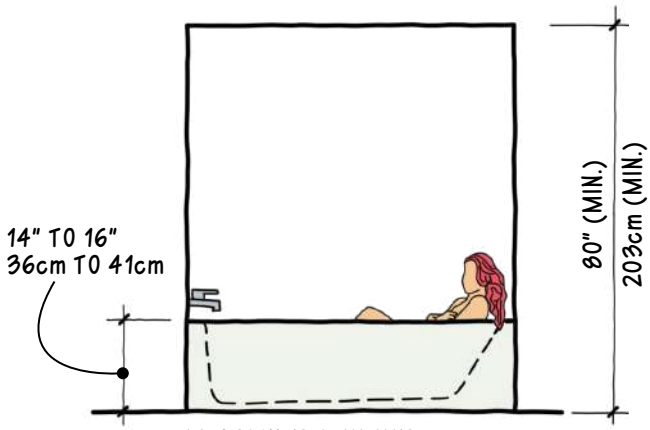
These two primary bedroom options also use the same rectangular space in size, but in this case, we are assuming that the entry door leads directly to a semiprivate area like a living room.

Option 1 has a bathroom that is accessed by passing through a small walk-in closet. This allows for a more comfortable and larger bathroom.

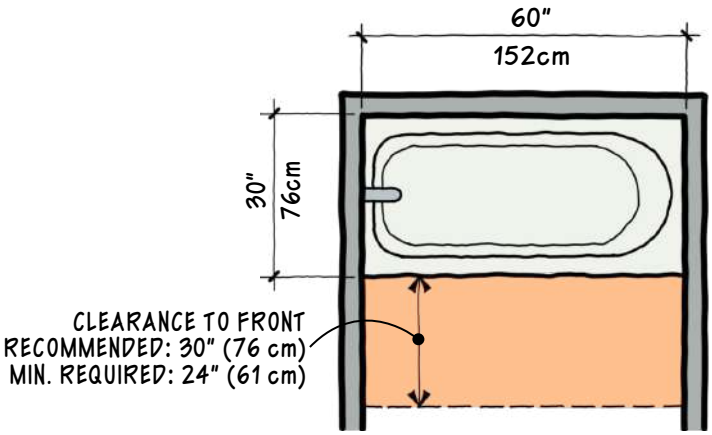
Option 2 has a larger walk-in closet with part of it tucked into the bathroom. This makes the bedroom area and the walk-in closet a little bigger, but sacrifices bathroom space.

BATHROOM DESIGN

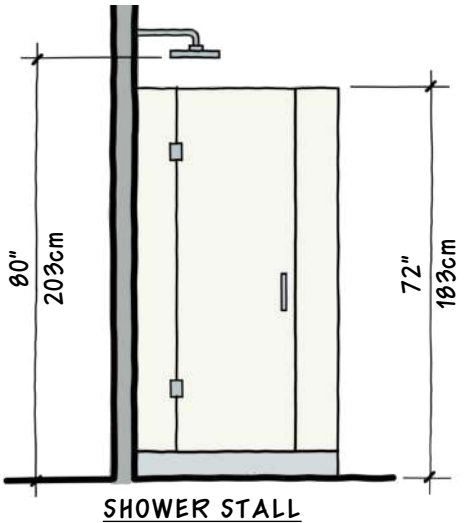
FIXTURE CLEARANCES AND DIMENSIONS



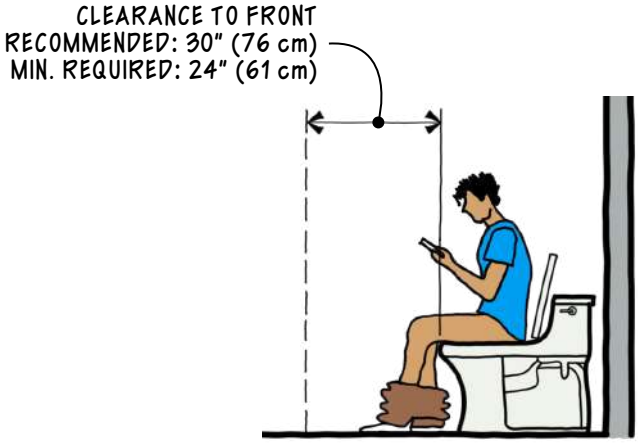
ALCOVE BATHTUB



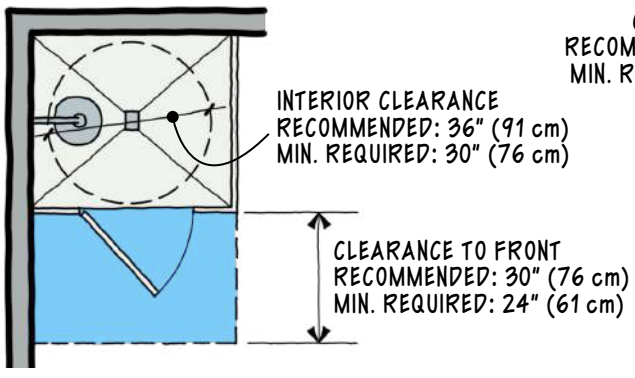
ALCOVE BATHTUB



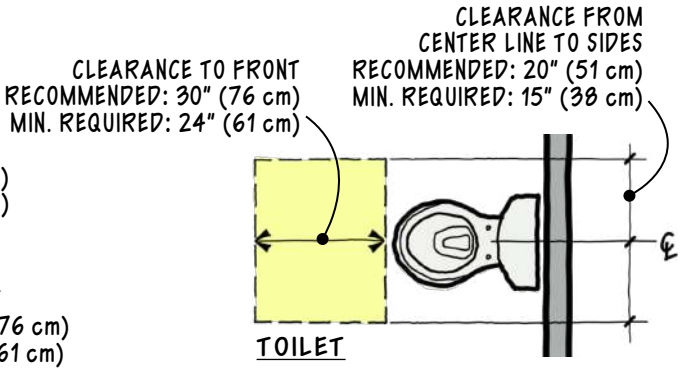
SHOWER STALL



TOILET

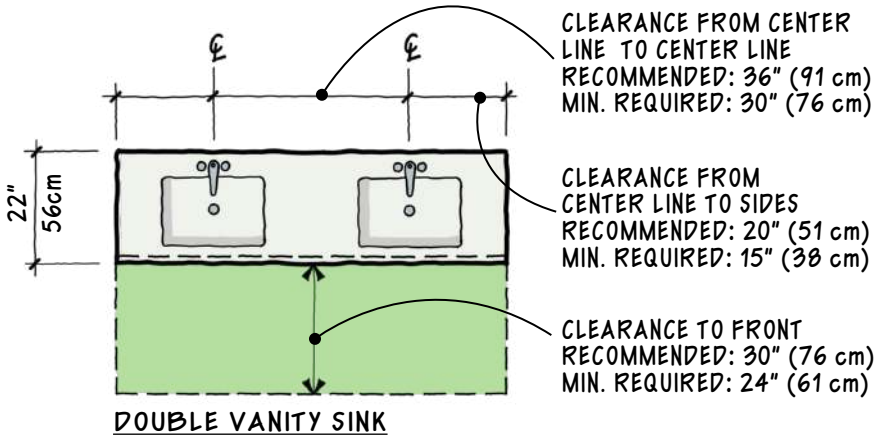


SHOWER STALL

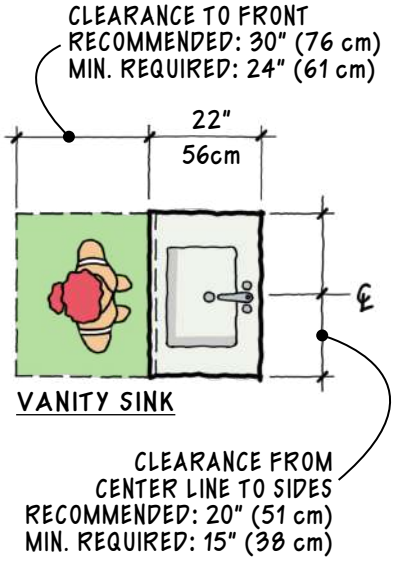


TOILET

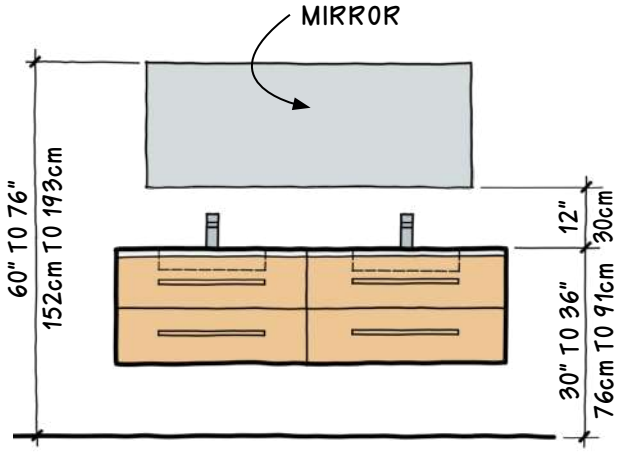
FIXTURE CLEARANCES AND DIMENSIONS



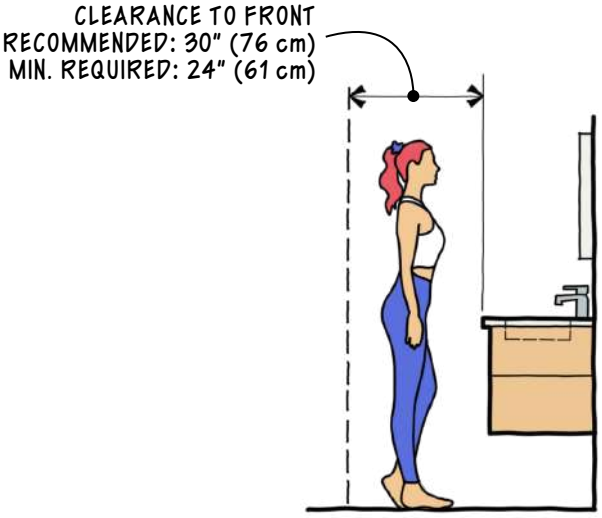
DOUBLE VANITY SINK



VANITY SINK

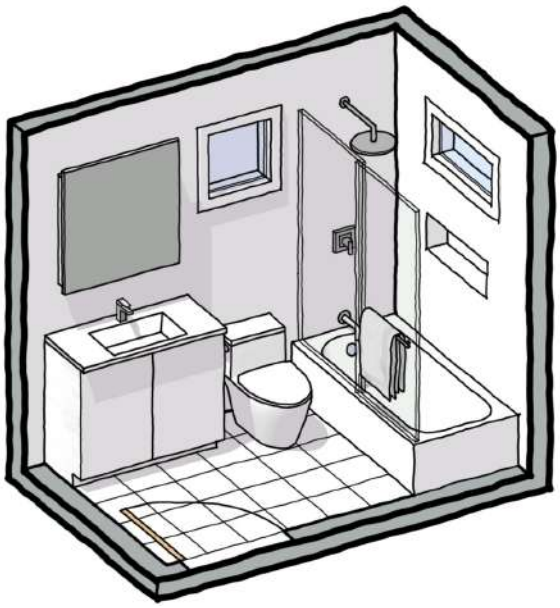


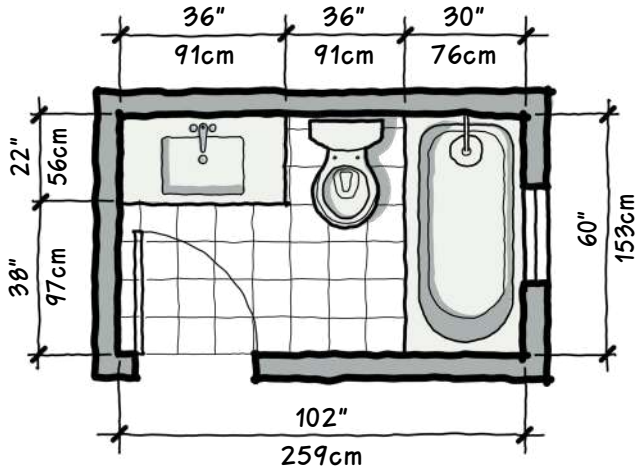
DOUBLE VANITY SINK



VANITY SINK

BATHROOM DESIGN - TYPICAL LAYOUTS

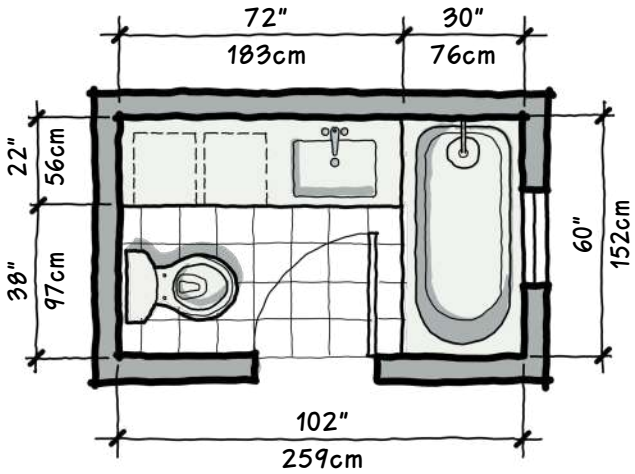




DESIGN 1

The most common layout used in residential projects. Each plumbing fixture has enough clearance space for a person and utilizes a linear single plumbing wall. Definitely the most practical of all.



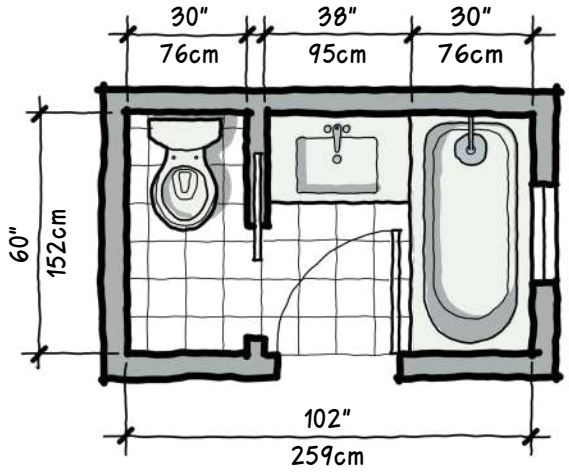


DESIGN 2

Having a door opening directly to the toilet can feel visually awkward, but it always depends on what your priorities are. If you don't want your door to hit the toilet and want to give priority to more storage space, then the visual aspect can become secondary.

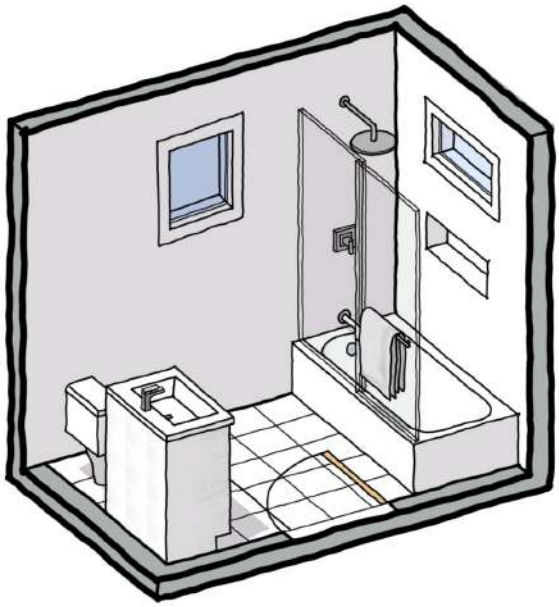
BATHROOM DESIGN - TYPICAL LAYOUTS

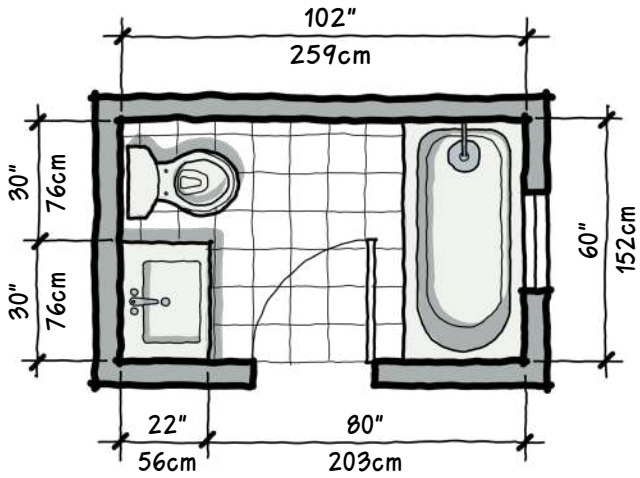




DESIGN 3

The addition of a toilet enclosure could be a good solution for a large family with kids where multiple people need to use the bathroom in a small house. While one person is taking a shower, the other one can use the toilet at the same time.

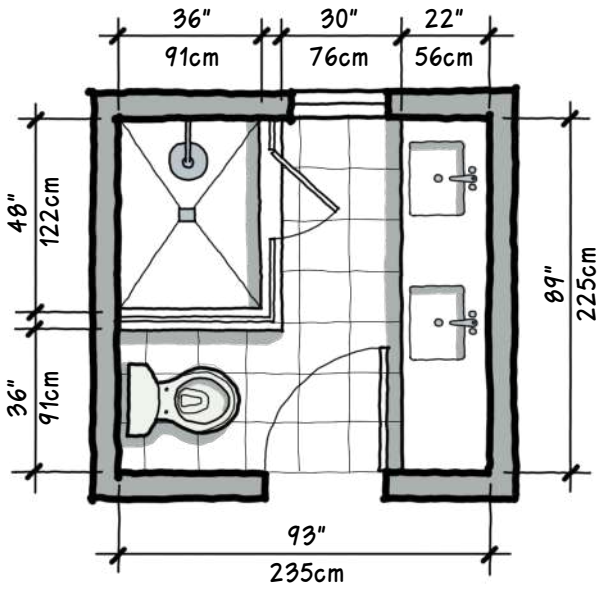




DESIGN 4

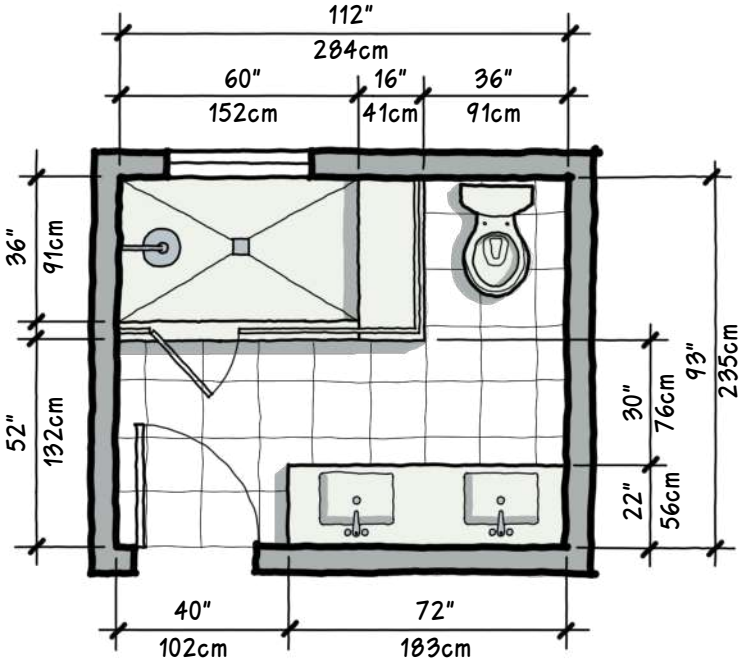
This design prioritizes space in front of the toilet, sink, and plenty of room for a person getting out of the tub / shower. The door opens inwards with easy access to the most utilized plumbing fixtures.

BATHROOM DESIGN



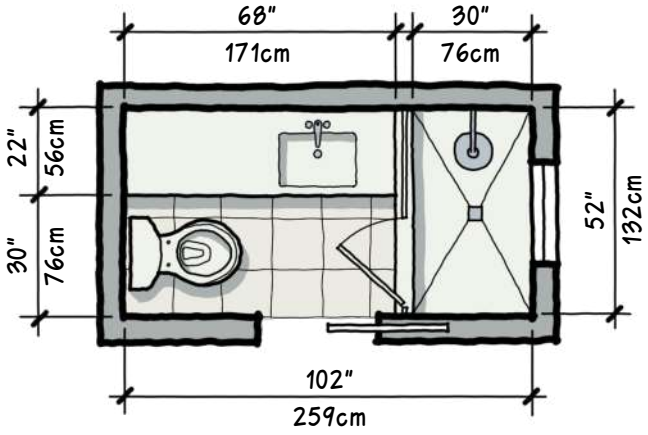
DESIGN 1

Efficient linear flow and enough space for circulation. The location of the toilet is not visually appealing, but the overall layout works well with extra counter space.



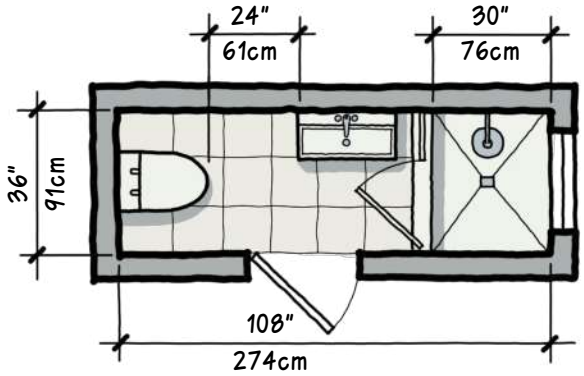
DESIGN 2

Efficient layout as in design 1 but with a larger footprint and an “L” shaped type of flow. The shower is larger, and the toilet is concealed far from the entry. The downside in this design could be the use of three different plumbing walls.



DESIGN 3

Pocket sliding doors are not the most practical solution. Over time, tracks could be damaged and rollers might be worn out, but they still offer an alternate solution for small bathroom design.



DESIGN 4

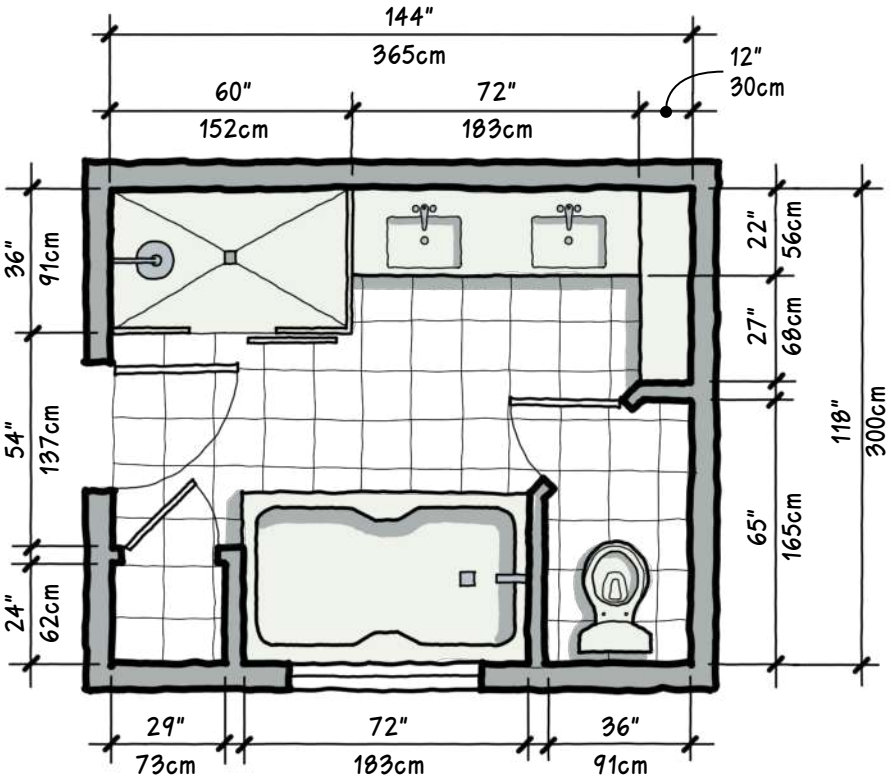
The most compact full bathroom floor plan. Part of this bathroom could be placed tucked in underneath the stairs if you get enough headroom clearance for the toilet.

PRIMARY BATHROOM DESIGN

DESIGN 1

A medium size bathroom for a primary bedroom. The bathtub is centrally placed next to a picture window where you can enjoy a nice view. The toilet enclosure allows for two people to use the bathroom at the same time.

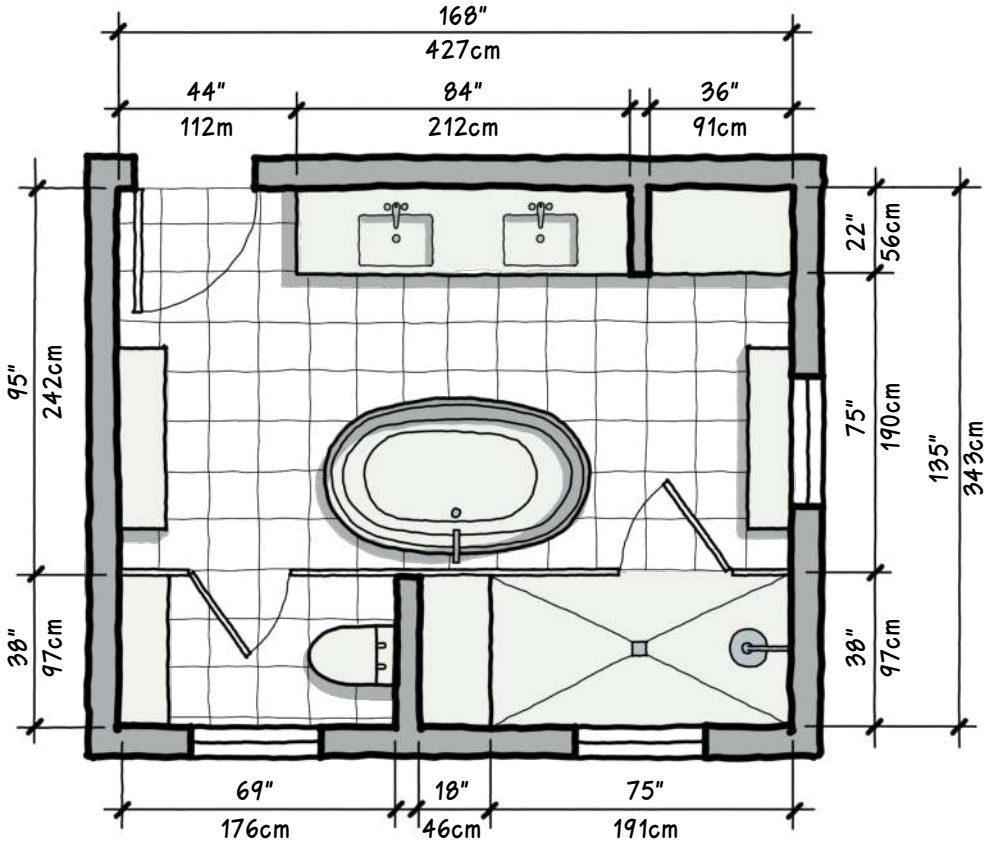
Things that could be improved in this design are the awkward shape of the toilet enclosure and the entry door colliding with the glass shower enclosure and the closet door.



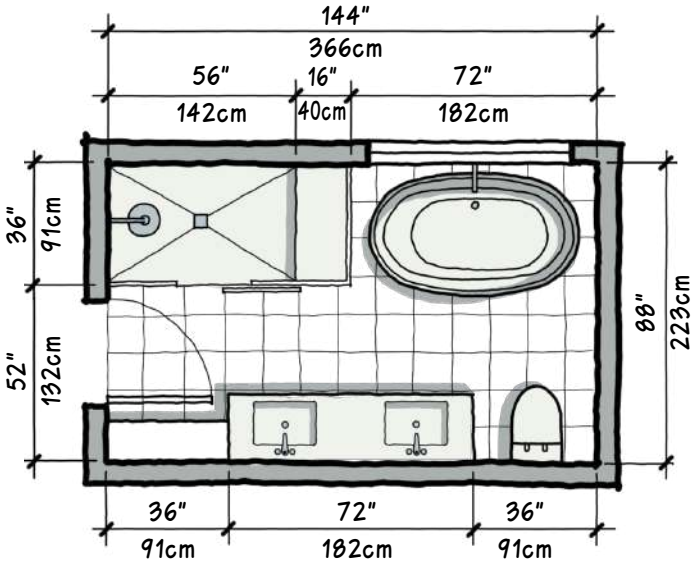
DESIGN 2

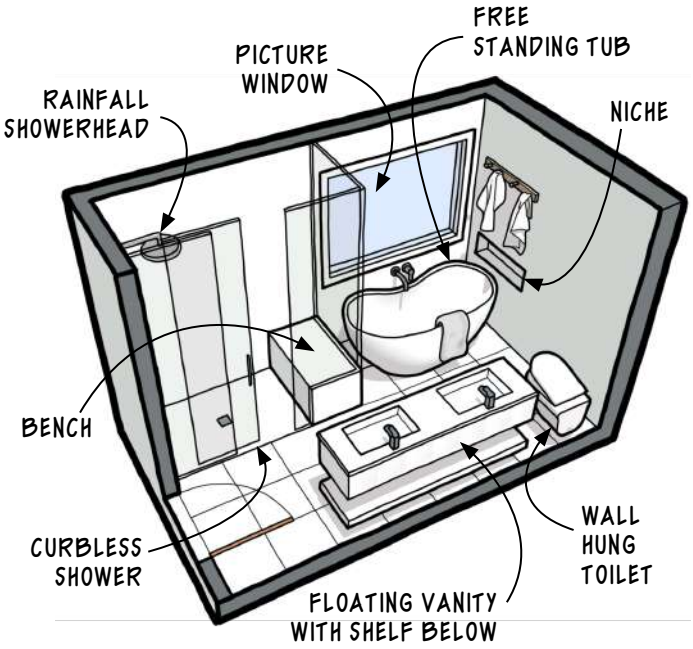
The luxury version of the primary bathroom. This design has a freestanding tub, a double vanity sink, a large shower, a toilet with a glass enclosure, and plenty of storage.

Keep in mind that a significant amount of space is needed for these types of designs. The cost is also elevated due to the quantity of finishes for a large bathroom and the types of plumbing fixtures you will be using.



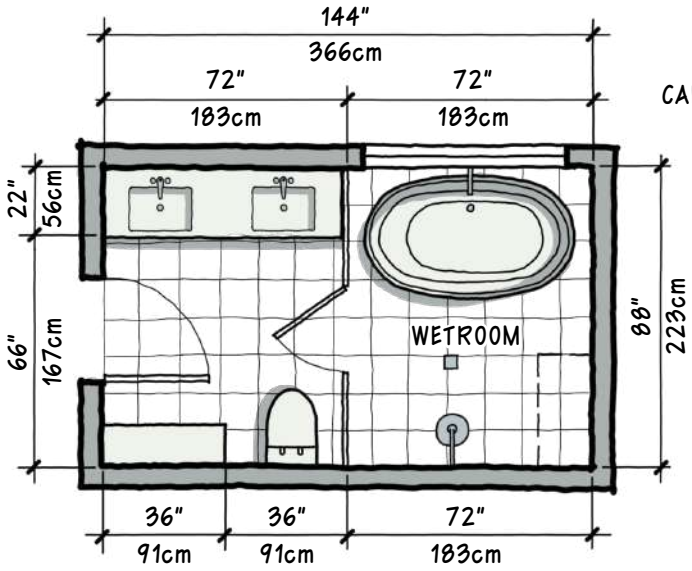
PRIMARY BATHROOM DESIGN

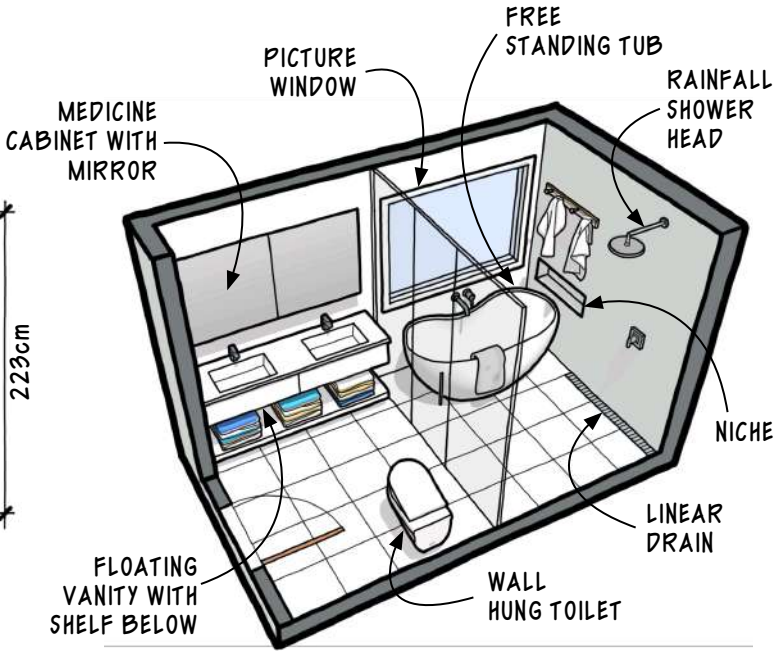




DESIGN 3

The location of the plumbing fixtures on each side of the space allows the creation of a center aisle, generating an efficient linear flow. Although the circulation space may feel cramped, the bathroom fulfills its basic purpose.





DESIGN 4

Wet rooms are considered a high-end bathroom option, but in some cases, they can be a solution for small spaces. This bathroom has the exact dimensions as in design 3, yet the space seems bigger. The biggest challenge for a wet room is that the entire room enclosure gets wet, so it needs to be entirely waterproofed.

Chapter 5

KITCHEN AREA

KITCHEN DESIGN

If we want to go back to the most basic concepts of a kitchen, we will have to go to the 19th century and the beginning of the 20th century. At that time, family life was developed around a single source of heat, which could be a fireplace or a coal oven. This single source of heat was used to warm the room and was also used for cooking; therefore, all daily activities such as sleeping, eating, and hanging out were carried out in a single space.

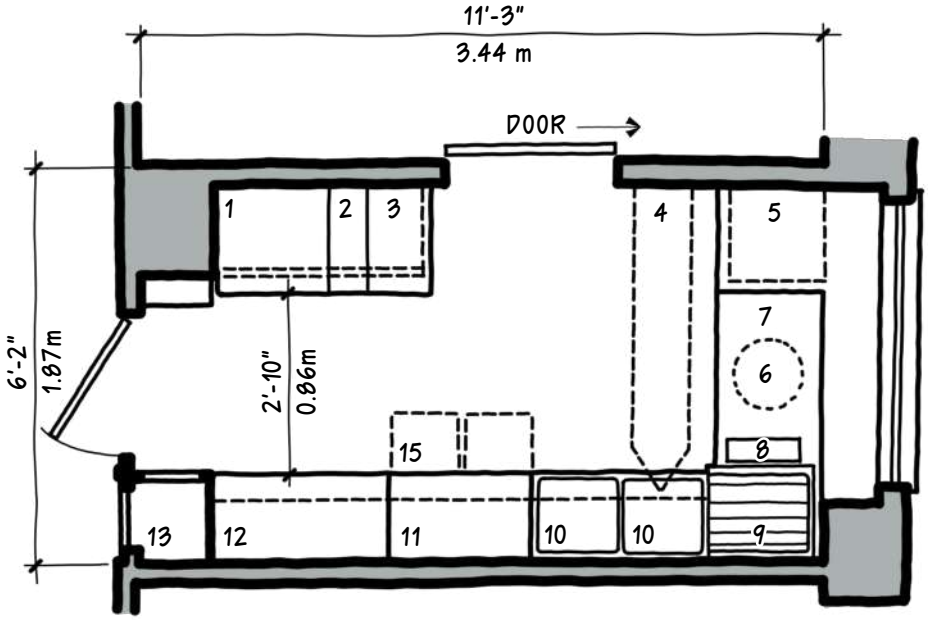
THE DIAGRAM PLAN THAT CHANGED IT ALL

The first gas stoves were developed in the 1820s, but it wasn't until the early 20th century that they became widespread on the European Continent and in the United States. This was a huge game changer in the design of new houses. People could have two sources of heat in two different places instead of one; therefore, the design opportunities for a new house became broader.

In 1926, Austrian architect Margarete Schtte-Lihotzky came up with the diagram that revolutionized how kitchens are designed nowdays, the "Frankfurt Kitchen". The design began as part of a project for ten thousand social housing units, but it has defined the concept of the kitchen as we understand it to this day.

The main idea of the “Frankfurt Kitchen” was to separate the cooking area in one single space based on contemporary theories about efficiency, hygiene, and workflow. In planning the design, Margarete conducted detailed time-motion studies and interviews with housewives and women’s groups. She measured to the millimeter the dimensions that everything had to have to minimize the number of steps you take to complete each task.

1. GAS STOVE
2. COUNTERTOP
3. COOK BOX
4. FOLD-DOWN IRONING BOARD
5. FOOD CUPBOARD
6. SWIVEL STOOL
7. WORK SURFACE
8. GARBAGE DRAWER
9. DRAINING BOARD
10. SINK
11. ALUMINUM STORAGE BINS
12. CUPBOARD FOR POTS AND PANS
13. BROOM CLOSET
14. HEATER
15. PULL-OUT BOARDS



FRANKFURT KITCHEN

THE KITCHEN TRIANGLE

The kitchen triangle concept was developed in 1940 and was designed “to maximize the efficiency” with only a few appliances available at that time: the refrigerator, the sink, and the stove.

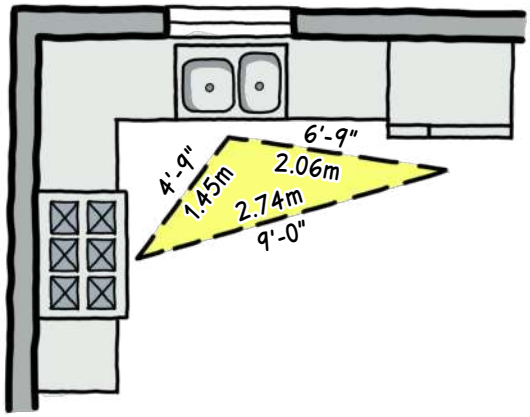
The idea is that the total distance of the triangle's three sides (the perimeter) should measure greater than 12 feet (3.7 m) and less than 26 feet (7.9 m), ensuring that no side is greater than 9 feet (2.7 m) or less than 4 feet (1.2 m). The triangle flow should not be interrupted with cabinetry or furniture.

When I was in architecture school, I was taught that when designing a kitchen, the workflow was very important and consisted of taking the food out of the refrigerator, washing it, chopping it, and finally, cooking it.

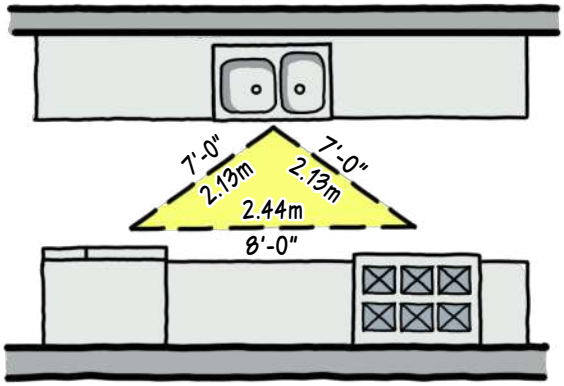
Times change, and kitchens have become more modern with increasingly sophisticated appliances, and its use changes from person to person. Nowadays, I don't think that all designs must be based on the workflow of the working triangle, but it is a good point to start your design.

Before designing a kitchen, always plan how you or your clients are going to use the space. It is recommended that you create a list and ask several questions:

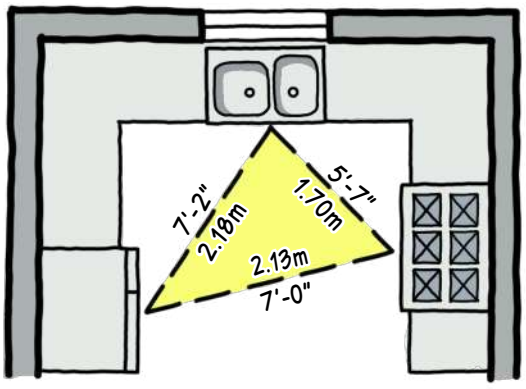
- Do I want it to be enclosed in a separate room?
- Do you want it to be part of an open floor plan?
- How often do you cook and for how many
- people?
- How many people are going to cook at the same time?
- Do you like to entertain and have family and people over for parties?



WORK TRIANGLE - “L” SHAPED



WORK TRIANGLE - GALLEY



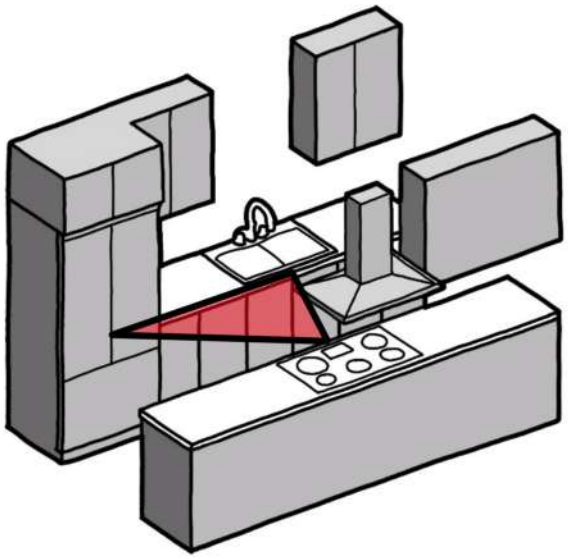
WORK TRIANGLE - “U” SHAPED

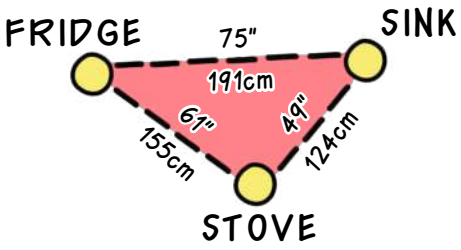
TYPICAL KITCHEN LAYOUTS

GALLEY KITCHEN

A galley kitchen consists of two parallel walls with base cabinets, wall cabinets, appliances, and counters arranged on both sides of a long central walkway.

This is a great option if you have little space for your kitchen; however, if there is not much space between counters, it could cause congestion if it is used by more than one or two people at the same time.



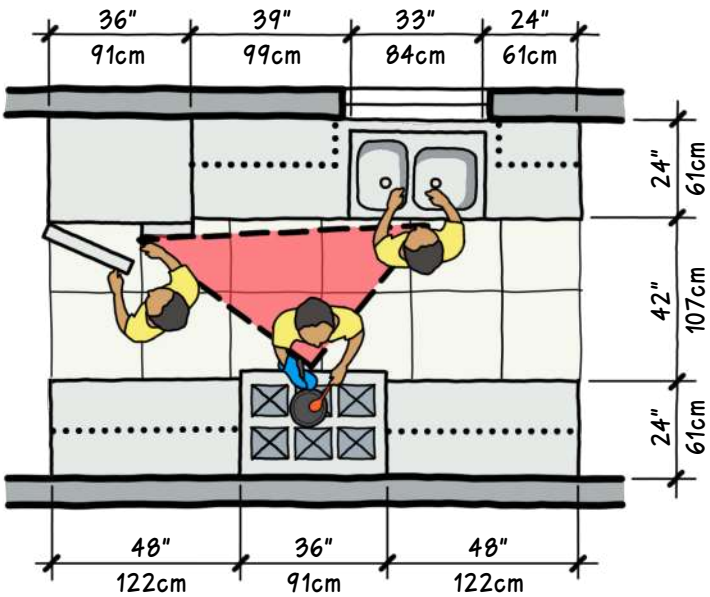


75" + 61" + 49" = 185" = 15'-5"

191cm + 155cm + 124 = 470cm = 4.70m

26'-0" > 15'-5" > 12'-0" ✓

7.9m > 4.70m > 3.7m ✓



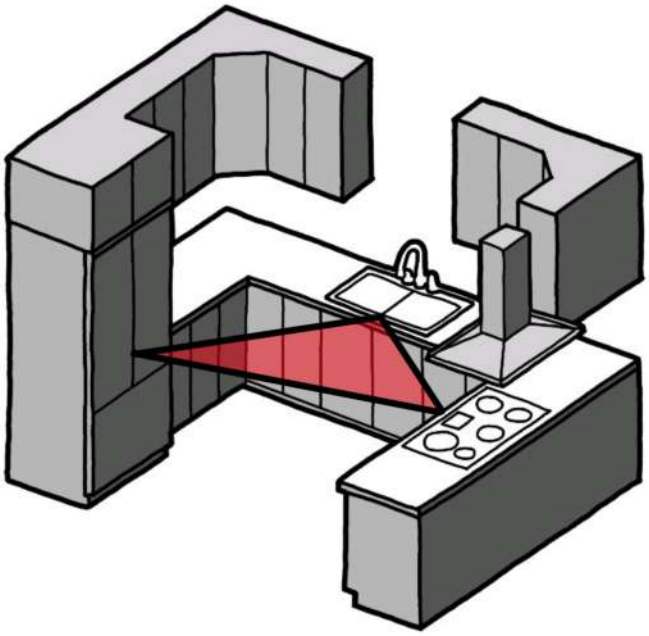
TYPICAL KITCHEN LAYOUTS

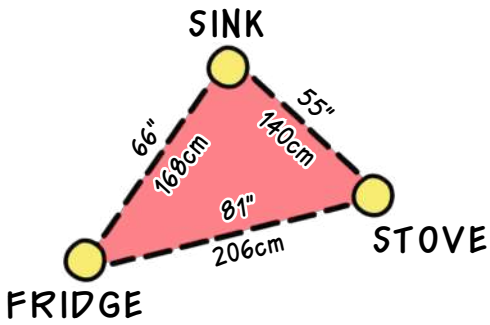
"U" SHAPED KITCHEN

"U" shaped kitchens generally need a large space, and because they require the use of three walls, the workflow is more comfortable and efficient since the distances are shorter.

Due to their shape, they require corner cabinets, and a bad design decision could result in a lot of wasted space, so it must be carefully designed.

In general, Lazy Susans and pull-out shelves are the most suitable tray systems for taking advantage of these blind corners, but they can increase the cost of the project.



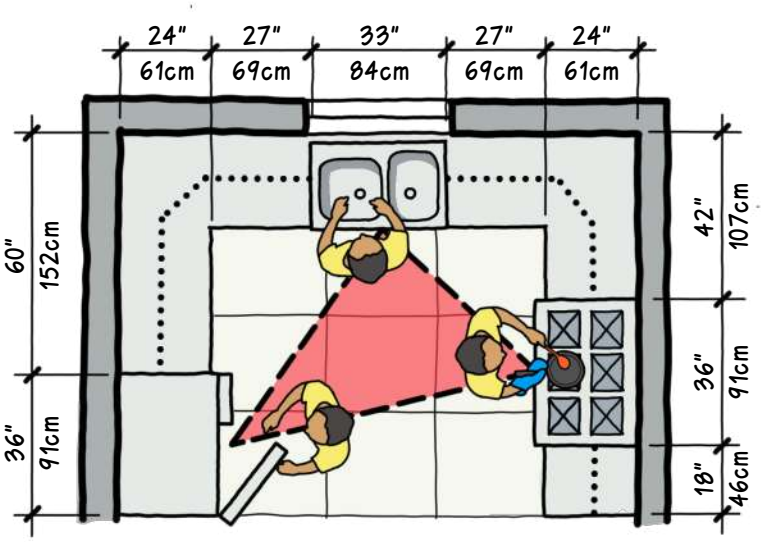


66" + 55" + 81" = 202" = 16'-10"

168cm + 140cm +206cm = 514cm = 5.14m

26'-0" > 16'-10" > 12'-0" ✓

7.9m > 5.14m > 3.7m ✓



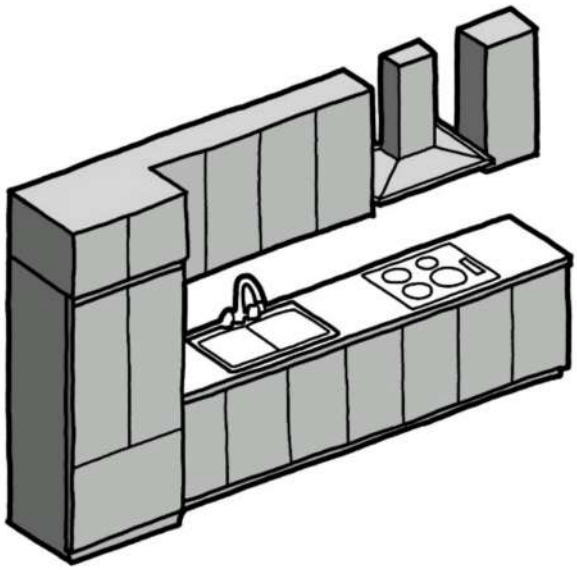
TYPICAL KITCHEN LAYOUTS

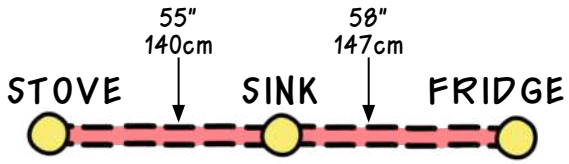
ONE-WALLED KITCHEN

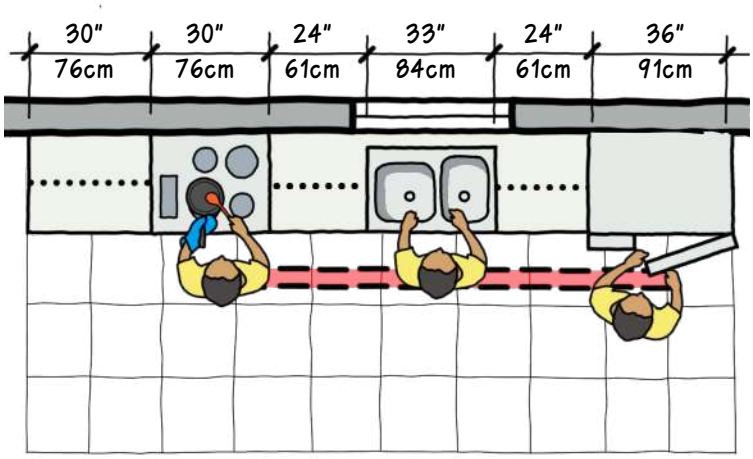
If you do not have much space available, a one-walled kitchen may be what you need. It makes use of minimum space, and it is typically found in lofts and studio apartments.

This style places the three workstations in a single file, mounting the appliances and cabinets on one wall.

The downside is that placing the workspaces beside one another would leave no space for a countertop between them. If you have enough space on the opposite side, you could add an island to this design.







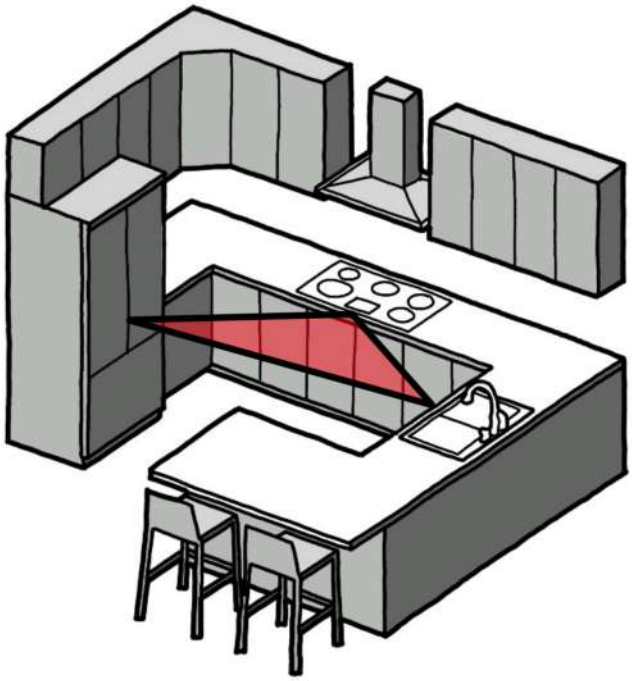
TYPICAL KITCHEN LAYOUTS

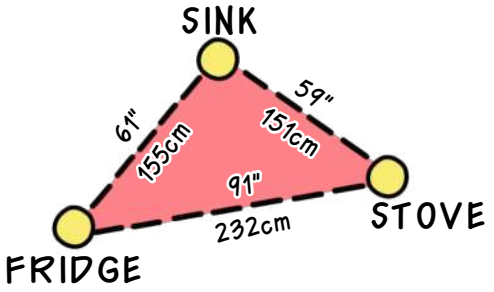
"G" SHAPED KITCHEN

A "G" shaped kitchen is basically a "U" shaped kitchen with a peninsula at the end of one side.

This type of distribution requires a larger space because of the peninsula addition.

Like "U" shaped kitchens, the workflow is more comfortable and efficient since the distances are shorter.



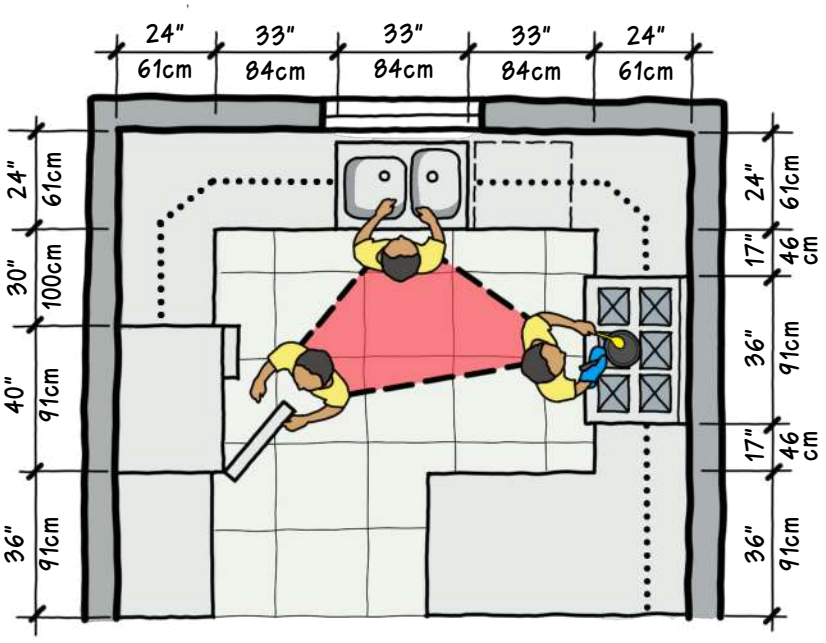


61" + 59" + 81" = 201" = 16'-9"

155cm + 151cm +206cm = 512cm = 5.12m

26'-0" > 16'-9" > 12'-0" ✓

7.9m > 5.12m > 3.7m ✓



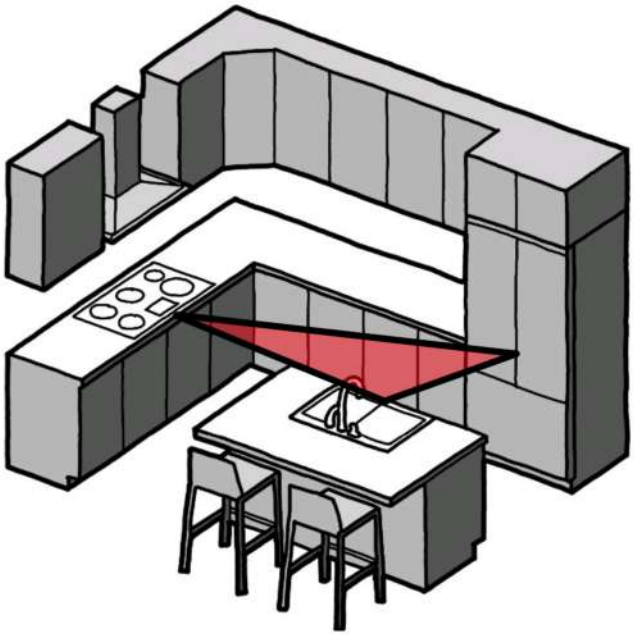
TYPICAL KITCHEN LAYOUTS

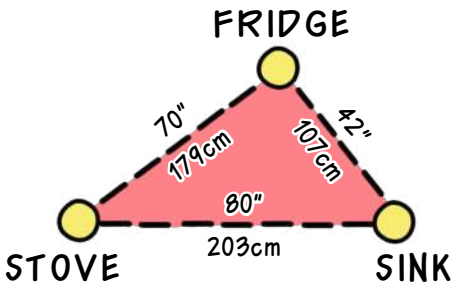
"L" SHAPED WITH ISLAND

In general, kitchens with islands are the ones that require the most space, since you need to have minimum space around the island depending on how many cooks are going to use the kitchen.

Usually, this type of kitchen is incorporated in open floor plan designs where the island faces the living room or dining room area.

The island gives you the flexibility to convert the workspace into a seating area according to the needs of your design.



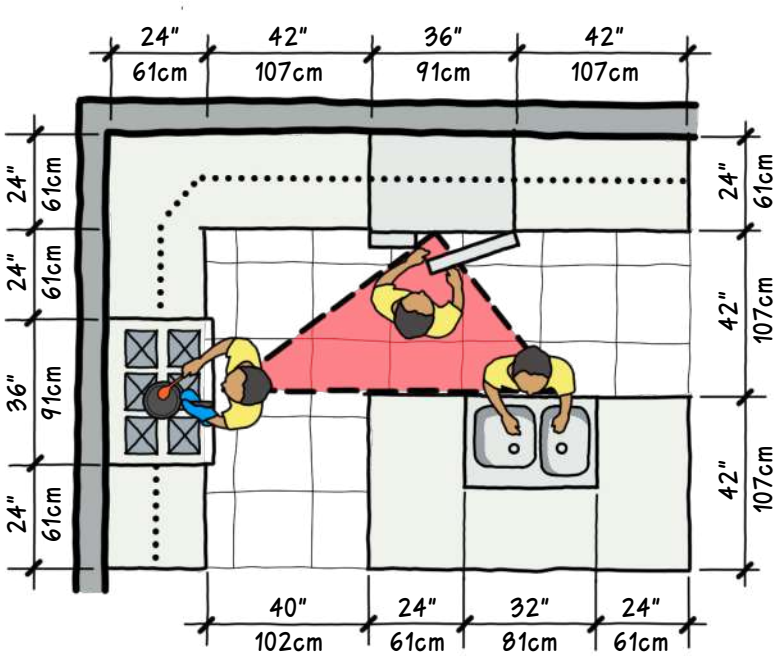


70" + 42" + 80" = 192" = 16'-0"

179cm + 107cm +203cm = 489cm = 4.89m

26'-0" > 16'-0" > 12'-0" ✓

7.9m > 4.89m > 3.7m ✓

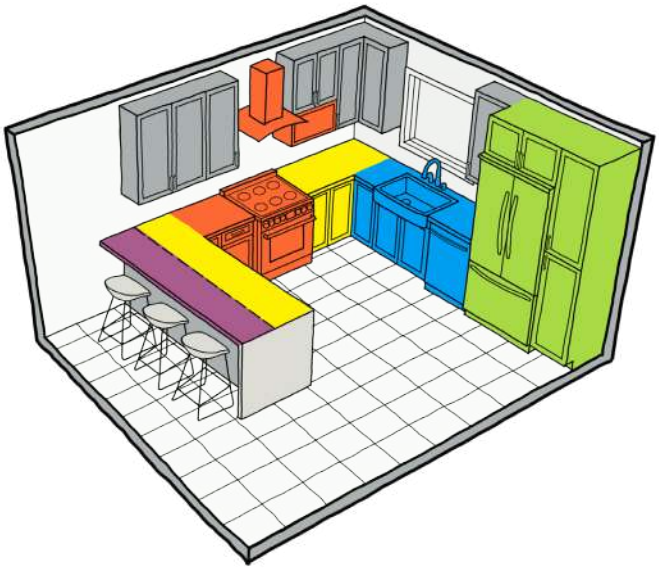


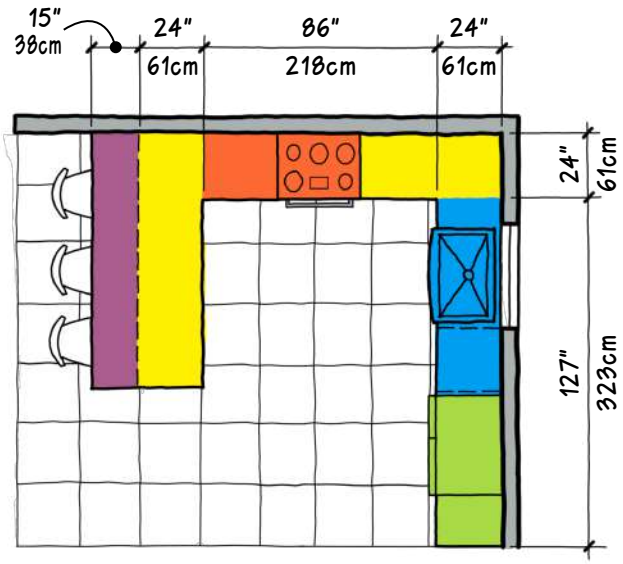
KITCHEN WORKING ZONES

Like I mentioned before, the kitchen working triangle is a good point to start your kitchen, design but it has some limitations and doesn't work for all kitchens.

Kitchen zones are separate workspaces within a layout, each intended for a different task, and if they are well located, it can improve your workflow and efficiency.

Kitchen zones are based on your own workflow and preferences, and additional zones can be added according to your needs. These may include zones for working or studying, or even a kitchen zone for watching TV.





FOOD STORAGE

The food zone is the area around the refrigerator and the pantry closet where you store most of your grocery shopping food items.

CLEANING

The sink and the dishwasher are the central point of the cleaning area, and it is recommended to have countertop space on each side. The use of this zone is not only limited to washing dishes and utensils, but it also includes washing up vegetables, unpacking frozen items, filling up pots, etc.

PREPARATION

This is the countertop space where you cut, chop, knead, etc., which requires ample surface space. Keep all the cookingware and utensils that you are going to use to prepare the ingredients as close as possible to the preparation area.

COOKING

The cooking area is located where your range is, and it is recommended to be adjacent to your preparation zone. You should have your cookware, utensils, spices, and condiments within easy reach. The oven is also part of this area, but it doesn't have to be in this area, since it is not used that often.

SERVING

If your kitchen design includes a seating area like a peninsula, this is the zone where you serve food, drinks, or place snacks for your family or guests.

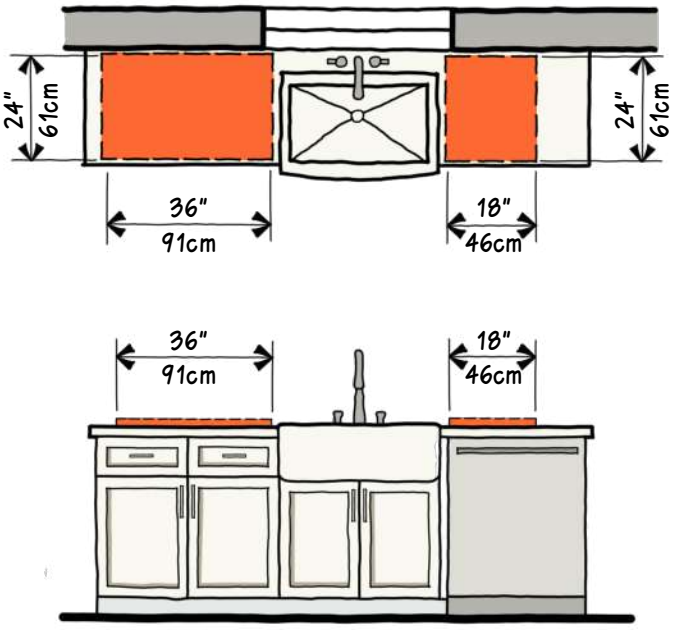
STORAGE

This is where you keep kitchenware, appliances, trays, and other utensils. Keep the things you use every day within easy reach like mugs, cereal bowls, dinner plates, etc., and store larger items like pots and pans in your base cabinets.

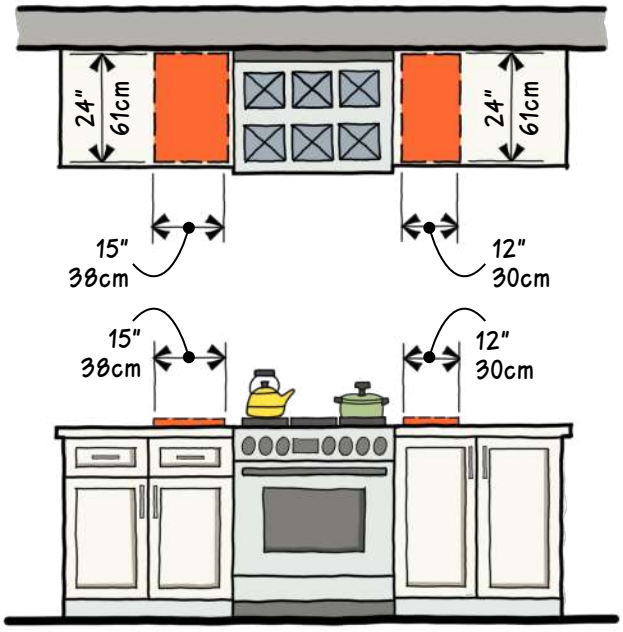
RECOMMENDED COUNTERTOP LANDING AREAS

A kitchen landing area is countertop space that you need to place, or land, items from the sink, refrigerator, cooking surface, and oven areas. These landing areas have the recommended dimensions based on the tasks that you complete while cooking.

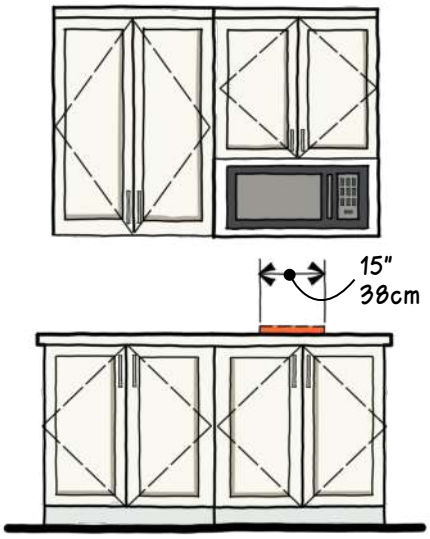
One important thing to keep in mind is to not get stuck in this recommended landing area dimensions. Always design your kitchen based on the available space that you have, specially when you have limited space; however, allways prioritize to have at least 24” (61cm) between range, sink and refrigerator.



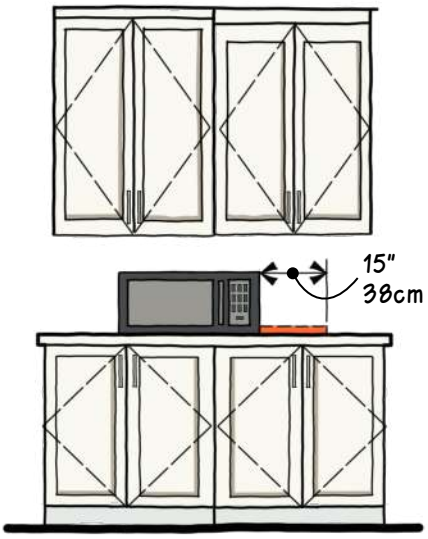
SINK LANDING AREA



COOKING SURFACE LANDING AREA

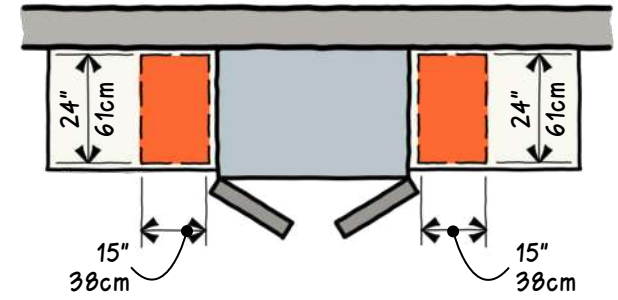


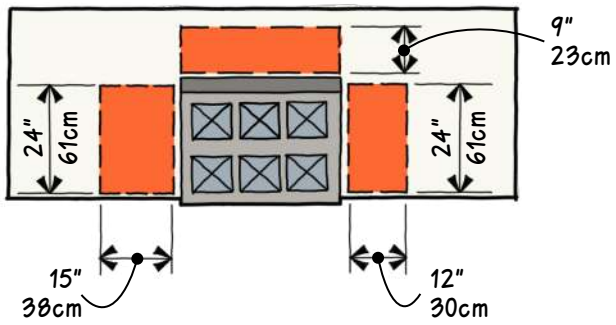
MICROWAVE LANDING AREA

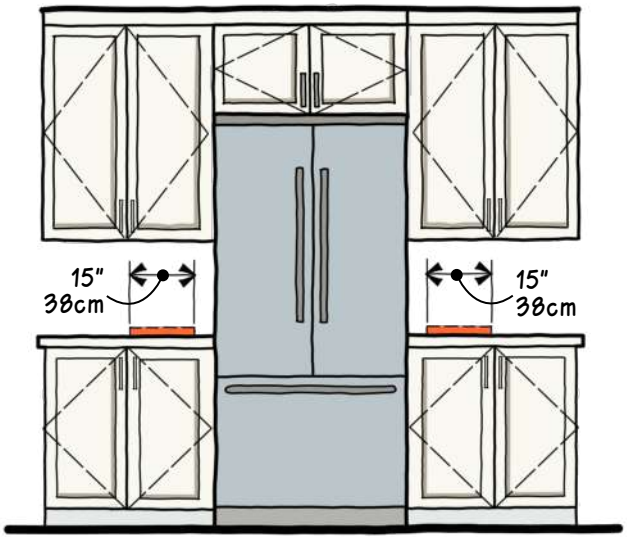


MICROWAVE LANDING AREA

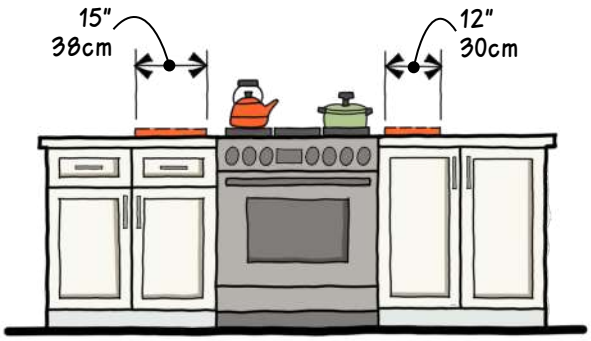
RECOMMENDED COUNTERTOP LANDING AREAS







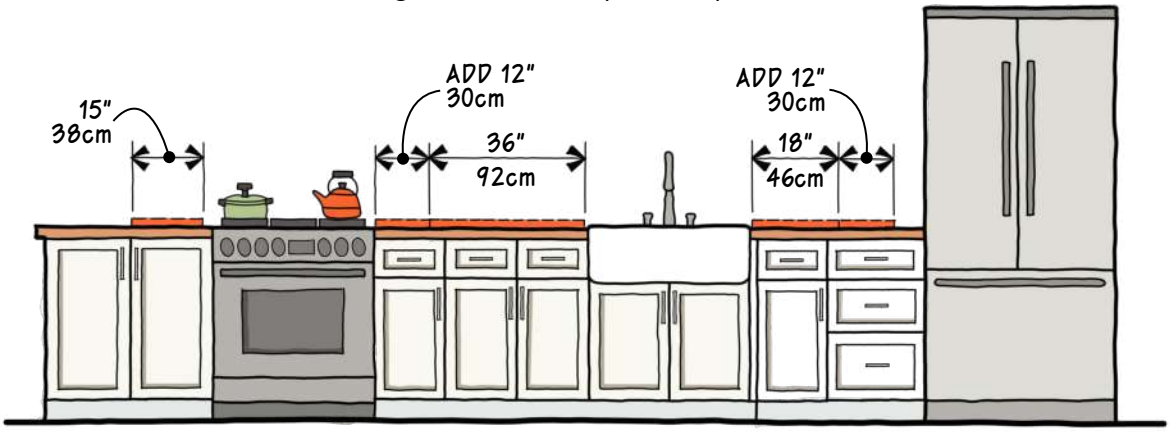
REFRIGERATOR LANDING AREA



COOKING SURFACE LANDING AREA ON ISLANDS

COMBINING LANDING AREAS

If two landing areas are adjacent to each other, a new minimum space should be provided based on the longer of the two areas and adding an extra 12” (30.5cm).



COMBINING LANDING AREAS

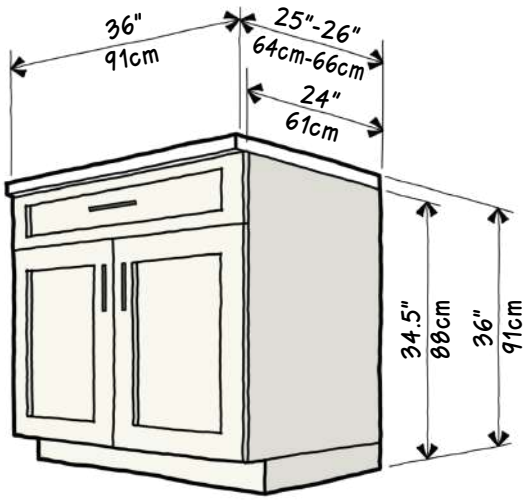
KITCHEN CABINETS

There are basically three types of kitchen cabinets that are related to the type of production method used to make them: custom, semi-custom, and in-stock. For the purposes of this book, I am going to focus on in-stock cabinets, which tend to be the most used across the kitchen design industry.

In-stock cabinets are built based on industry standard styles and measurements. They are available in modular units, and no customization is available. The advantages are that they are affordable and ready to install.

BASE CABINETS

As their name implies, they provide the base for countertops, sinks, and cooktops. They also provide storage space for large items like pots, pans, and small kitchen appliances.

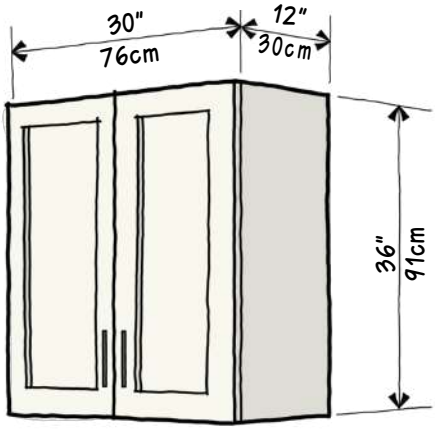


Standard height (no counter-top)	34 1/2 inches
Standard depth (front to wall no countertop)	24 inches
Standard widths	12, 15, 18, 24, 30, 36 inches

Always check dimensions supplied by your kitchen cabinet manufacturer.

WALL CABINETS

They are attached directly to the wall.



Standard heights	12, 15, 18, 24, 30, 36, 42 inches
Standard depths	12 or 24 inches
Standard widths	9 to 48 inches, in 3-inch increments

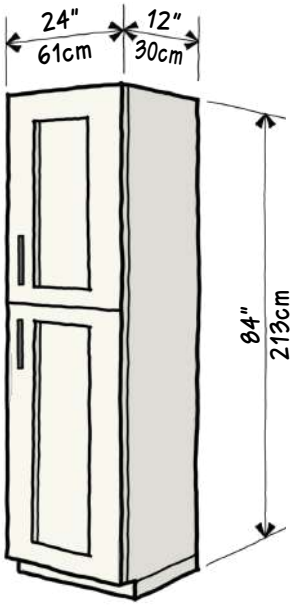
Always check dimensions supplied by your kitchen cabinet manufacturer.

TALL CABINETS

These are usually used as pantries or utility cabinets due to their height. Sometimes, they can extend from floor to ceiling.

Standard heights	84 or 96 inches
Standard depths	12 or 24 inches
Standard widths	12, 18, 24 or 36 inches

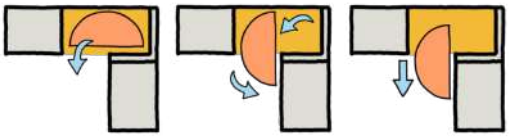
Always check dimensions supplied by your kitchen cabinet manufacturer.

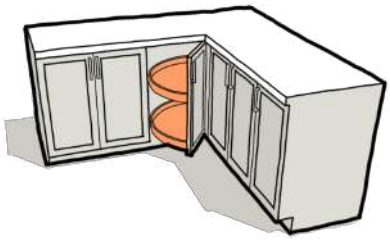


BLIND CORNER BASE CABINETS

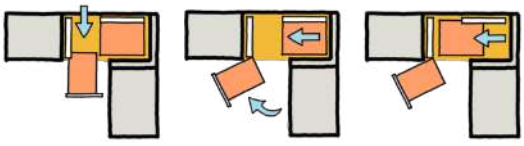
A blind corner cabinet can encompass a surprising amount of space on the interior, but that space can be hard to reach.

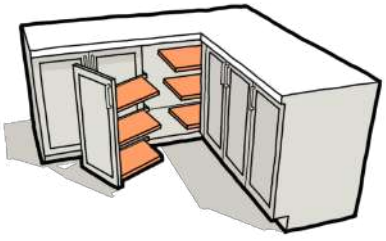
Accessories like pull-out shelves and Lazy Susans help to optimize every inch of that space.



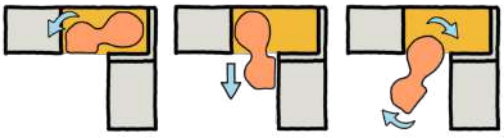


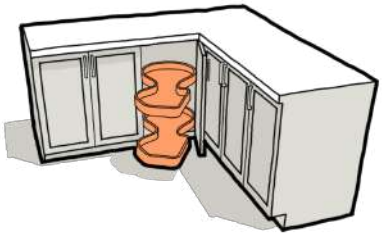
HALF MOON LAZY SUSAN





RECTANGULAR PULL-OUT SHELVES

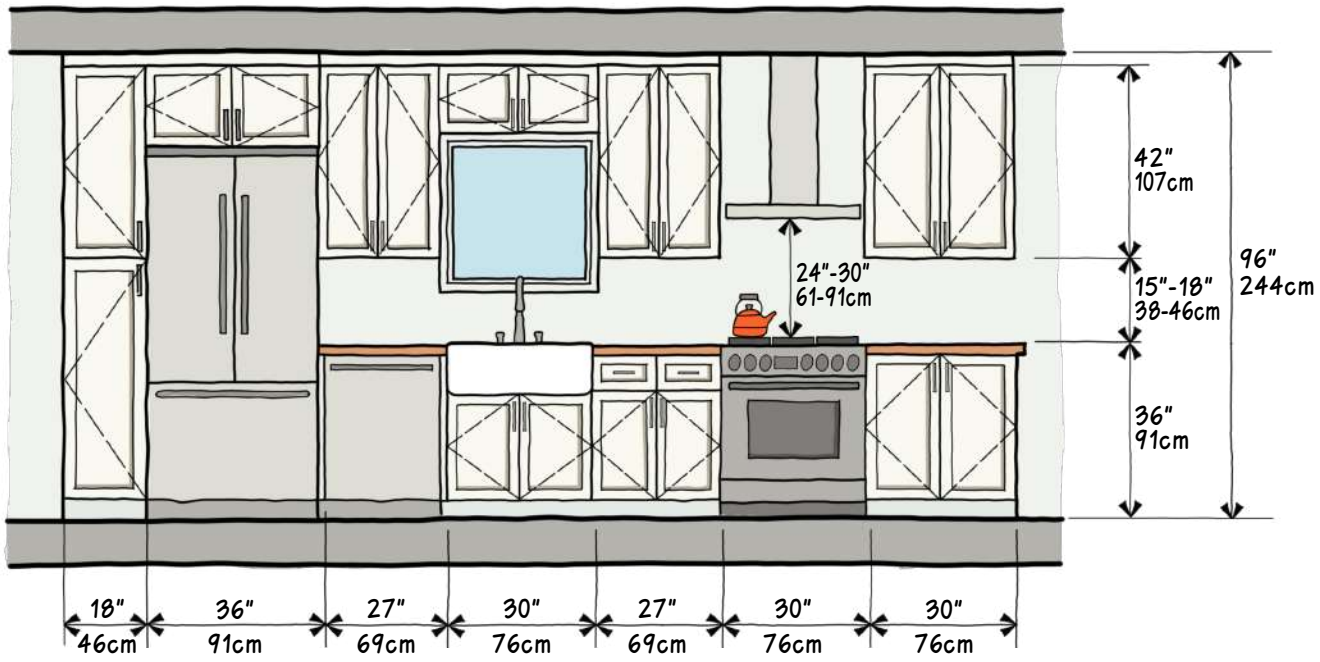




CLOUD SHAPE PULL-OUT SHELVES

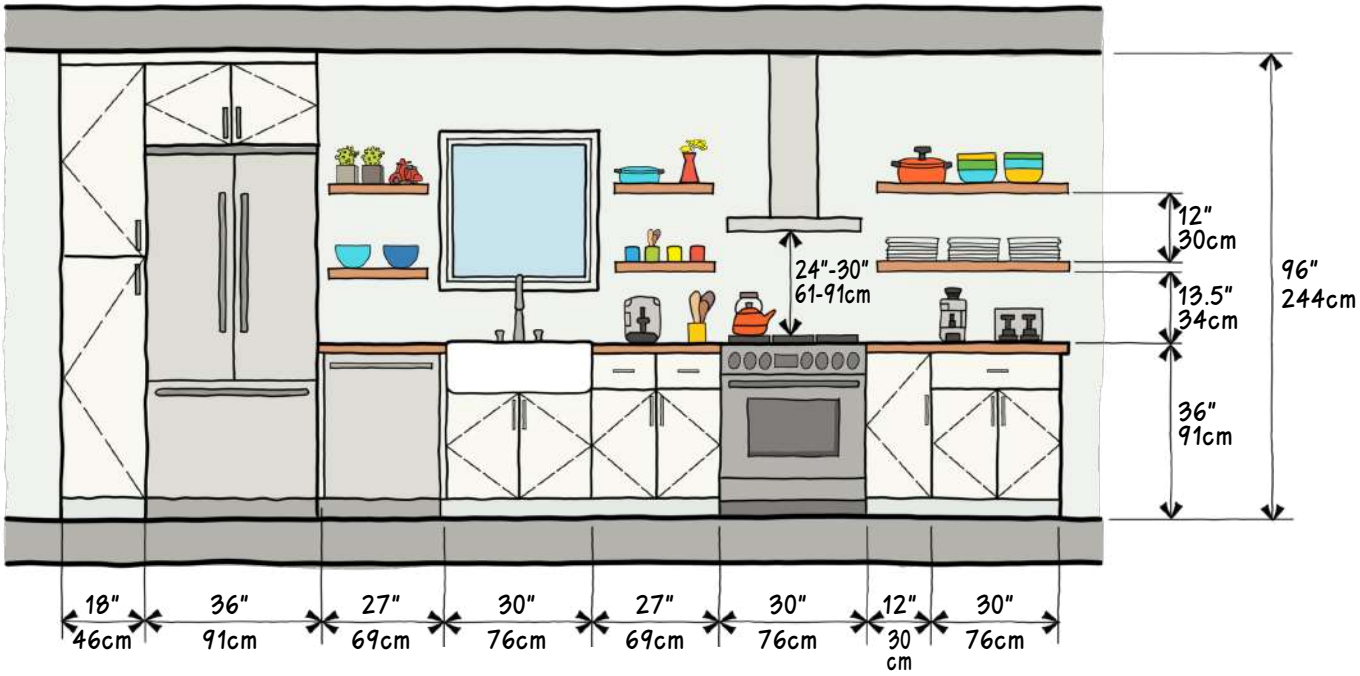
KITCHEN AREA

WALL CABINETS OR OPEN SHELVES?



KITCHEN WITH WALL CABINETS

Standard kitchens with wall cabinets give you more storage space and help you keep all your kitchen items clean and away from dust. From a practical standpoint, cabinets are more suitable for houses.



KITCHEN WITH OPEN SHELVES

Kitchen shelves look aesthetically pleasing, open the space, and you can also use them to showcase your beautiful dishware. On the downside, they are prone to accumulate dust, and the available storage space can be limited. From a practical standpoint, shelves are more suitable for small apartments.

KITCHEN SECTIONS

COUNTERTOP HEIGHT

The standard height for a countertop is 36” (91cm). This distance is measured from the floor to the countertop work surface, assuming a 34.5” (88cm) base cabinet height plus a 1.5” (3.8cm) thick countertop. However, counters with a height of 34” (86cm) will suit most wheelchairs, and if you are taller than average, 39” (99cm) will suit you better.

TOE KICK

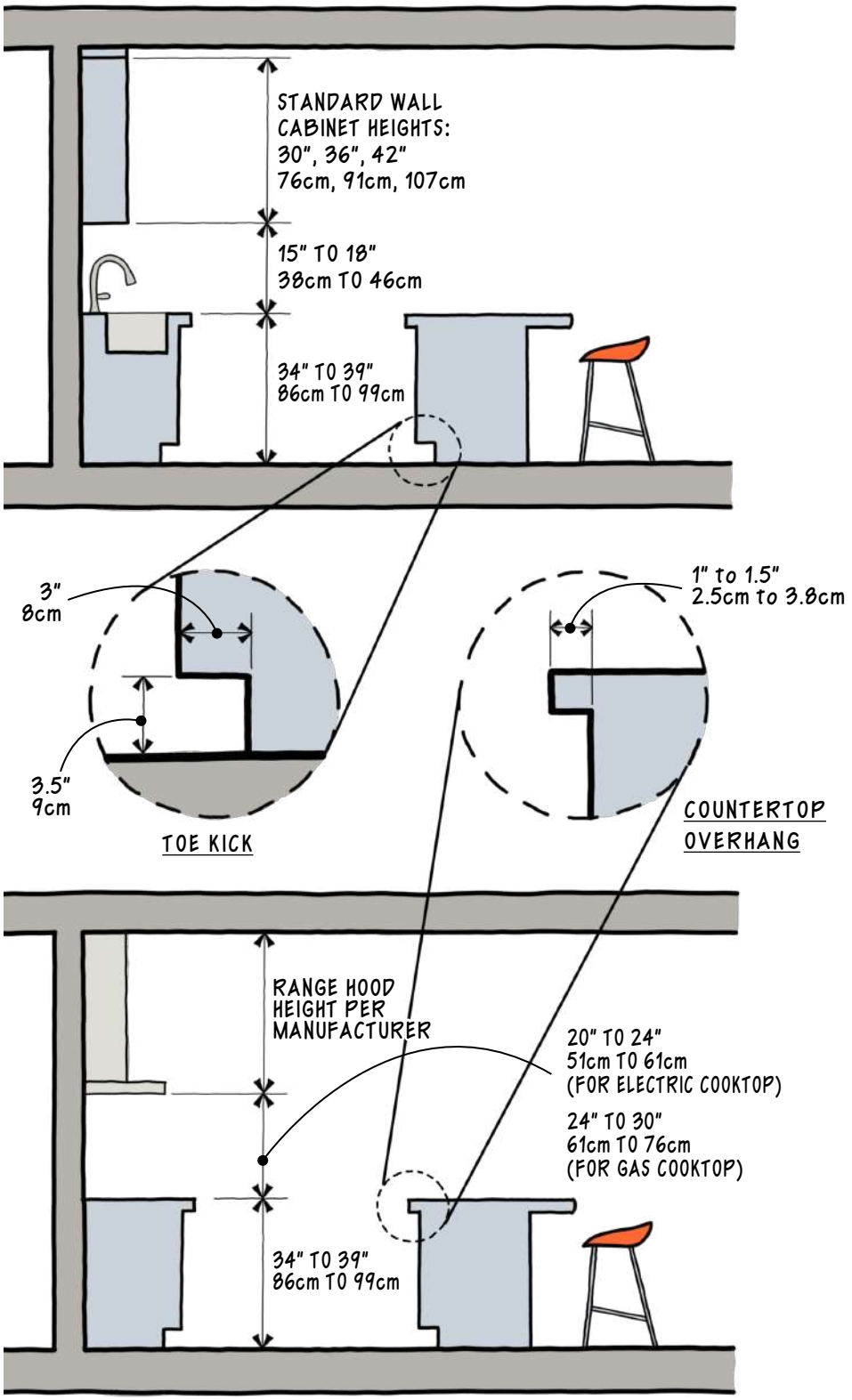
A toe kick is the recessed area on a base cabinet that provides room for your feet, which allows you to stand closer to the countertop more comfortably.

COUNTERTOP OVERHANG

Countertop overhang is the distance from the leading edge of the countertop to the front of the base cabinets (not including cabinet doors). The standard overhang is 1 to 1.5 inches (2.5cm to 3.8cm).

IDEAL HEIGHT FOR A RANGE HOOD

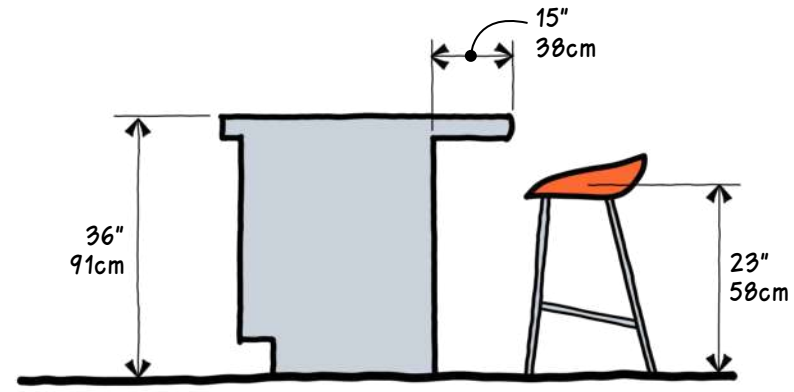
Hood ranges should be installed at the correct height, so that any unpleasant odors or smells are efficiently removed from the kitchen while you cook. If the wrong height for the hood is installed and it ends up being too close to the gas cook top, it could potentially catch fire. However, if you are using an electric cooktop, there are no flames involved; hence, the height and distance could be significantly less.



KTCHEN ISLAND SEATING HEIGHTS

COUNTERTOP HEIGHT

Counter-height seating is provided by extending the kitchen island countertop to create a 15” (38cm) overhang to keep the same standard counter height of 36” (91cm). A counter-height kitchen island provides a clear view of the entire kitchen and gives the impression of a larger kitchen space.



COUNTERTOP HEIGHT

TABLE HEIGHT

A portion of the kitchen island counter gets lowered to provide the same height as a dining table, offering the ideal height to comfortably sit on a standard chair and have a meal.

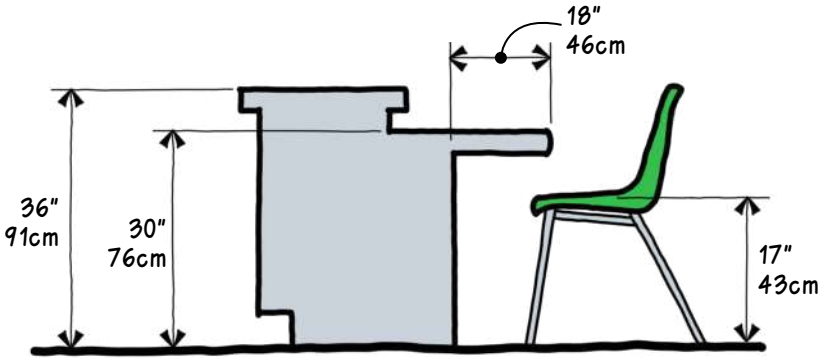
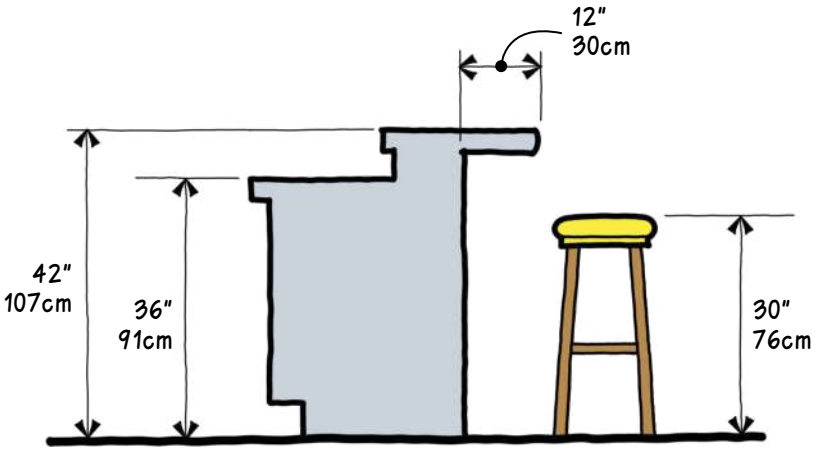


TABLE HEIGHT

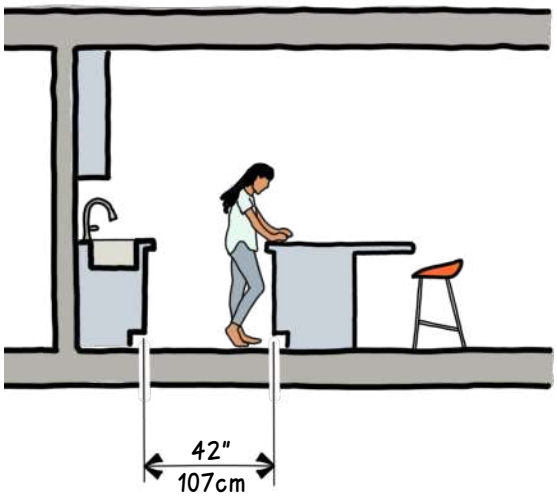
BAR HEIGHT

Bar-height kitchen islands are usually 42" (107cm) off the floor to the countertop and stand 6" (15cm) higher than the standard kitchen island, which works well with bar stools. The raised area also helps to conceal dirty dishes or clutter near the sink. Children and the elderly may find it hard to use the raised seating.

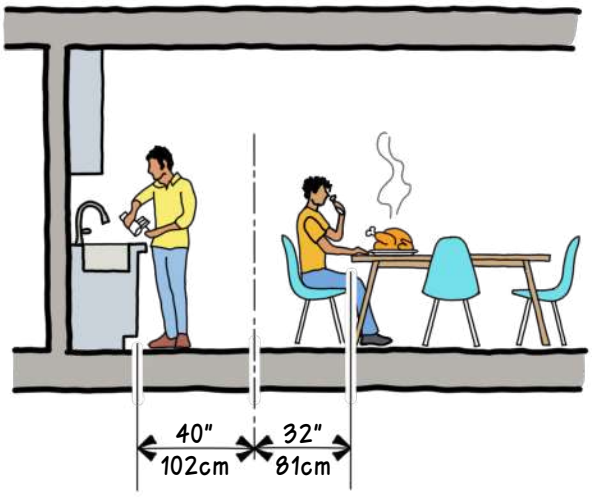


BAR HEIGHT

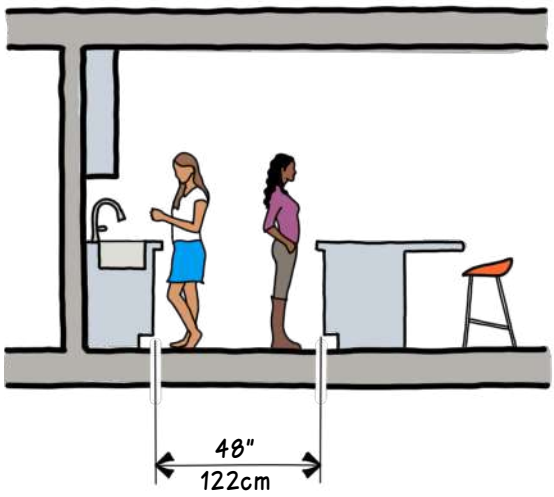
RECOMMENDED KITCHEN AISLE WIDTHS



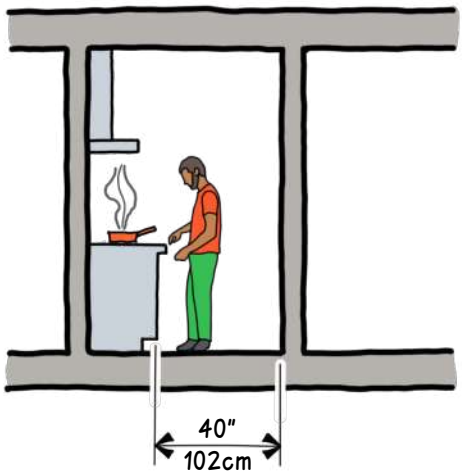
1 COOK AISLE WIDTH



KITCHEN COUNTER
OPPOSITE A TABLE

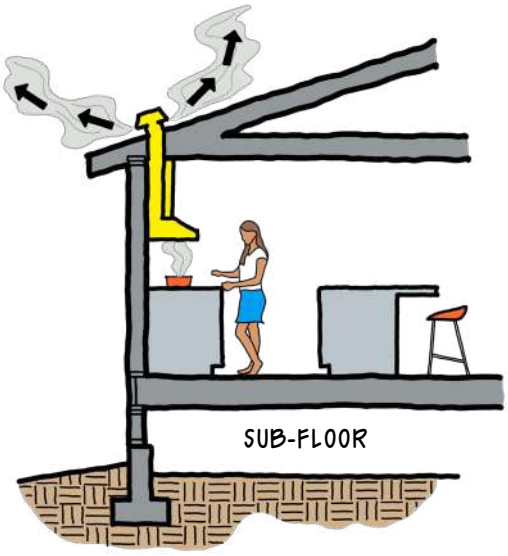


2 COOK AISLE WIDTH



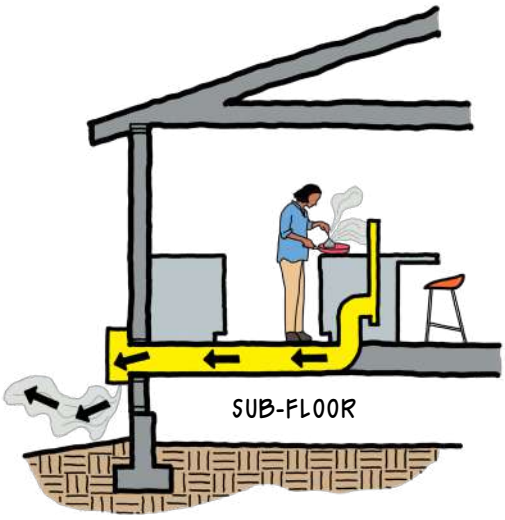
KITCHEN COUNTER
OPPOSITE A WALL

TYPE OF RANGE HOODS



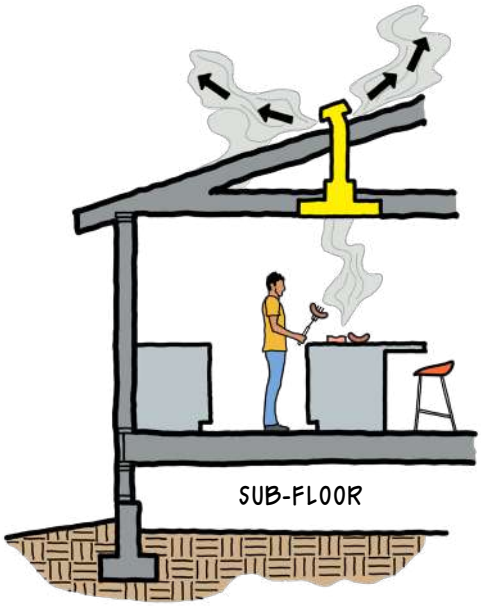
WALL MOUNT THROUGH ROOF

The most common type of hood. They are mounted against a wall in the kitchen and vented directly out the roof.



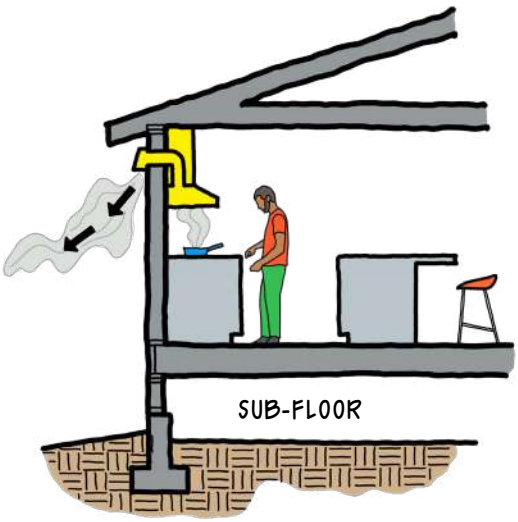
RETRACTABLE DOWNDRAFT

This system is a great solution for kitchen island cooktops and for creating a modern and minimal look, but they have a lower efficiency of drawing steam from taller pots and pans.



CEILING FLUSH MOUNT THROUGH ROOF

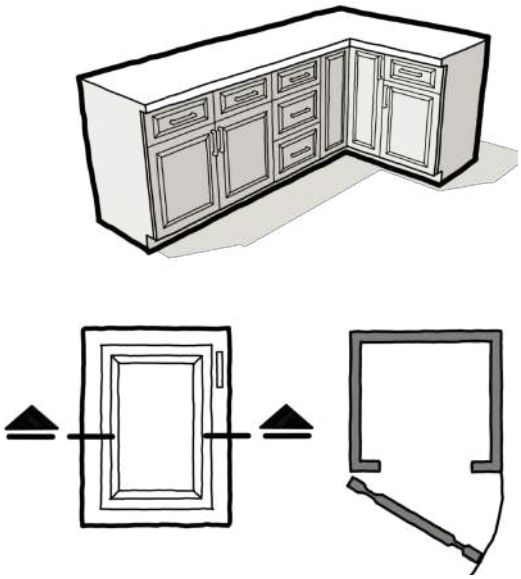
This is also a great solution for kitchen island cooktops but not the most functional. For maximum efficiency, they require a higher flow rate, and the hood needs to be larger than the cooktop because they are installed far from the cooking surface.

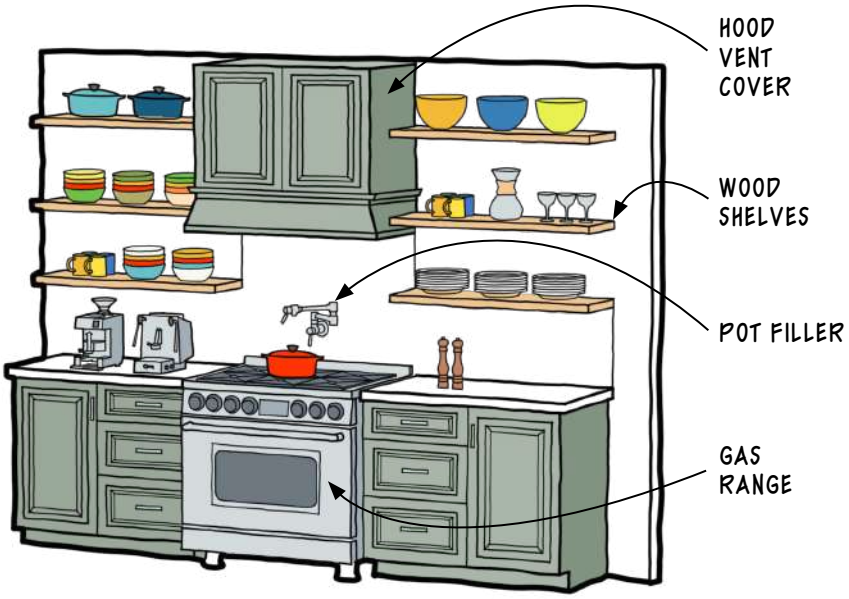


WALL MOUNT THROUGH WALL

If your kitchen is located on the first level and you have a second floor above, running ducts through your roof may not be possible, and you will need to vent through an exterior wall.

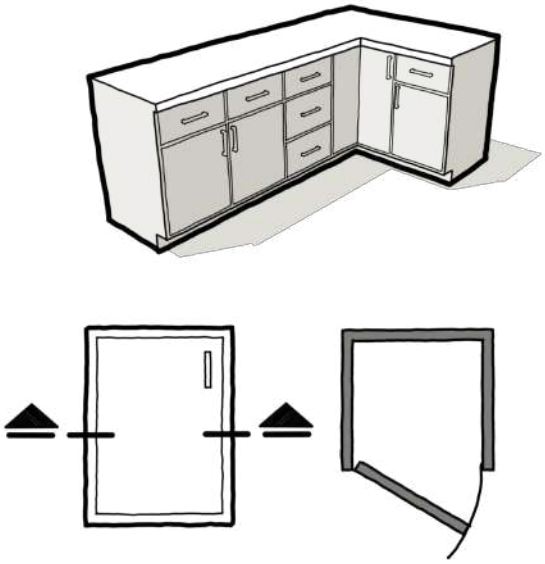
CABINET STYLES

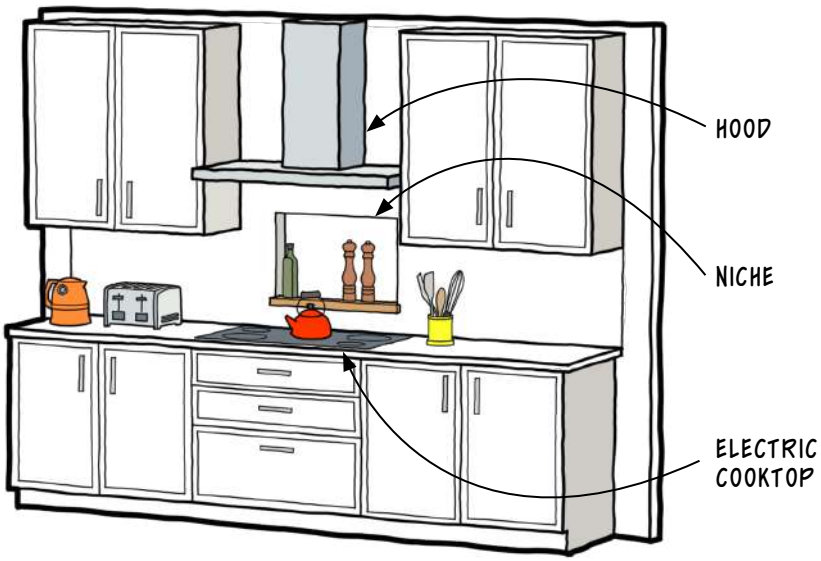




RAISED PANEL

The most traditional of all styles. The center panel of the cabinet door is raised above the rest of the door, and there is usually a recessed border around it. This is a great option if you are looking for a rustic or traditional look.

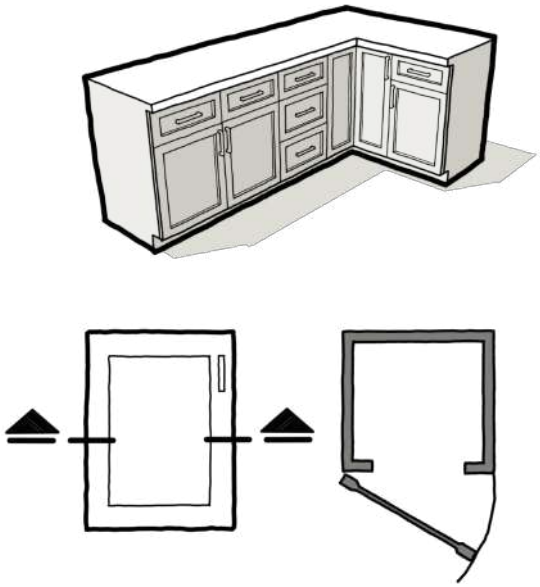


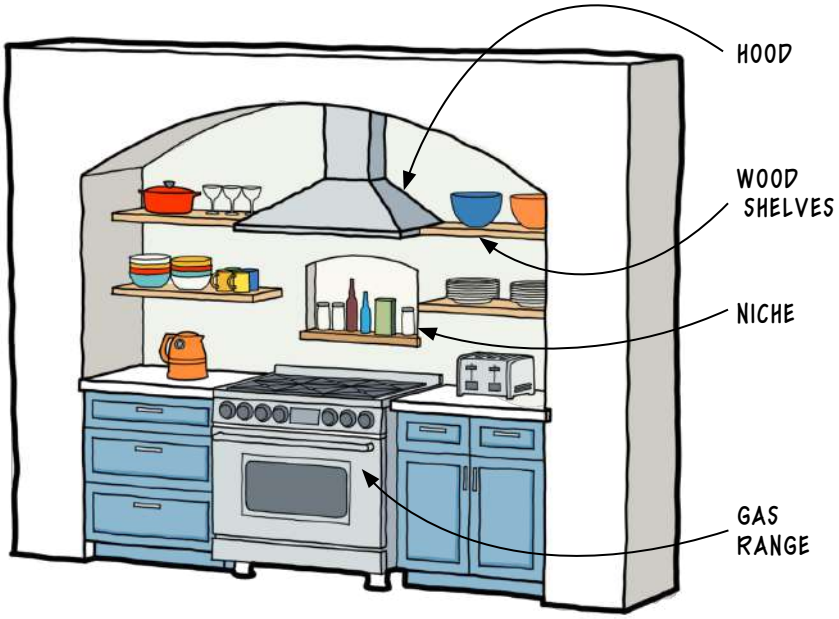


INSET

When closed, the door sets inside and flush with the cabinet frame instead of outside, leaving a tiny gap around the door. This type of cabinet also fits into almost any design style, from traditional to modern.

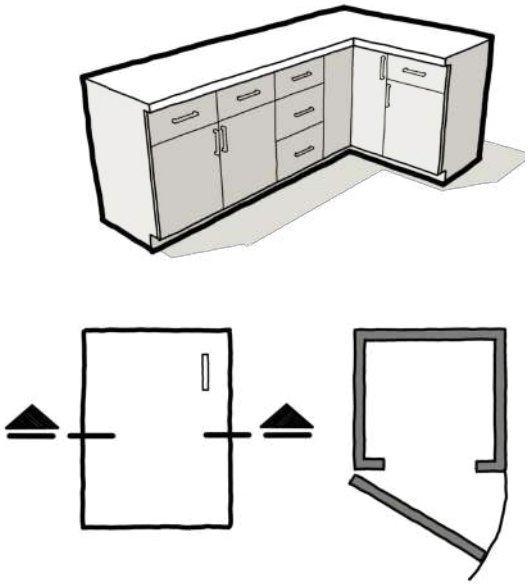
CABINET STYLES

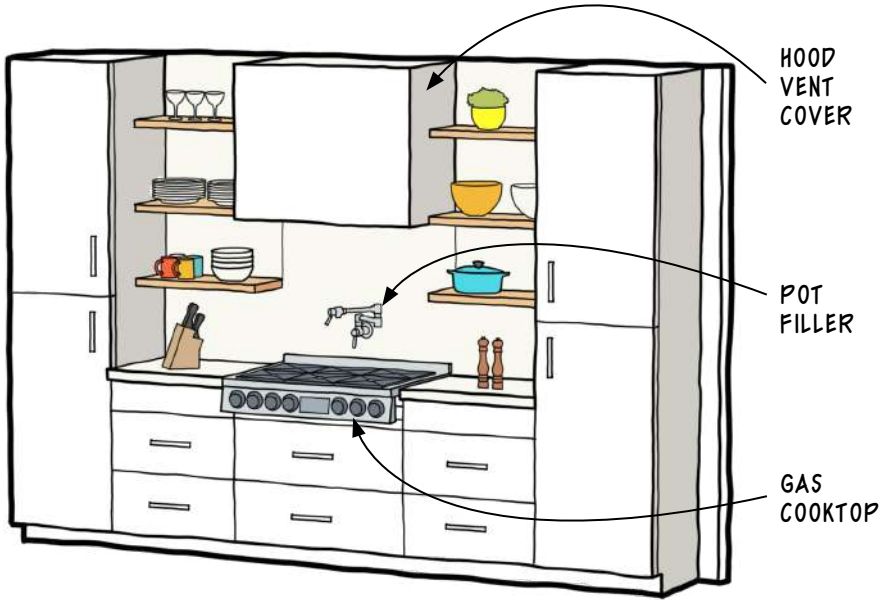




SHAKER OR RECESSED PANEL

The most popular style in North America, consisting of four flat pieces creating a rectangular frame with a flat panel in the center. This type of cabinet blends well into many kitchen designs whether you are looking for a traditional, modern, or contemporary look.



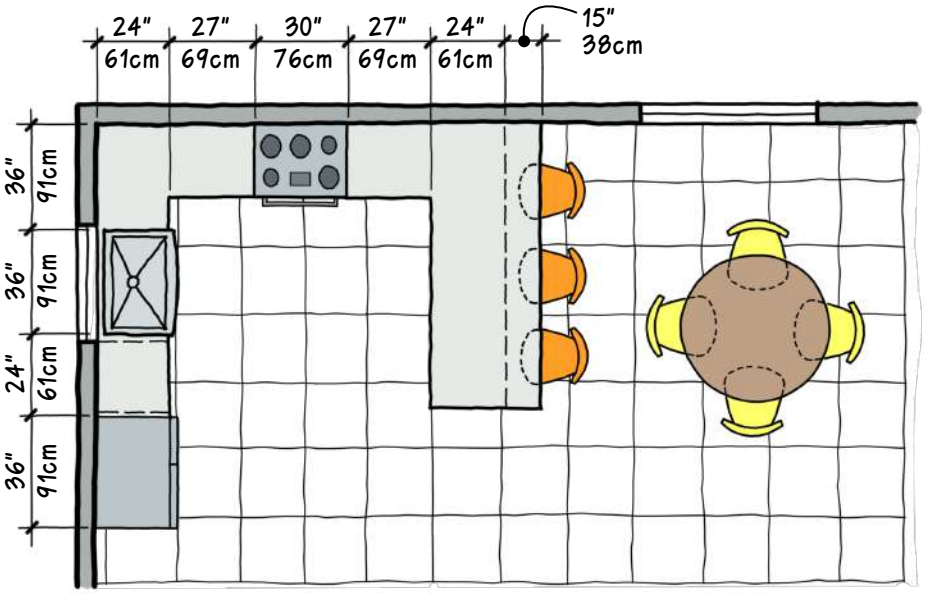


FLAT PANEL OR SLAB

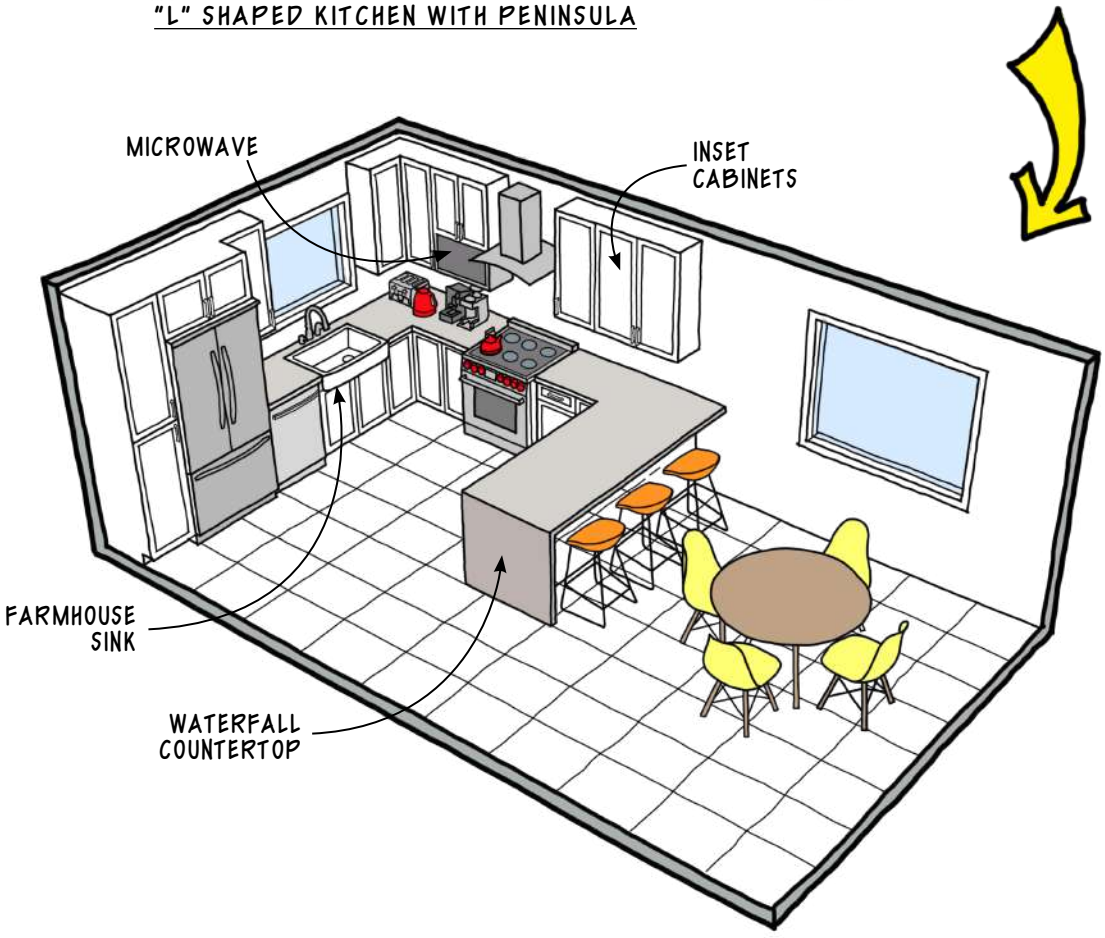
The simplest of all styles. Cabinet doors are made of a flat panel, offering clean lines and a minimalist form. This is a great fit if you are looking for a contemporary or modern look.

KITCHEN LAYOUTS WITH DIMENSIONS

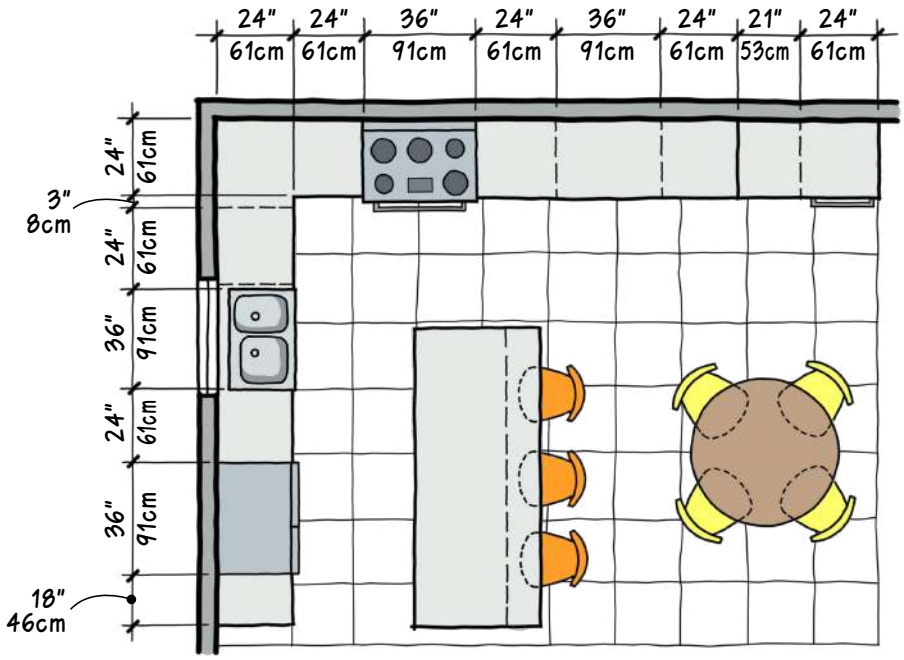
In-stock cabinets are built based on industry standard styles and measurements and are available in modular units. These are two examples of modular kitchens with dimensions.



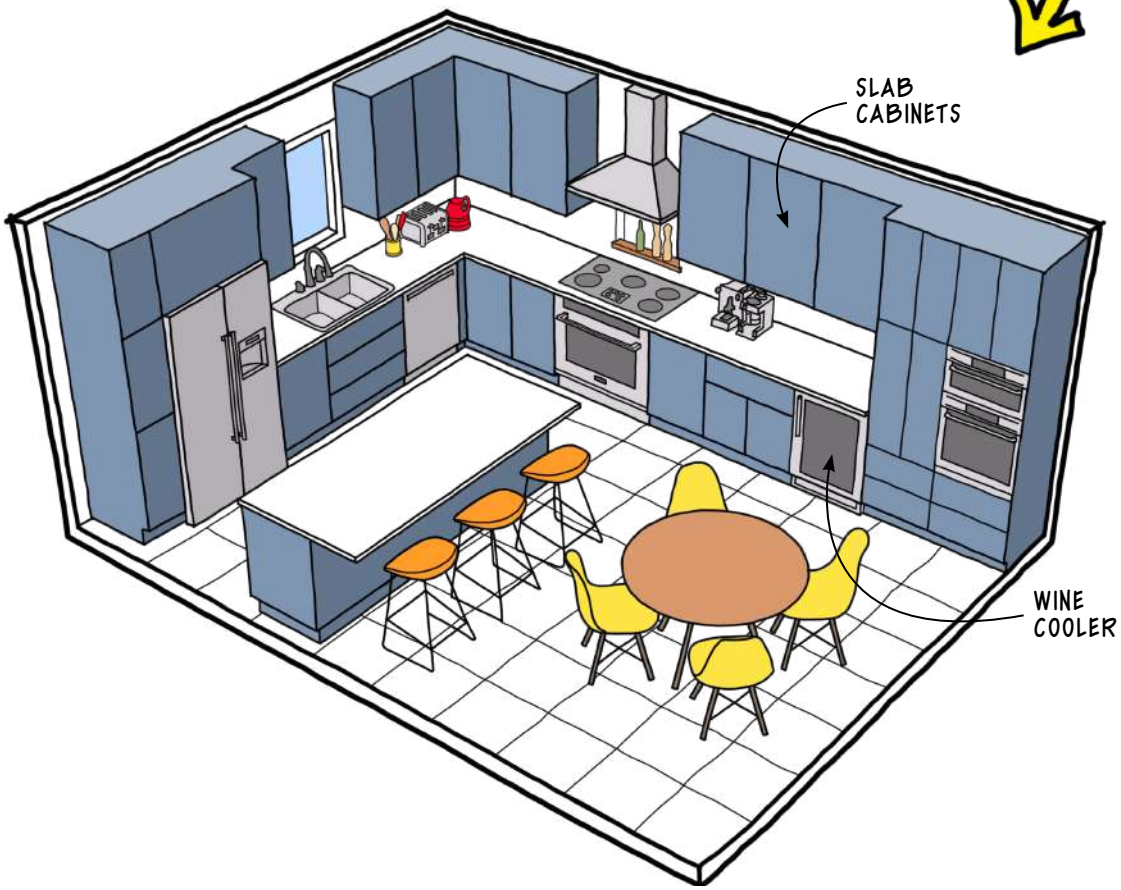
"L" SHAPED KITCHEN WITH PENINSULA



KITCHEN LAYOUTS WITH DIMENSIONS



"L" SHAPED KITCHEN WITH ISLAND

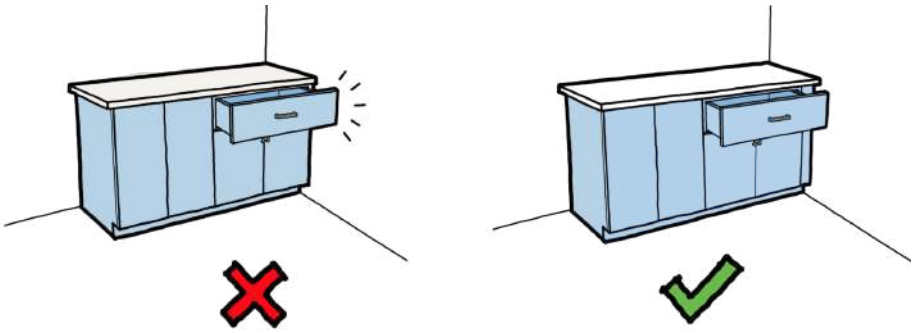


KITCHEN AREA

COMMON KITCHEN DESIGN MISTAKES TO AVOID

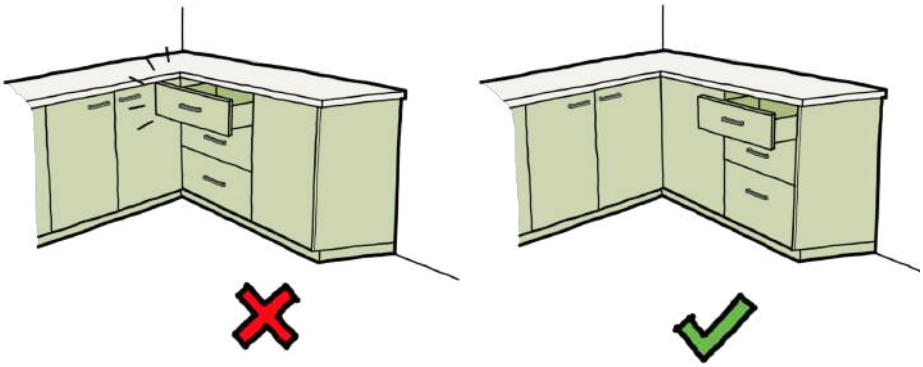
BASE CABINET FILLER

Don't place drawers in corners or next to a wall. Always use a 3" or 6" base cabinet filler, which is a piece of finished wood used to "fill" gaps between cabinets and walls.



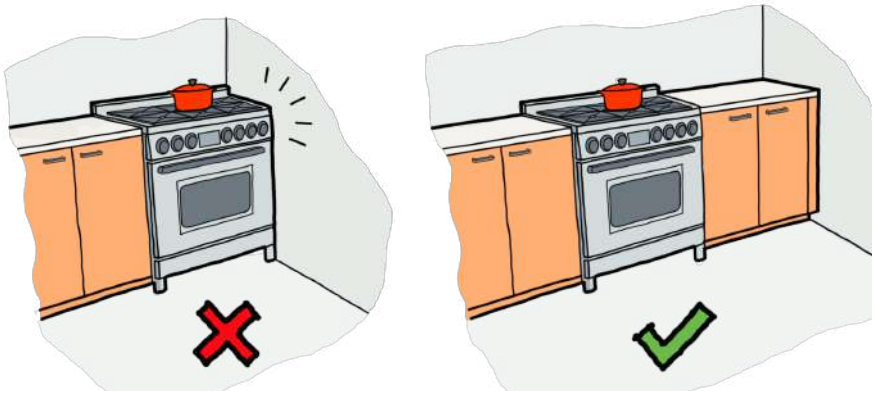
DRAWERS IN CORNERS

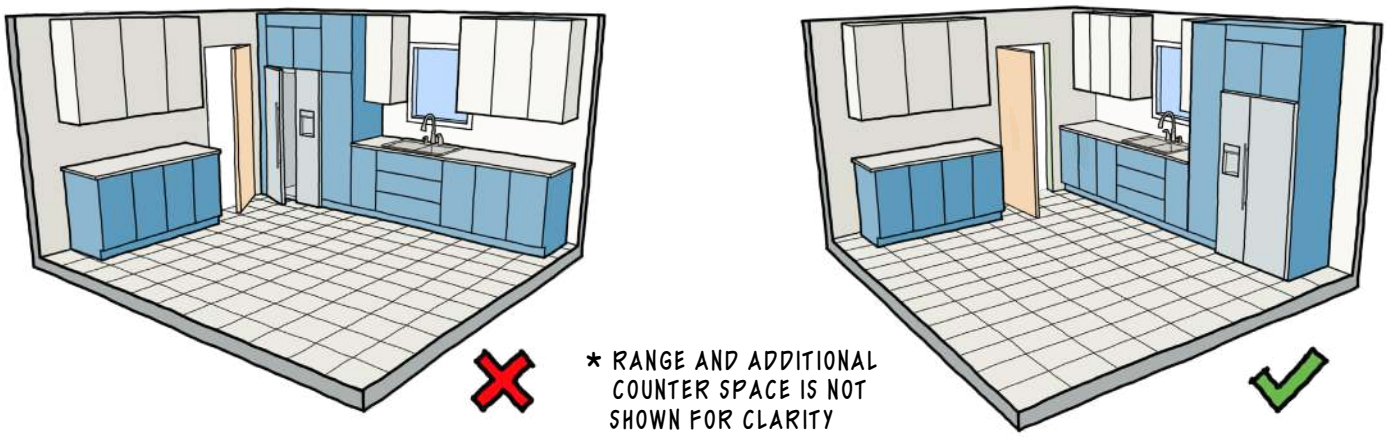
Drawers should not be placed right in the corner of base cabinets. It is always recommended to place doors instead.



APPLIANCES IN CORNERS

The sink, oven, and dishwasher should never be placed against a wall or in a corner, as it makes accessibility difficult.





* RANGE AND ADDITIONAL COUNTER SPACE IS NOT SHOWN FOR CLARITY

REFRIGERATOR DOOR

When deciding where to place your refrigerator, always check how the door is going to open and how this is going to affect the circulation and working flow in your kitchen.

Chapter 6

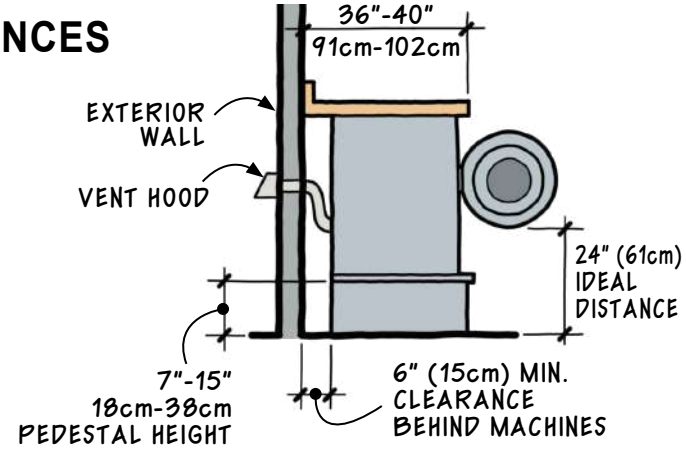
UTILITY AREAS

LAUNDRY ROOM DESIGN

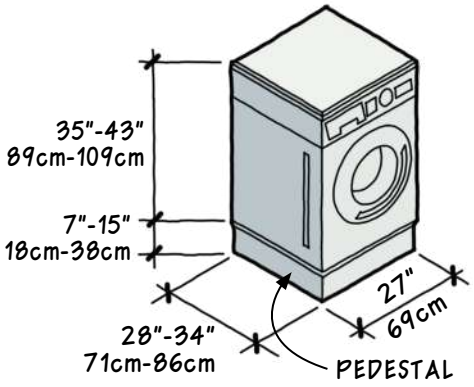
STANDARD DIMENSIONS AND CLEARANCES

When designing a house, laundry rooms seem to have the least importance of all rooms. In some cases, washers and dryers are located in an empty basement or a garage, and these spaces end up being neglected and not maximized.

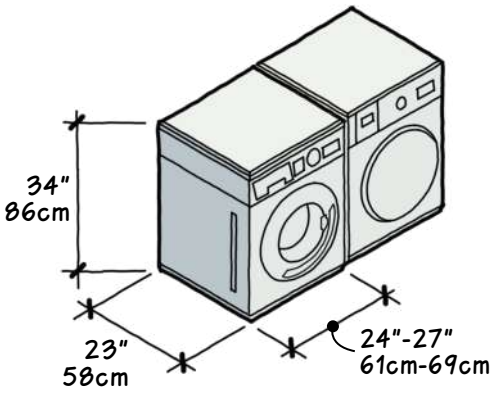
A dedicated laundry room can bring many benefits; you can have cabinets to organize linens, laundry products, and other cleaning products. Doing laundry becomes more organized when everything is in one place.



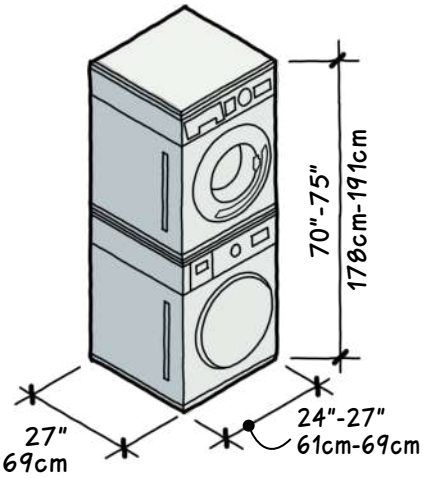
STANDARD WASHER AND DRYER CLEARANCES (SIDE VIEW)



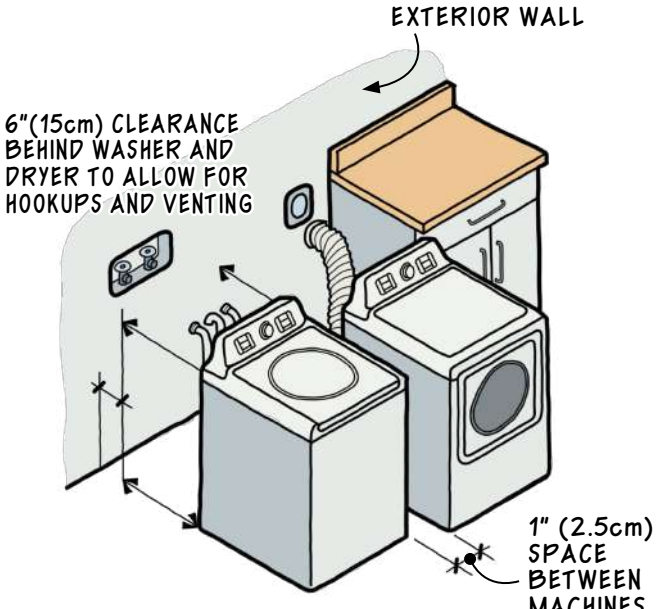
STANDARD WASHER AND DRYER DIMENSIONS



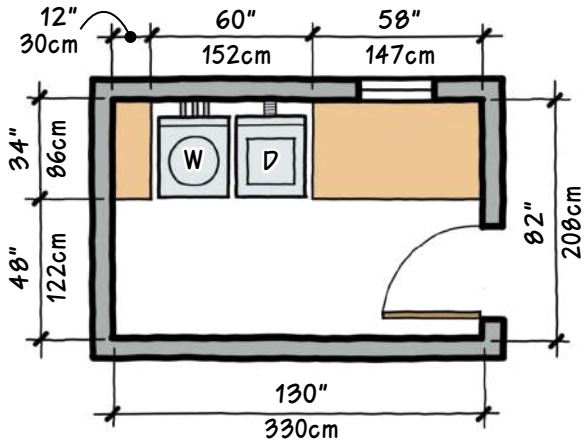
COMPACT WASHER AND DRYER DIMENSIONS



STACKABLE WASHER AND DRYER DIMENSIONS

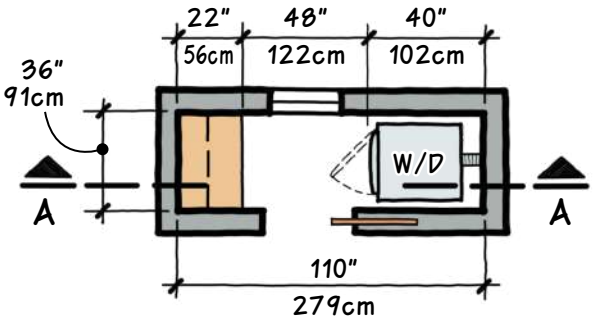


WASHER AND DRYER CLEARANCES (ISOMETRIC VIEW)

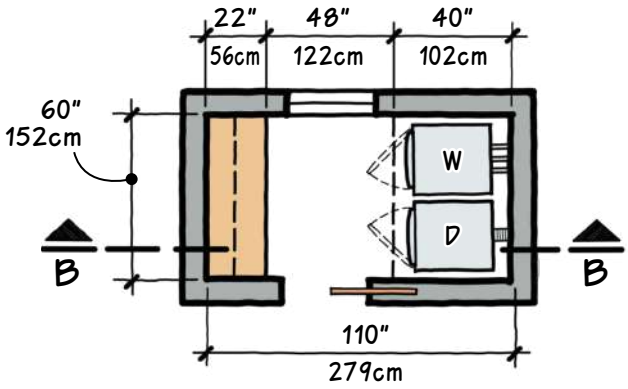


WASHER AND DRYER CLEARANCES (PLAN VIEW)

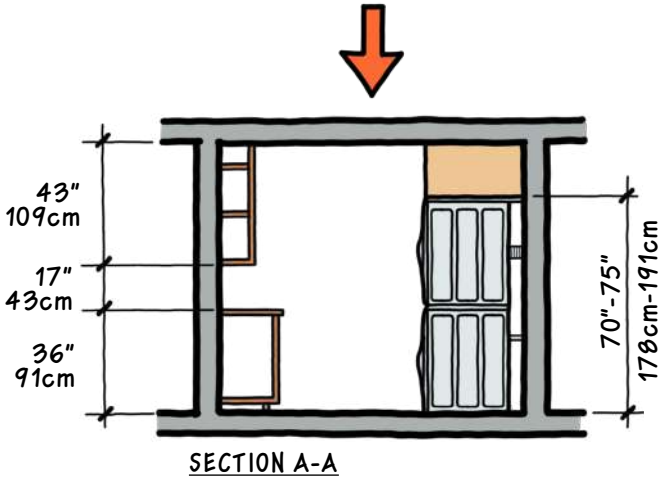
COMPACT SIZE LAUNDRY ROOM DESIGN



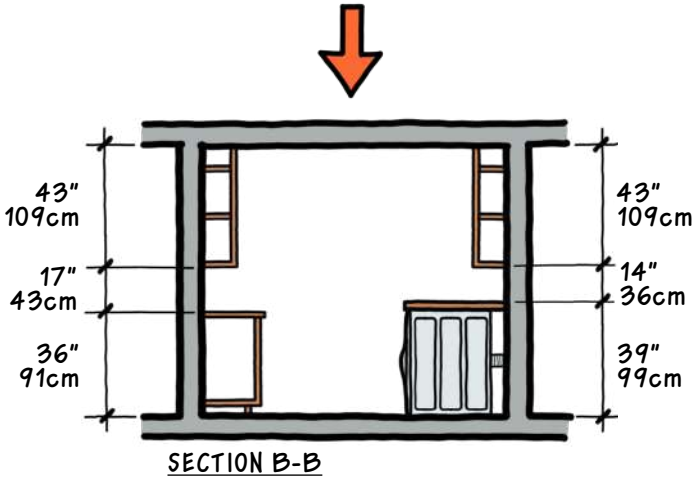
STACKABLE WASHER AND DRYER LAUNDRY ROOM



SIDE BY SIDE WASHER AND DRYER LAUNDRY ROOM

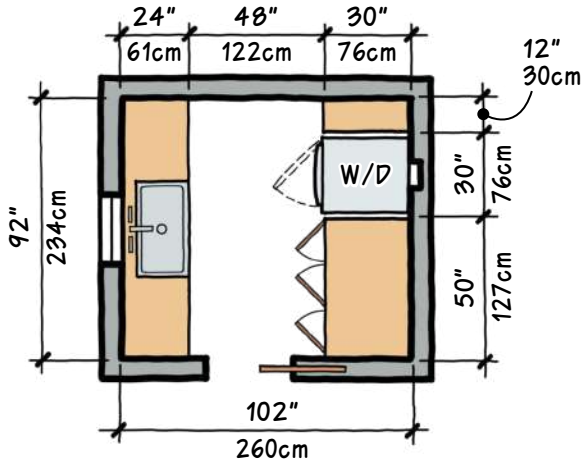


SECTION A-A

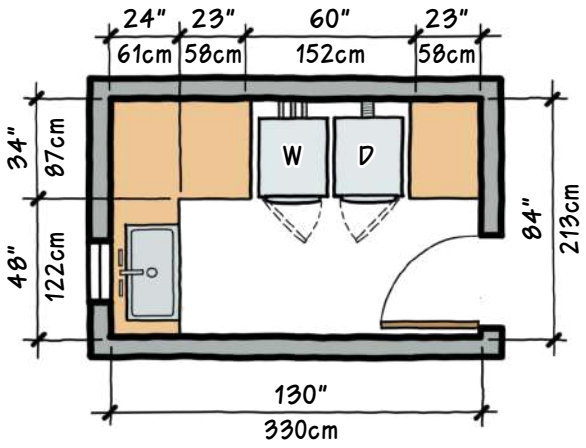


SECTION B-B

STANDARD SIZE LAUNDRY ROOM DESIGN

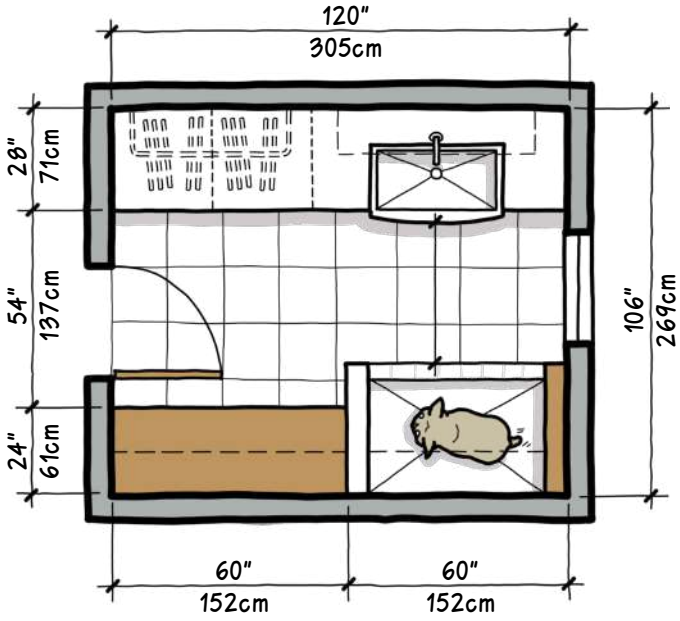


STACKABLE WASHER AND DRYER LAUNDRY ROOM

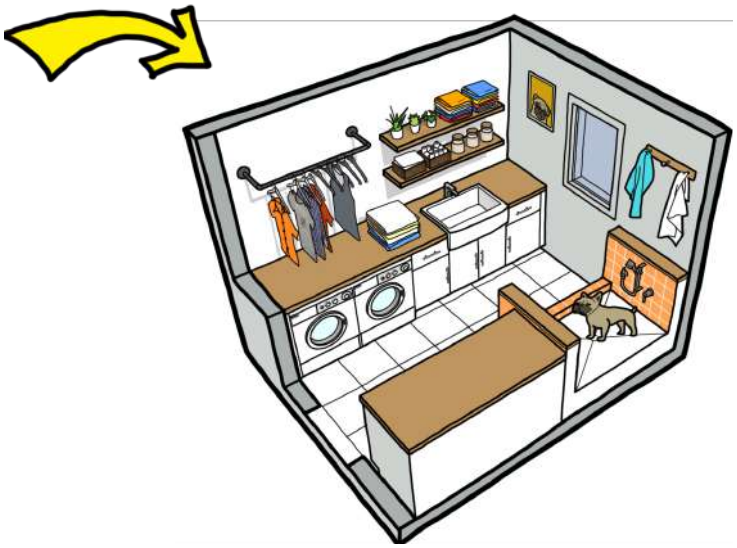


SIDE BY SIDE WASHER AND DRYER LAUNDRY ROOM

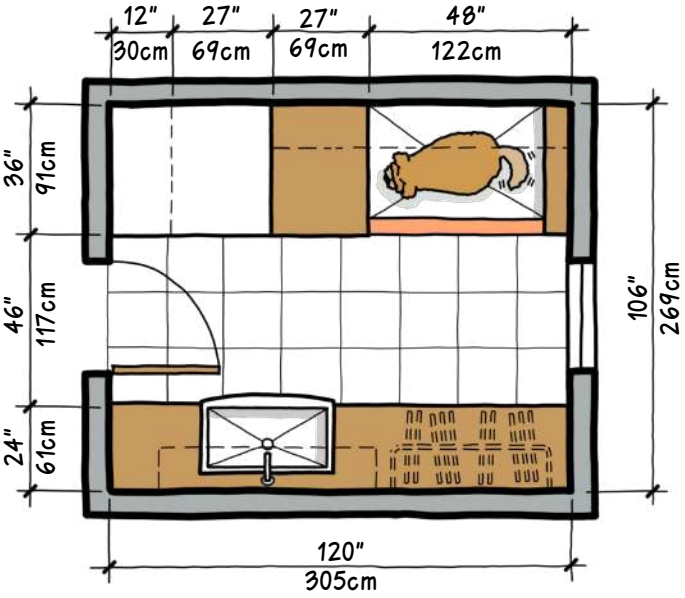
LAUNDRY ROOMS WITH PET STATION



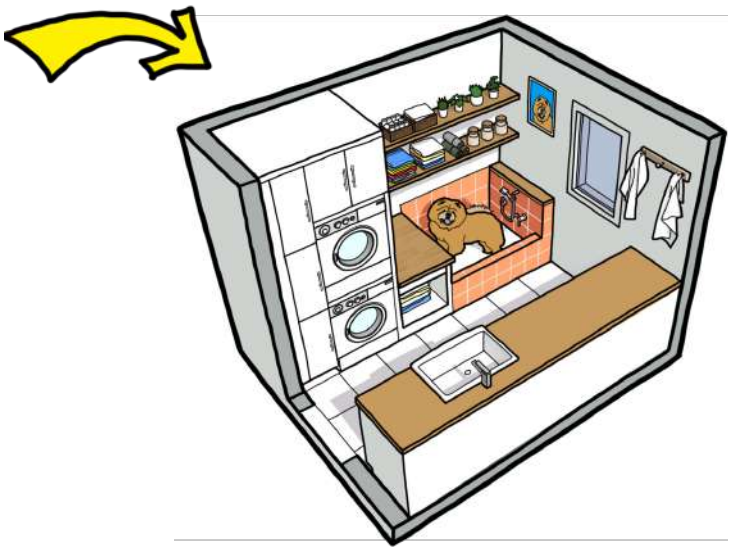
SIDE BY SIDE WASHER
AND DRYER LAUNDRY ROOM



PERSPECTIVE PROJECTION



STACKABLE WASHER
AND DRYER LAUNDRY ROOM

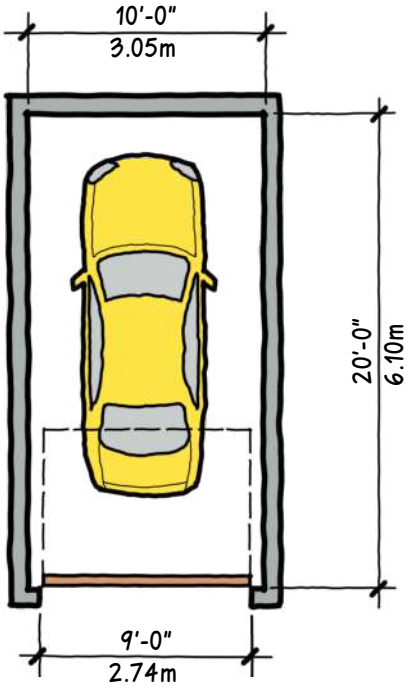


PERSPECTIVE PROJECTION

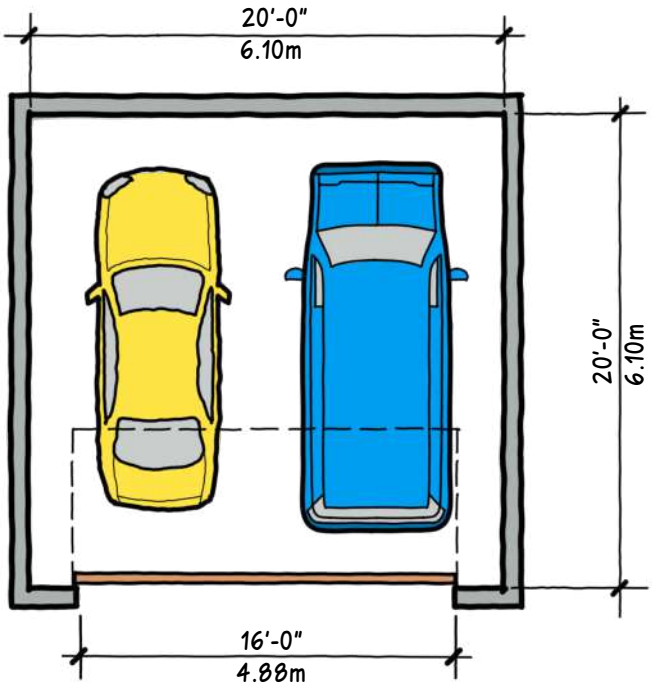
GARAGE DESIGN

Designing a garage may sound like a simple task: you just apply the minimum dimensions and that is all. As simple as it seems, this area can have more design potential than you think.

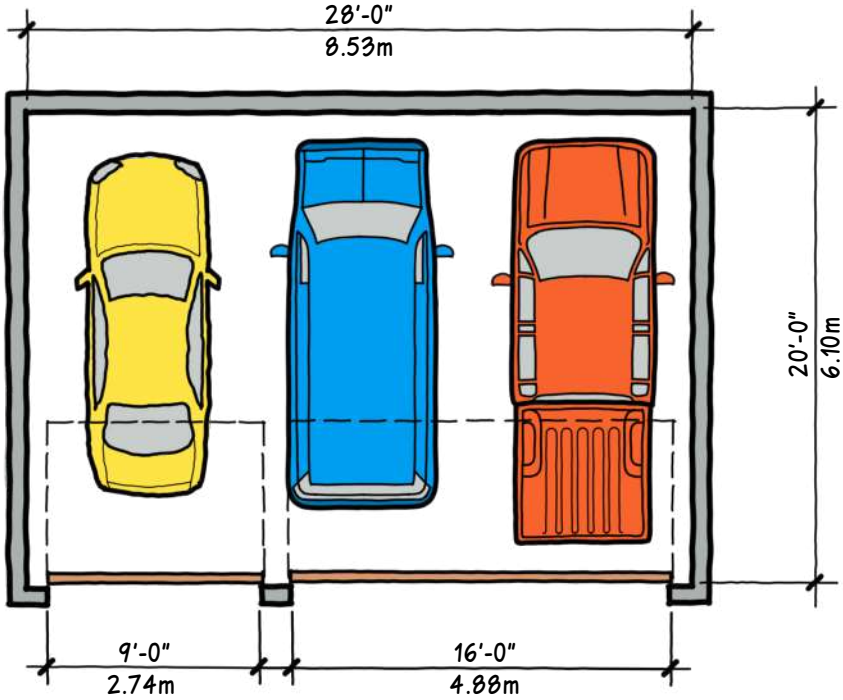
You can add a workshop area, a storage room or a home gym. When not occupied by a car, garages can become a place where you can benefit from the large amount of space.



SINGLE CAR GARAGE

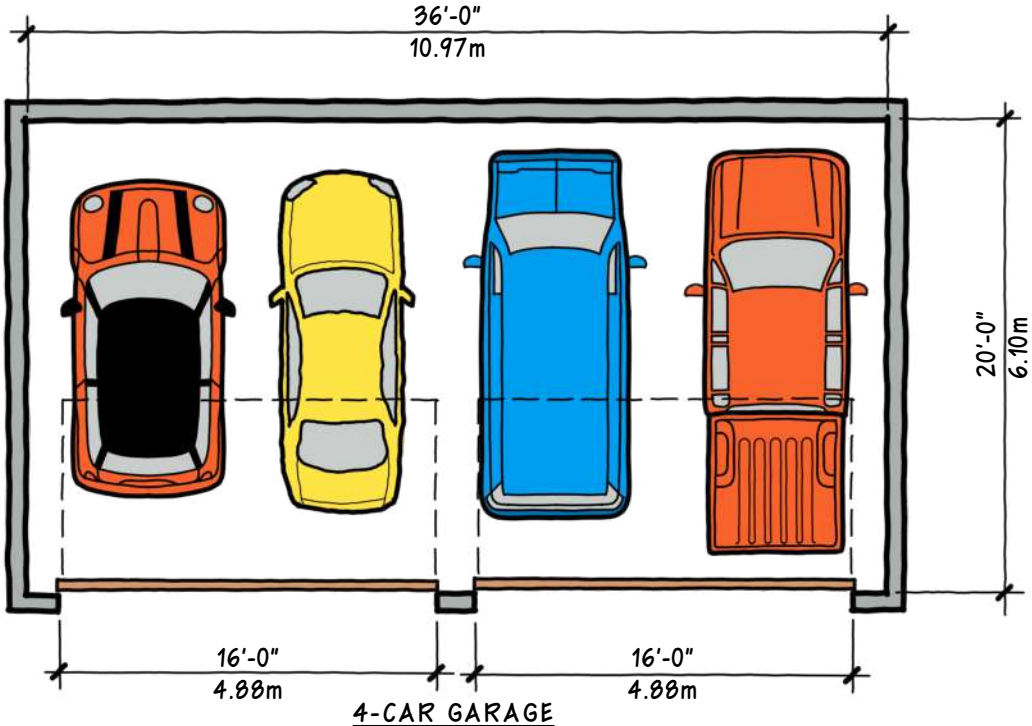


2-CAR GARAGE

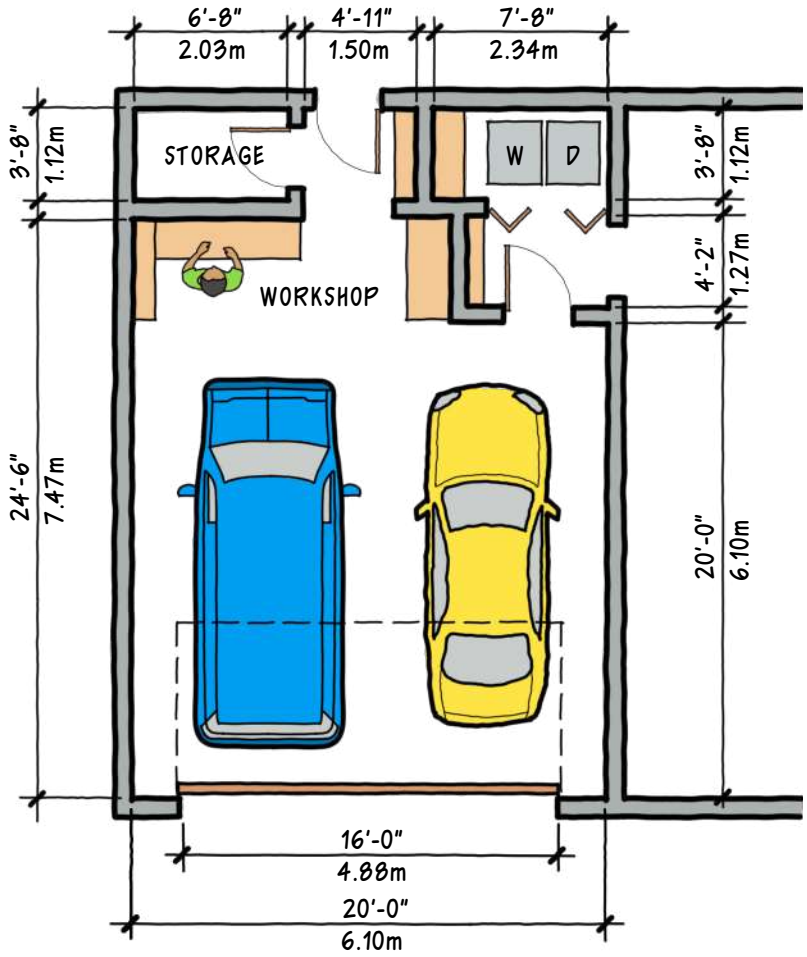


3-CAR GARAGE

GARAGE DESIGN

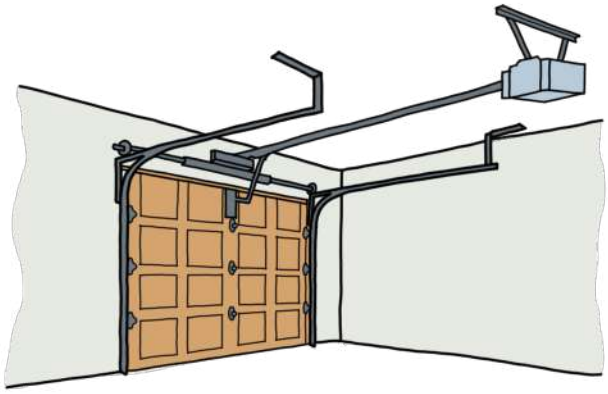


4-CAR GARAGE

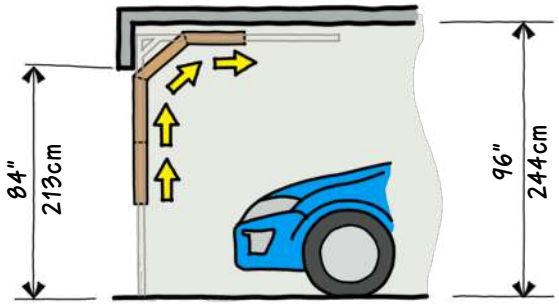


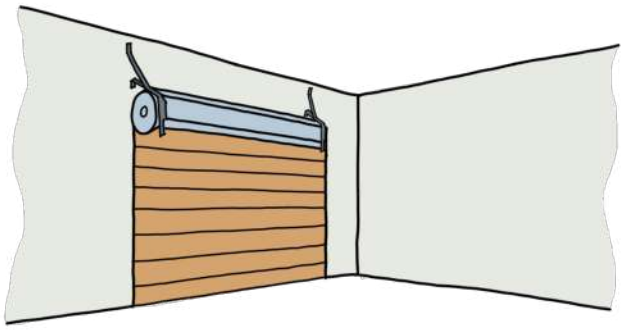
2-CAR GARAGE WITH WORKSHOP AREA

TYPES OF GARAGE DOORS

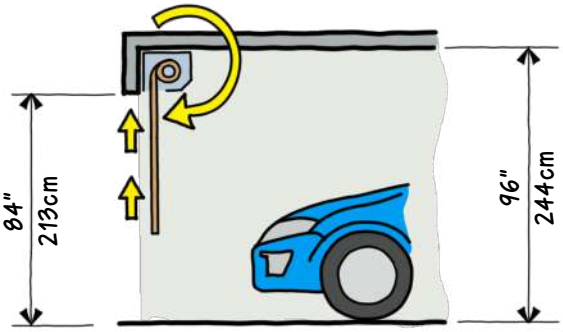


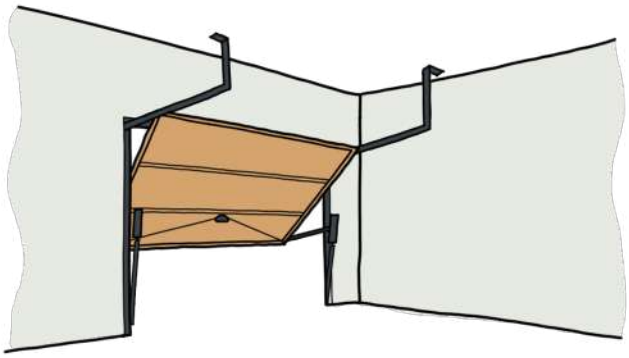
SECTIONAL DOOR



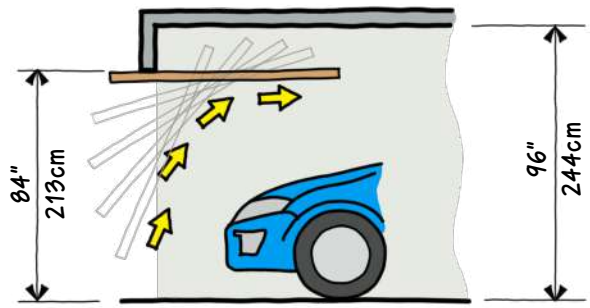


ROLL-UP DOOR





TILT-UP DOOR

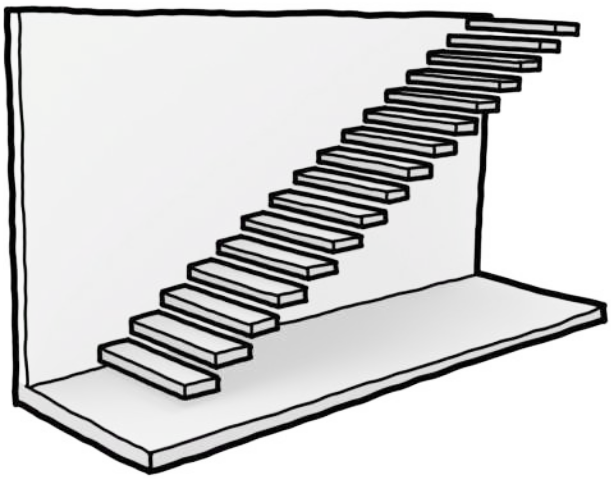


Chapter 7
STAIRCASES

TYPES OF STAIRCASES

Obviously serving an important functional purpose, which is going from point “A” to “B”, staircases have different sizes and shapes, and they require a lot of thought when deciding which one is the most suitable for your design project.

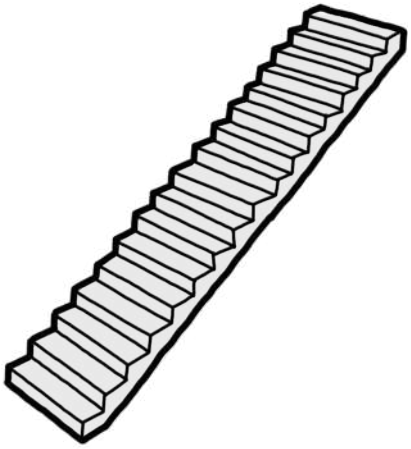
Below are the most common types of staircases used in residential projects, and like any other design decision, all of them have their pros and cons.



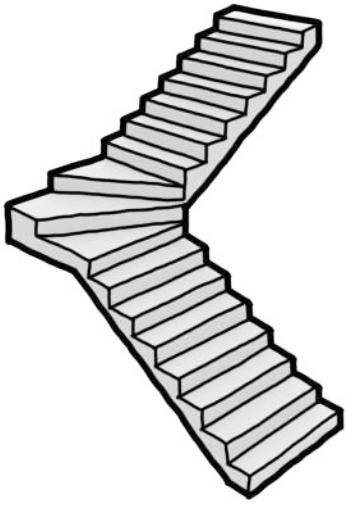
STRAIGHT CANTILEVERED STAIRS



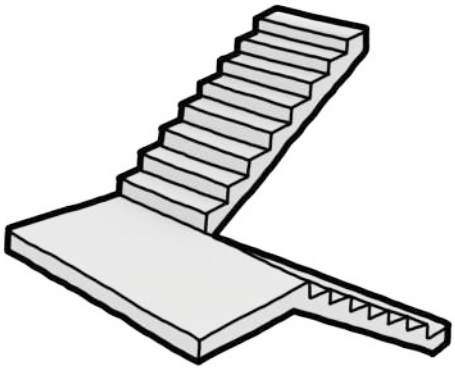
SPIRAL STAIRS



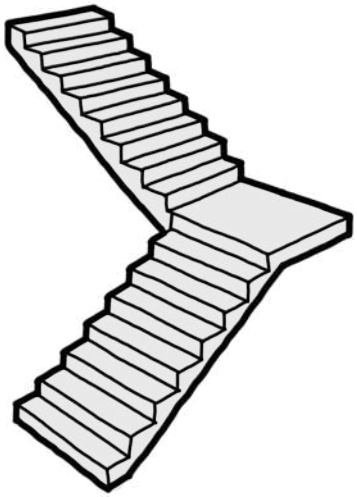
STRAIGHT STAIRS WITH NO LANDING



"L" SHAPED WINDER STAIRS



"U" SHAPED STAIRS



"L" SHAPED STAIRS

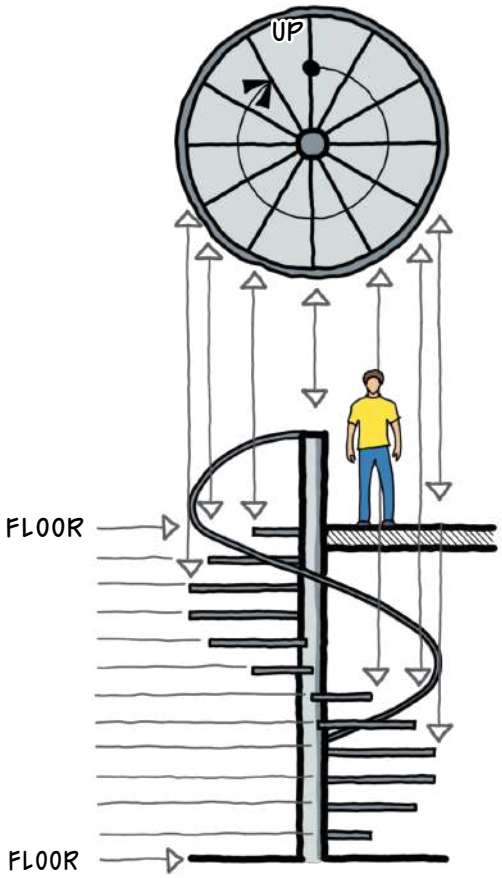
DESIGN AND LOCATION OF STAIRCASES

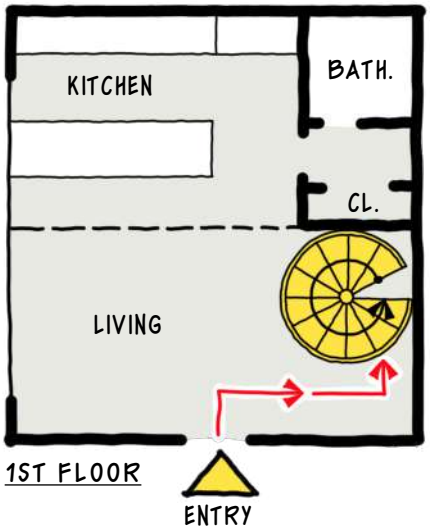
One of the challenges that we encounter while designing a two-story house is where to locate the stairs. They take up a lot of space, and their location affects the final design of both floors. Here are four examples showing which type of staircase to use based on the amount of space available.

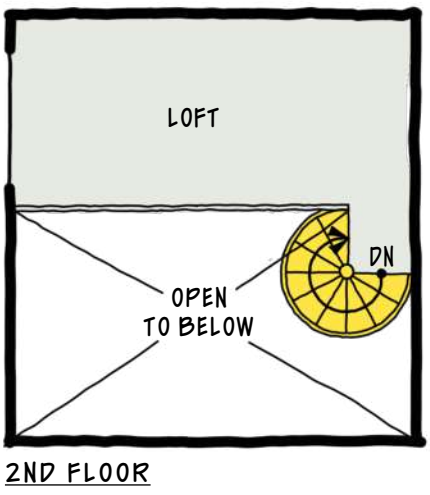
SPIRAL STAIRCASES

Spiral staircases are the most practical when it comes to saving space. They can fit in tight spaces, and their access point can be faced in any direction according to your needs.

They also have a few disadvantages. Because of their compact size and circular shape, they are a lot steeper and narrower than a normal staircase. They can be difficult to use for kids, seniors, and people with mobility problems.







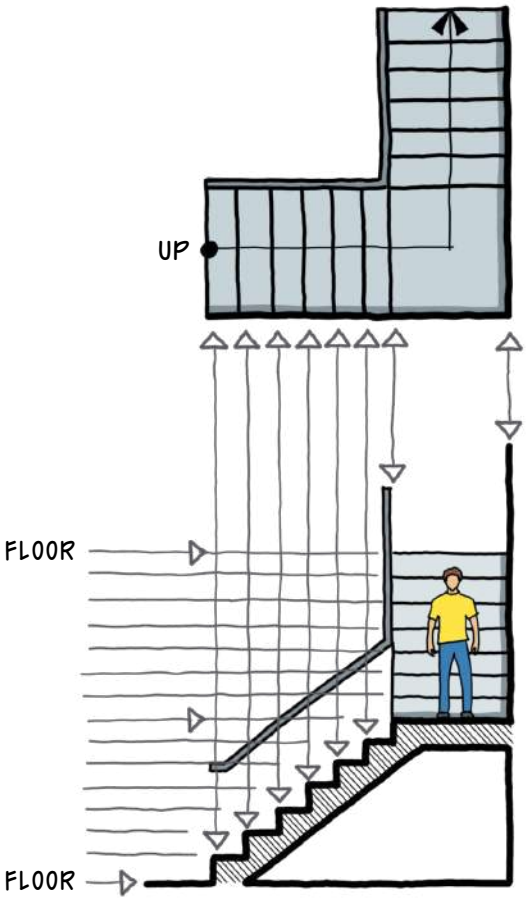
DESIGN AND LOCATION OF STAIRCASES

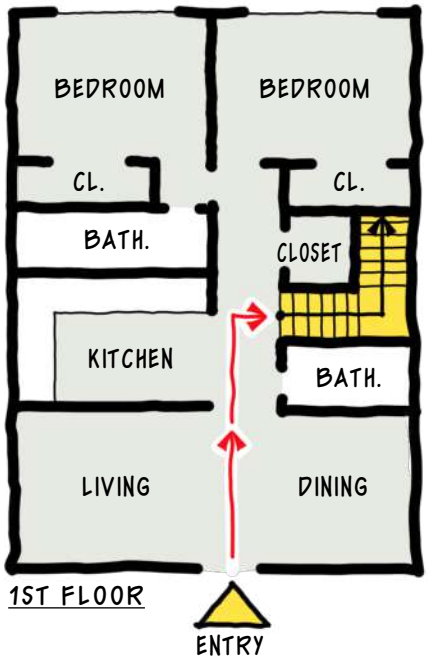
"L" SHAPED STAIRCASES

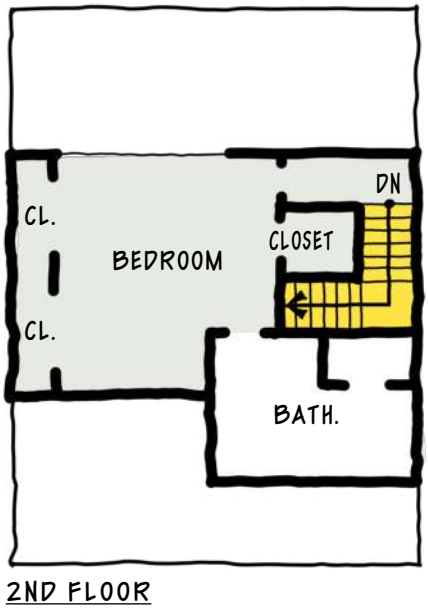
"L" shaped staircases are basically two flights of stairs that change direction by 90 degrees after a landing.

Because of their shape, they are probably one of the most flexible staircase types to accommodate in any kind of floor plan design.

They can be placed in any corner, and the void squared space between flights could be used as a closet or storage space, or you could simply add a piece of furniture.







DESIGN AND LOCATION OF STAIRCASES

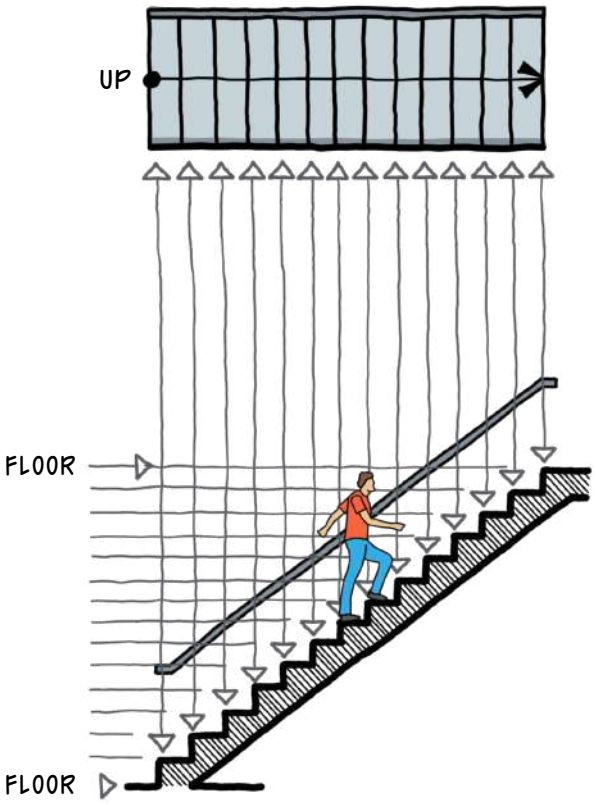
STRAIGHT STAIRCASES

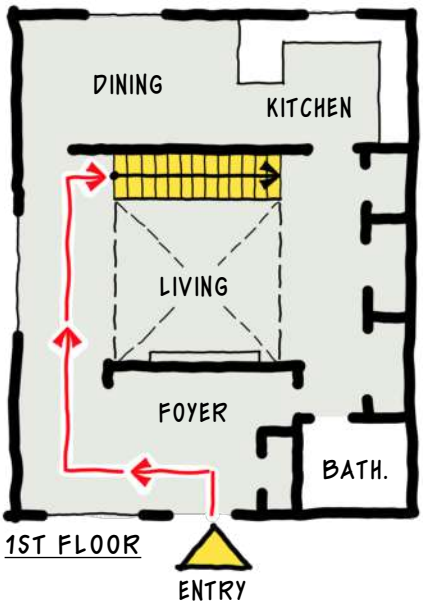
A straight staircase consists of a single flight of steps without any changes in direction.

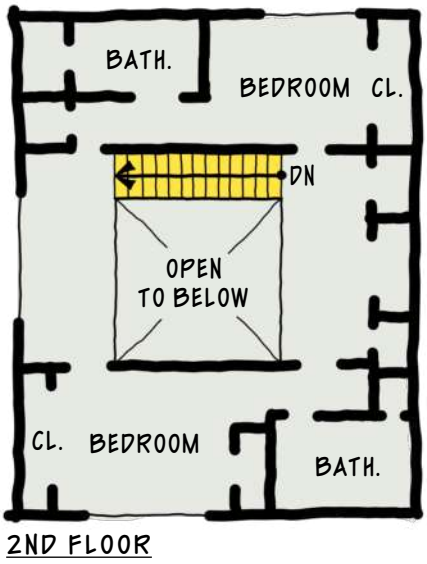
Like any other stairs, they need a landing when the distance between floor levels is greater than 12 feet (3.7m).

You can generate endless design options when finding a location for them in your project. They can be embedded in a wall to create a focal point in any room in your house.

Because of their straight shape, they can also be used for narrow floor plans and designs.





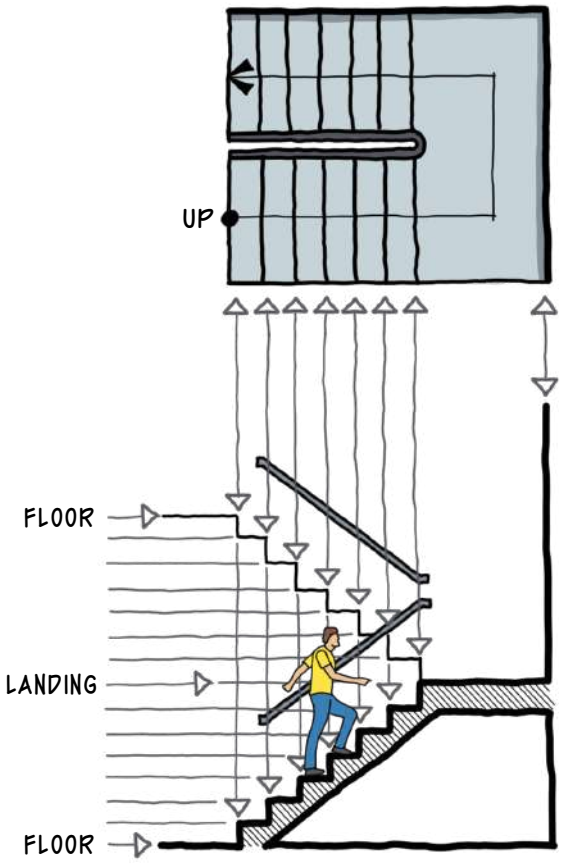


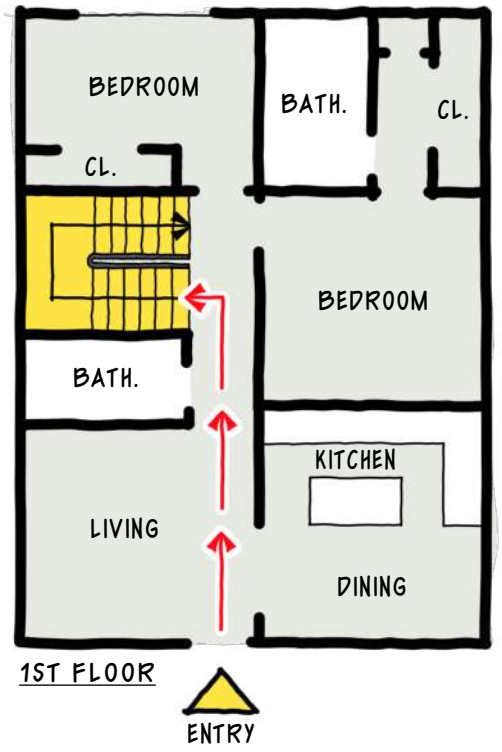
DESIGN AND LOCATION OF STAIRCASES

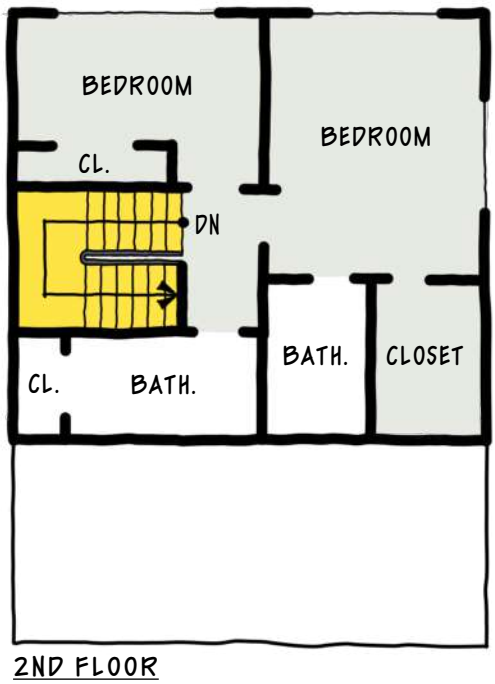
"U" SHAPED STAIRCASES

This is another type of staircase that can be easily accommodated in your design. Because of their squared shape, they can be tucked into an alcove in between two walls without wasting any space.

The one or two landings that they provide make them safer and easier to use for kids and people with mobility problems.







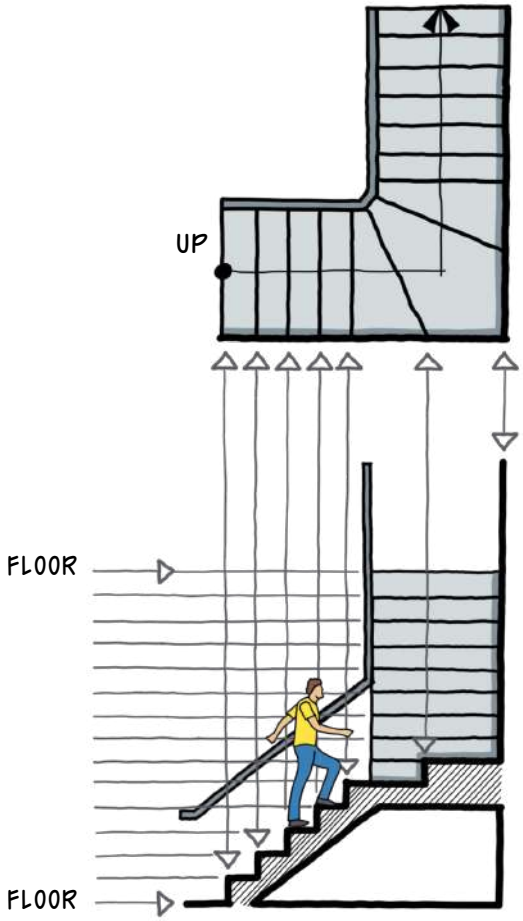
DESIGN AND LOCATION OF STAIRCASES

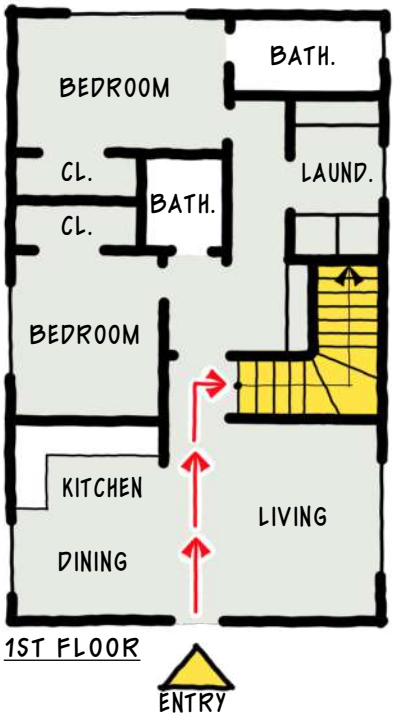
WINDER STAIRCASES

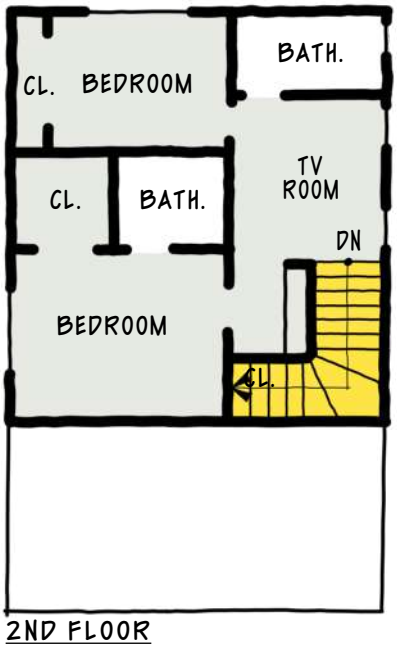
This consists of any type of staircase that replaces the use of squared landings by using triangular shaped steps to turn 90 degree corners.

These stairs require less space compared to the other types, but the triangular shape of the steps in the corners make them a little more difficult to navigate for kids, seniors, and people with mobility problems.

These stairs need to be carefully designed to follow building code requirements.

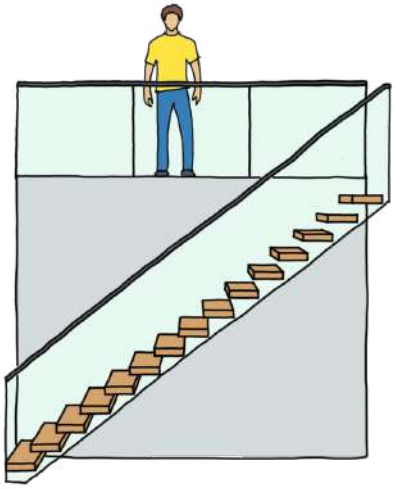






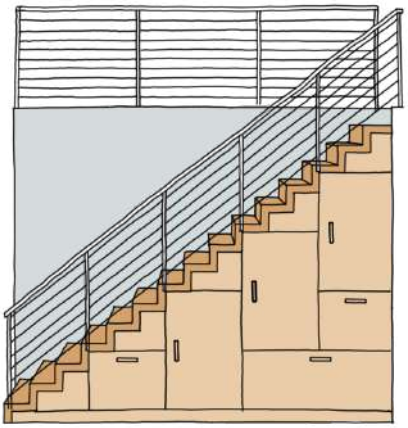
STAIRCASES AS FOCAL POINTS

We often see a staircase as a functional element for the sole purpose of connecting the different levels of a house. Stairs have the potential to become a design element capable of emphasizing the beauty of a space.



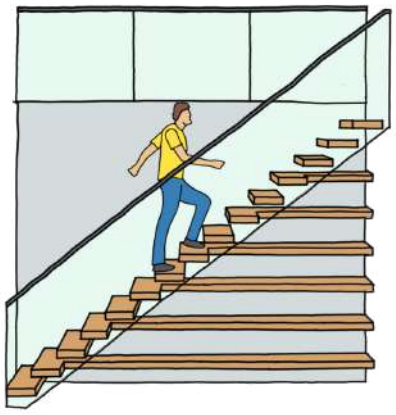
CANTILEVERED WITH GLASS RAILING

If you are looking for a sleek and clean design option, cantilevered stairs combined with a glass railing create that sense of transparency that immediately draws your attention.



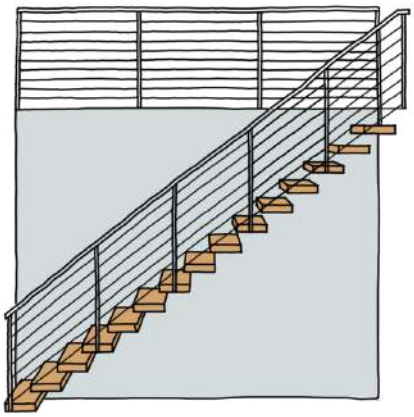
STORAGE CABINETS

Even cabinets under your staircase can draw your eye to that area. You can have fun playing with different design options and geometric patterns.



CANTILEVERED WITH SHELVES

Adding horizontal shelves as a continuation of the stair steps can create an interesting texture underneath them. Make sure that shelves and steps are separate pieces to avoid vibration.

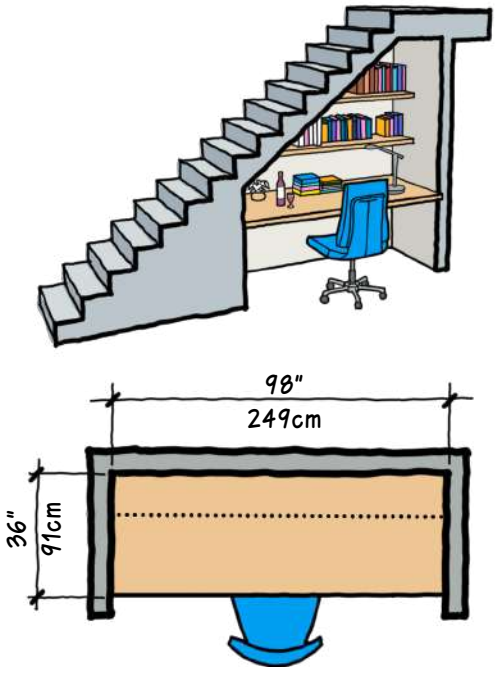


CANTILEVERED WITH CABLE RAILING

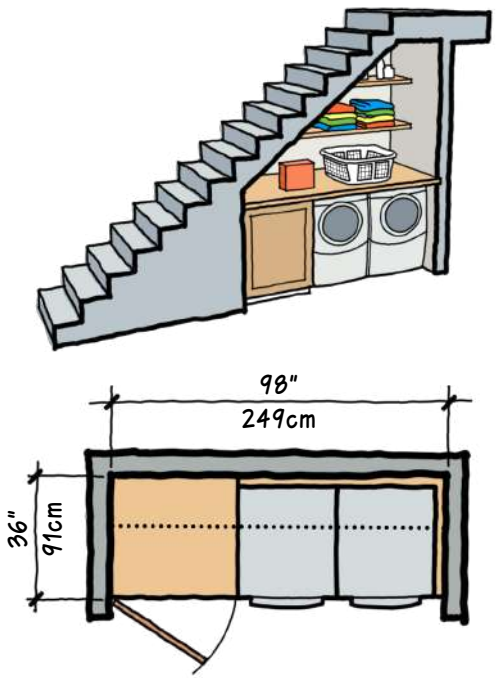
Adding a cable railing to a cantilevered stair can bring that industrial vibe to any room and become focal point of the room.

MAXIMIZING UNDERSTAIRS SPACE

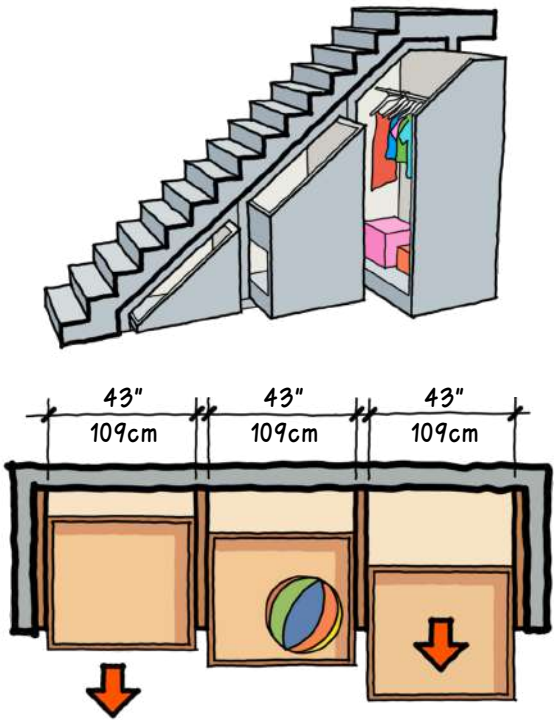
The space underneath your staircase has more potential than you think, especially if it is a straight staircase. You can turn it into something practical like a space to put a desk or a laundry closet, and if you have enough headroom space, you can fit a full bathroom in there.



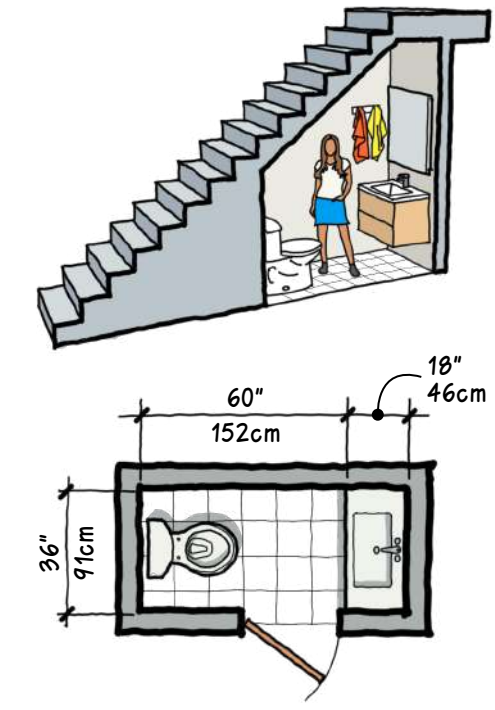
DESK - OFFICE SPACE



LAUNDRY CLOSET



STORAGE SPACE



GUEST BATHROOM



LUIS FURUSHIO