

Chapter 4: Kitchen Layout & Design

Information required. Areas of the kitchen with recommended dimension. Factors that affect kitchen design. Principles of kitchen layout & design. Placement of equipment. Flow of work. Layouts of kitchens, bakery & confectionery in various organizations Layout of receiving & storage area. Layout of service & wash up.

Principles of kitchen layout & design:

If you understand the basic principles of kitchen layout will help take much of the mystery out of the design process. The most basic layout principle is the **work triangle**. The work triangle is the line drawn from each of the three primary work stations in the kitchen - the food storage, cook top, and sink. By drawing these lines, you can see the distance you'll walk to move to and from each area.

The sum of the ideal triangle is supposed to be between 15 and 22 feet, putting each of the three appliances within two or three steps of one another.

The three primary kitchen work stations which create the work triangle are:

- 1. Food storage** - Your refrigerator and pantry are the major items here. Cabinetry like lazy susan or swing-out pantry units add function and convenience. Options like wine racks, spice racks, and roll-out trays help to organize your groceries.
- 2. The preparation/cooking station** - Your range, oven, microwave, and smaller appliances are found in this area. Counter space is important in this section. Conserve space by moving appliances off the counter with appliance garage cabinets and space-saving ideas like towel rods and pot lid racks.
- 3. The clean-up station** - Everyone's least favorite activity is one of the kitchen's most important - clean-up. This area is home to the sink, waste disposal, and dishwasher. Cabinetry for this station is designed to organize with the trash bin cabinet and roll-out tray baskets for storage convenience.

Your kitchen is probably more than just a place to cook and eat. You may choose to include a breakfast bar, desk, bookshelves, computer station, a TV or whatever in your kitchen.

Triangle reloaded

The work triangle however is experiencing a remodel of its own. The work triangle was designed for an age when there was only one cook, and only three appliances (fridge, stove, sink).

Here are a few top tips:

- No leg of the triangle is supposed to be less than 4 feet or more than 9 feet.
- There should be no human (well, or non human, of course) traffic flow cutting through the triangle.
- Place the microwave near the refrigerator for convenience
- Walk space should be 42" wide to account for traffic flow and clearance of large appliance doors or large relatives
- Counter space on either side of the range or cook top should be a minimum of 15 inches
- An 18-inch counter should be adjacent to the fridge on the same side as the handle
- The food prep area (minimum counter space 36 inches) is ideally located between the fridge and the sink; If the food prep area is between the sink and the range or cook top, it will involve more travel.
- A lower surface is best for food prep (measure 7 to 8 inches below your elbow height)
- In two-cook kitchens, the fridge and range/cook top are usually shared.
- Two triangles can share a leg, but shouldn't overlap
- An island with a second sink creates at least one more triangle, and adapts to many uses: wet bar location, flower cutting and arranging, homework station etc.

Now let's see the layouts:

The single line (or Pullmann) kitchen

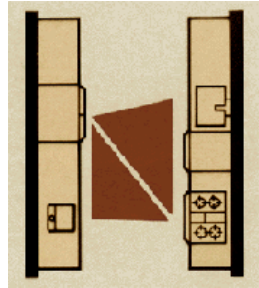


This is a smart and simple solution for narrow rooms, ideally with one wall over 10 feet long, without windows or doors. However, this layout causes the longest journey distances since you often have to walk from one end of the room to the other. Therefore, it's a good idea to place the sink in the middle of the line, with adequate space separating it from the range.

- Ideal for apartments and smaller homes
- Works well with the open designs found in many contemporary homes

- Small moveable table can provide eating space
- Can be enhanced with the addition of an island

The galley kitchen



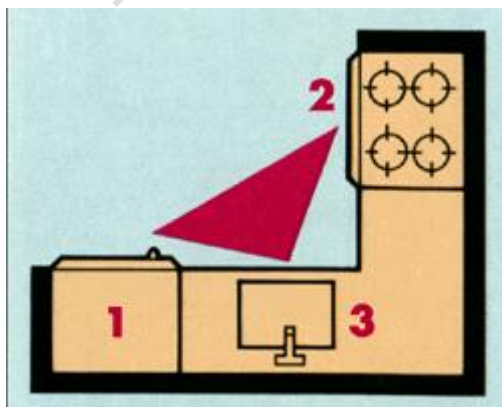
This shape offers the most efficient use of space, making it the choice of many professional chefs. The two rows allow room for lots of preparation space, and moving between activity areas can be as easy as turning around. However, this shape is not ideal if the corridor is open at both ends, since it can cause traffic congestion.

Make sure there is enough room for opposite drawers to be open at the same time (at least 48"). Another important consideration is to keep the cleaning and cooking areas on the same side in order to minimize the risk of accidents while moving hot pans between the sink and range.

- Great for smaller kitchens
- Appliances are close to one another
- Easy for one cook to maneuver
- Can easily convert to a U-Shape by closing off one end

Understanding the basic principles of kitchen layout will help take much of the mystery out of the design process. One of the most basic layout principles is the *work triangle*. The *work triangle* is an imaginary line drawn from each of the three primary work stations in the kitchen - *the food storage, preparation/cooking, and clean-up stations*. By drawing these lines, you can assess the distance required to move to and from each area and thus determine how well the traffic will flow. To help avoid traffic flow problems, work triangles should have a perimeter that measures less than 26 feet.

The three primary kitchen work stations which create the work triangle are:



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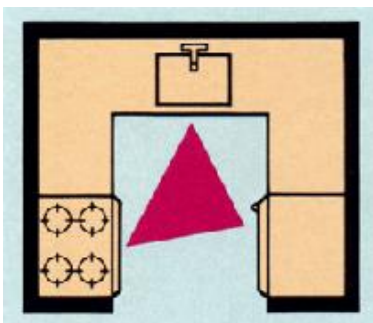
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Today's kitchens are more than just places to cook and eat meals. Many people choose to include breakfast bars, desks, bookshelves, computer stations, phone and message centers, and mini entertainment areas in their kitchens. Consider adding these areas to your kitchen with our selection on desk, shelf, bookcase, and entertainment cabinetry units.

Since the kitchen is one of the most active work areas of the home, it is important to select the right layout to complement your lifestyle and taste. There are five primary kitchen layout shapes - *the U-Shaped, L-Shaped, Island, G-Shaped, Corridor/Gallery, and Single Wall shapes*. After learning about the *work triangle* in the section "Understanding Basic Kitchen Layout," you will now see how the *work triangle* functions in each layout and the advantages each layout offers.

The U-Shaped Kitchen –



Named for the "U" shape it resembles, this kitchen is popular

in large and small homes alike.

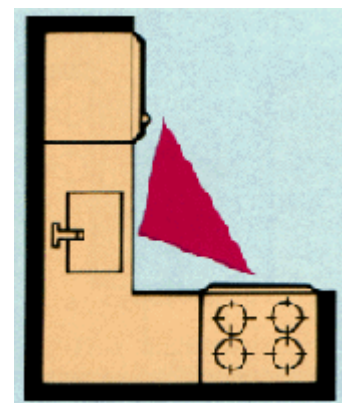
Perfect for families who use their kitchens a great deal

Provides plenty of counter space

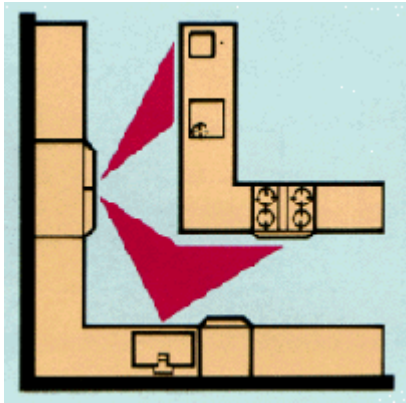
Efficient work triangle

The L-Shaped Kitchen - This kitchen shape is one of the most flexible and most popular, providing a compact triangle.

- Very flexible layout design
- Major appliances can be placed in a variety of areas
- Work areas are close to each other
- Can easily convert to a U-Shape with a cabinet leg addition



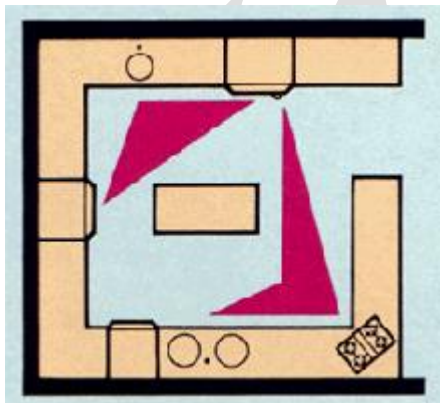
The Island Option. Islands are extremely popular in homes today and are most often seen in L-Shaped kitchens. Islands can not only keep work areas traffic-free, but also create a wealth of extra counter and storage space. An island can be an indispensable food preparation station or act as a butcher block area. The island is also an ideal place to add an extra sink or an island grill.



The G-Shaped Kitchen - Built very much like the U-Shaped with the addition of an elongated partial wall, the G-Shaped kitchen offers a great deal of space.

- Ideal for larger families needing extra storage space
- Plenty of counter and cabinet space
- Multiple cooks can function well in this layout

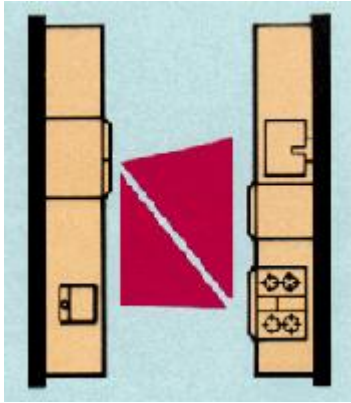
Can convert one cabinet leg into a breakfast bar or entertaining area



The Corridor/Galley Kitchen - This style kitchen makes the most out of a smaller space.

- Great for smaller kitchens
- Appliances are close to one another
- Easy for one cook to maneuver

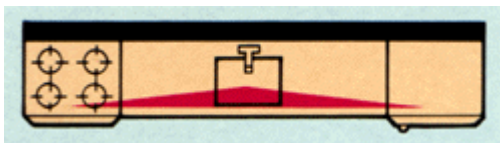
Can easily convert to a U-Shape by closing off one end



The Single Wall/Pullman Kitchen - Designed for homes or apartments, the single wall kitchen offers a very open and airy feel.

- Ideal for apartments and smaller homes
- Works well with the open designs found in many contemporary homes
- Small moveable table can provide eating space

Can be enhanced with the addition of an island



Kitchen Layout Design Principles

There is a couple of design principles that you need to be aware in order to create a kitchen that you can work in effectively and love for years to come.

Stick to the Basics - Keeping your design clean and simple is a must. Let's be frank, simplicity is harder than you think it is. To design a kitchen that is beautiful plus "user-friendly" and functional isn't always easy.

But by eliminating the frills and removing all the unnecessary additions that become part of any project, along with keeping your layouts both straightforward and uncomplicated, you can save a ton of money in design and construction costs.

Aim For Good Lighting From Natural Sources - A well lite kitchen as any one knows is a joy to work in. Nothing is as draining on the mind and the spirit as to work under harsh lighting. Use big open windows or supplemental skylights to bring as much light into your work area as possible. And to have the best kitchen lighting you or your designer should talk to a lighting professional.

Get Good Air Flow - An improperly ventilated kitchen can quickly trap all sorts of odors and smells. Not to mention smoke, soot and other nasty fumes! Of course there are several ways to vent a kitchen using appliances like exhaust fans and the kitchen hoods.

But of course the oldest and most undervalued venting device is the old fashioned window. By adding several windows, especially if they are opposite each other, can offer you a low tech cross-ventilation solution that will remove odors quickly and inexpensively.

Plan For Plenty Of Storage Space - The biggest problem in most kitchen layouts is that the designer is not a cook! Even with years of experience, if your designer doesn't do much work in a kitchen, then they will not understand just how much space you really need.

Think of all the space that all the various pots, pans, utensils and appliances take up, not to mention food stuffs in the pantry. Always push for the maximum in storage space. No one has ever complained of having too many kitchen cabinets.

Of course, these are just a few kitchen layout tips you need to go over with your designer before you start your kitchen remodeling project. But with just these few kitchen layout plans you should be able to explain why a "cook's" place is different from a regular kitchen.

Basic Kitchen dimensions:

There are two stages for a kitchen layout design.

STAGE I LAYOUT:

You don't need the exact dimensions of your kitchen appliances, fixtures and kitchen cabinets when rough sketch your kitchen layout, instead draw them with rough dimensioned "rectangular" or "squares". On this layout, there should be plan view and elevation views for your new kitchen. Including

(1) the dimensions of your kitchen's wall-to-wall width, length and floor-to-ceiling room height and the doors and windows location;

(2) the locations for kitchen cabinets, appliances and fixtures. See examples below.

Stage I kitchen layout can be used for cost estimating:

- (a) Calculating materials, such as the amount of the tiles for backsplash and kitchen floor;
- (b) Getting quotes for your kitchen cabinets and counter tops;
- (c) ordering the kitchen appliances;

Stage I Kitchen Layout



kitchen dimensions I - kitchen and cabinets, appliances, fixtures dimensions

Kitchen appliances, fixtures and kitchen cabinets all have standard dimensions, but each varies with different styles. Here are the detailed dimensions for each major kitchen appliances, fixtures and kitchen cabinets for your references.

- (1) Kitchen room height - Normally 96 inch (2400mm);
- (2) Kitchen interior wall thickness - Normally 4 inch (100mm);
- (3) Kitchen exterior wall thickness - normally 6 inch (150mm);
- (4) Kitchen door width - Normally 36 inch (900mm);
- (5) Kitchen door height - Normally 84 inch (2100mm)

kitchen dimensions II - human movements basic dimensions

- (1) Minimum distance for human walk by - 24 inch (600mm);
- (2) Minimum distance for human move around freely - 36 inch (900mm);

- (3) Minimum distance in front of a refrigerator door - 36 inch (900mm), one can stand in front of the refrigerator and open the refrigerator door freely ;
- (4) Minimum distance from a wall to the kitchen island - 24 inch (600mm), one can freely walk by, or sit on a stool if the island's cabinets has 9 inch (225mm) notch for leg room;
- (5) Minimum distance in front of a range oven - 48 inch (1200mm), one can freely work in front of it and open the oven door freely;
- (6) Minimum distance in front of dishwasher - 48 inch (1200mm), one can open the dishwasher door freely;
- (7) Distance from range oven cook top to over the range hood - 24 inch (600mm) to 30 inch (750mm).

STAGE II LAYOUT:

Once you narrow down to specific kitchen appliances you will purchase and the kitchen cabinet company you will go with, the kitchen cabinet company will come to your home measure your kitchen, and provide you with kitchen cabinets drawings, including plan view and elevation views with detailed dimensions. At this stage, you will need all the exact dimensions for all your kitchen appliances and fixtures, even the size of your kitchen sink. This new set of drawings from kitchen cabinet company will be the one your kitchen countertop, your kitchen electrical, plumbing and gas fitting rough-ins are based on.