

# around the HOUSE

## A Home that Makes House Calls (Part 1)

I have briefly mentioned Universal Design (UD) in previous articles, but I believe a deeper understanding is necessary to realize how UD benefits *every* family and individual—not just those who may have special needs.

UD originated at North Carolina State University by a research group led

- Perceptible Information
- Tolerance for Error
- Low Physical Effort
- Size and Space for Approach and Use

(©1997, N.C. State University, The Center for Universal Design)

UD is not simply accessible design but is “design for all.” It is truly inclusive and, when properly designed, functions just as well for people of tall and short

to get someone through the door) if they have to help someone from the home.

Ease of use, safety, and convenience are UD’s byproducts. It is not a series of codes, and it does not use signs or other designations to identify it. The purpose of UD, like assistive technology, is essentially the same: to reduce the physical and attitudinal barriers between people with and without disabilities.

Well-conceived UD is stealthy and can be invisible; it is quite simply good and economical design. UD in housing provides the freedom to live or work at home safely and independently. It means living in freedom in your own home for as long as you would like. It may also allow a person to recover and get well at home while reducing time and dollars spent in the hospital. Think of it as a home that makes house calls.

Achieving UD is more than including a list of features. So let’s look at the big picture by exploring spatial planning and circulation as we move from the garage into the main living areas. We will explore how a thoughtful floor-plan design is a *must* when successfully incorporating UD in *any* home.

### The Tour Starts

We exit the car in a garage that has a 5’-8’ center aisle, so you can use a wheelchair lift with adequate space upon exiting the car. Each side passenger will have a minimum 2’ 6” space to exit. There will be a minimum 1/20 slope on the garage floor to a minimum 5’x5’ flat area in front of the entry door that allows for a maximum ½” threshold. Prior to entering you will notice a 2’x2’ flat metal floor grate with a drain inside that can be used to clean boots after deer hunting, washing the dog, detailing the wheelchair, or other messy chores.

You may not notice that the switch to the remote and battery backup garage door and lights is no higher than 42”



In this well-planned home that incorporates the principles of Universal Design, someone seated in the kitchen has a view and can communicate with people at the dining table.

by architect Ron Mace, a wheelchair user. The group of ten consisted of architects, product designers, engineers, and environmental design researchers.

UD is defined as “an approach that incorporates products as well as building features and elements which, to the greatest extent possible, can be used by everyone.” It consists of “The Seven Principles of Universal Design (1997), Version 2.0, Raleigh NC, North Carolina State University.” They are:

- Equitable Use
- Flexibility in Use
- Simple and Intuitive Use

stature, those with visual or auditory impairments, overweight individuals, or anyone who uses mobility devices. It is appreciated by people of all ages.

A person pushing a baby stroller will agree, no-step entries make for easier strolling, and an elderly person will enjoy being able to live at home longer and “age in place.” A child or seated person can help prepare meals in the kitchen due to varying-height countertops. Wider doors and hallways will be appreciated on moving day. Paramedics and firefighters will be able to professionally do their jobs (without turning a gurney sideways

above the floor. An electrical panel may be located nearby with adequate clear space in front that is no higher than 48" to the highest switch. In fact all mechanical devices will not be higher than 48". The outlets in the garage and home are a minimum of 18" above the floor for ease of use without bending.

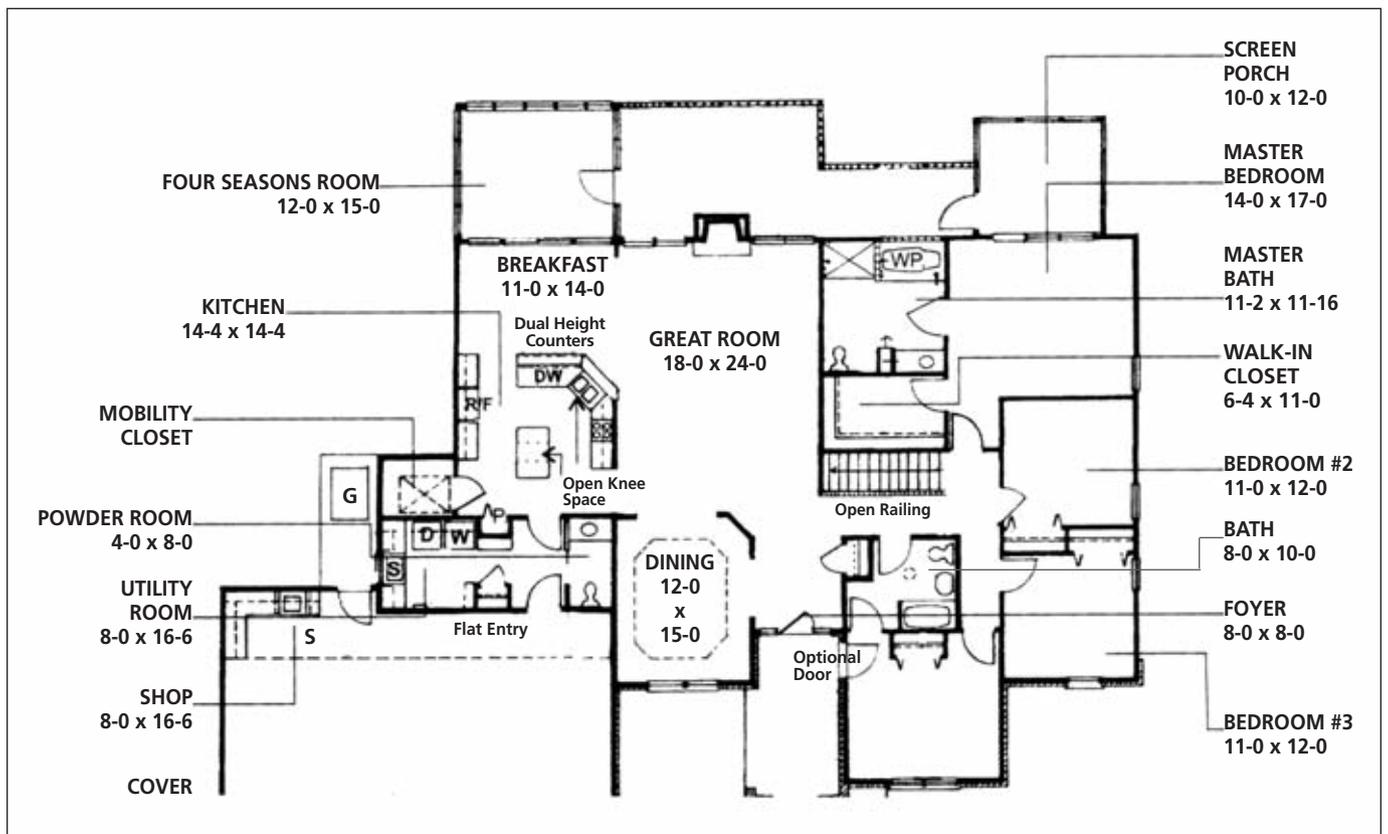
It will be easy to open the door as there will be at least 1' 8" on the opening side. So, if you use a wheelchair, you will have adequate maneuvering space.

If you are carrying groceries, you can even use your elbow to open the door with the lever handle. Lever handles are easier for everyone and are especially appreciated by those who have limited hand motion or arthritis.

We often specify a package bench 30" above the floor so, if you are like me and



The open "great room" effect allows diners to see straight through to the entry.



The open plan allows for easy circulation and communication between homeowners and guests.

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- Padded self-skinning urethane cushion 2" thick, Push handle adjustable cloth back, Two swing-away locking side arms, Seat height adjusts from 18" to 24"
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Roll-in Shower Chair

- Big wheels in front create a chair that is less than 24" wide and 32" deep making this the narrowest, shortest, most maneuverable shower/commode chair available anywhere
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- Superior side access for toilet activities.

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Roll-in Shower Chair (up to 400lbs)

- Height adjustable cantilever fold-back/locking padded arms
- Seamless padded self-skinning urethane back and 20" x 20" x 2" thick seat cushion
- Adjustable swing-away footrests
- Two 18" diameter rear wheels and two 5" diameter casters with total-lock brakes
- Seat height adjusts from 20" to 24"
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Geothermal and electrical panels are at an accessible height (no more than 48 inches to the highest switch) and in an accessible location.

a nice meal out or cards with friends!)

As you move through the home, you will notice an open floor plan. The kitchen is centrally located and near the garage entry, making it easier to unload groceries. Counters there are at various heights, making it convenient to set things down and store them.

From the kitchen you can view most of the

always have your keys in the wrong pocket, you can set down your bags and easily open the door. This is a convenience

house's common areas. There may be a pass-through in one wall so you don't have to carry things around a wall.

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as well as a safety feature, as it promotes stability for everyone entering the home.

You will go from the garage into a foyer or a minimum 3'-8" (4'-0" optimum) hallway or utility room. A 3'-8" finished hallway is the minimum required to turn a wheelchair into a room. The utility room may contain a WC [water closet] and a sink separated by the front-load washer/dryer with a wall with a pocket door. This half bath is convenient for someone who often tools around in the garage. The WC is nearby so you don't have to run through the house just to use a washroom. (Senior clients have told me it is the first stop after arriving home after

Wall-hung cabinets that have a room on the other side will be open underneath for high-low bar seating.

More...

Part 2 will continue to focus on spatial planning, circulation, and interior design considerations in the main living areas including furniture placement, floor surfaces, windows, finish colors as well as natural and artificial light in a UD home that makes house calls!

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