ID A **RERC UD**

Basic Access – Myths and Reality

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Basic access to all housing is part of universal design

- Design to support function and social participation for the widest range of people
- Benefits everyone
- Aesthetically pleasing – market driven
- Demographic tsunami is the driver of UD
  - 65+ population will increase from 12% to 20% by 2030
  - Older people want to age in place
  - Boomers will be the wealthiest cohort of older people
  - Cost of options to independent living will be prohibitive

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Myths about basic access in single family housing:

- The cost of accessibility is prohibitive to provide more than a few accessible homes

- More space is required which drives up the cost

- 2'- 10" doors are not available so doors at the end of corridors must be 36" which increases the corridor width

- Ramps are required to provide accessible entry

Cost of accessibility

- Two rigorous detailed research studies show that the cost of access is less than 1% of construction costs in all types of buildings

- Case studies of single family homes demonstrate that the cost of basic access is from $0-$200.

Schroeder, Steinfeld, et al. (1979), *The Cost of Accessibility* **(HUD)**

- Studied 9 case study existing buildings including one MF and one SF house
- Detailed itemized cost comparisons of redesigned versions to the originals
- Redesigns complied with ANSI A117.1 (1980)
- Many more features than basic home access
- Cost of access was less than 1% of new construction in all types of buildings

Steven Winter Associates (1993) *The Cost of Accessible Housing* **(HUD)**

- Studied 8 developments around the country
- Redesigned sites and units (25 different unit types) to meet ANSI A117.1 (1986 version) and Fair Housing Accessibility Guidelines
- Many more features than basic home access
- Data on cost differences was provided by the developers themselves
- Total cost of access features was .07% - .87% with an average of .63% of new construction
- Site cost increases were 0% - 8.58% with an average of 6.4% for sloping sites (flat sites not included in average because the cost was zero)

Case Study 1: Information from Habitat and local builders' experience

	New Construction	Retrofitting
Zero-Step Entrance	$150	$1,000
Widen Interior Doors	$50	$700
Total Cost	$200 (or 1/3 cost of a bay window)	$1,700

Source: Concrete Change, 2005

Case study 2:

	New Construction	Solution
No step entry	No cost	• Site graded up toward rear • 6 foot ramp to wooden deck at rear • Credit for stairs
Widen Interior Doors	$25	• $5 more per door
Bathroom expanded	No cost	• Shaved 10 SF from living- dining area

Source: Visit-ability, Buffalo: IDEA Center, 2002

## Availability and cost of 2'- 10" doors:

- **Method - simulation of order for 120 doors from local millwork suppliers, 30 each in three different sizes**

City	In stock?	2-8 cost	2-10 Cost	3-0 cost
Boston, MA	Yes	$70.45	$72.95	$72.95
Chicago, IL	Yes	$58.46	$59.98	$63.36
San Diego, CA	Yes	$73.13	$74.29	$76.50
Portland, OR	Yes	$68.83	$69.93	$72.53
Dallas, TX	Yes	$56.63	$56.89	$59.35

Single pre-hung doors, six panels, no casing, hollow core, dull brass hinges
Source: IDEA Center, 2006

The area of units does not have to be larger:
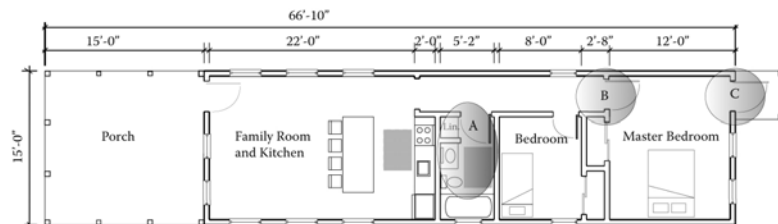
Original: 900 SF plus porch
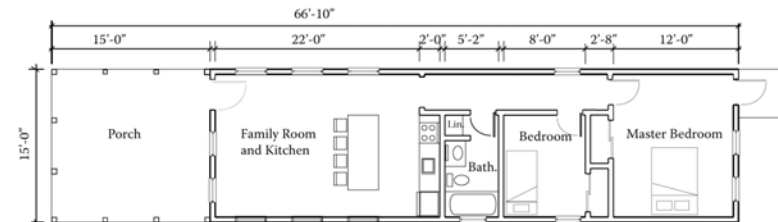
Source: Mississippi Renewal Housing Designs, Abright and Lister, 2006

Accessibility problems:
- **Doors to bathroom, bedroom and rear yard are too narrow**
- **Bathroom does not have wheelchair clear floor space beyond arc of door swing**

Basic access:

Revisions needed for basic access:

A: Bathroom area
- **Widen door from 2'-6" to 2'-10"**
- **Reduce depth of linen closet and lavatory 4"**
- **Make sure toilet depth leaves 30" clearance in front**
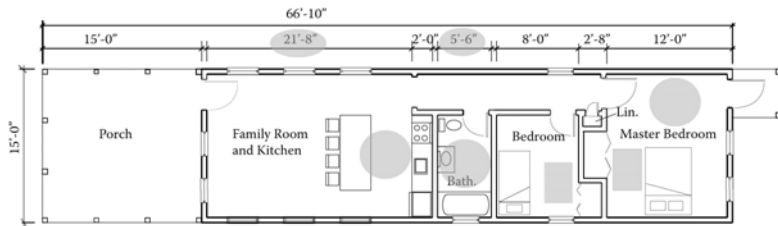
B: Door to Master Bedroom
- **Reduce casings from 6 in. to 4 in. on each side**
- **Widen door from 2'-6" to 2'-10"**

C. Exterior door
- **Widen door to at least 2'-10"**

No increase in size needed

3

Enhanced access:

66'-10"

15'-0"   21'-8"   2'-0", 5'-6"   8'-0"   2'-8"   12'-0"

15'-0"

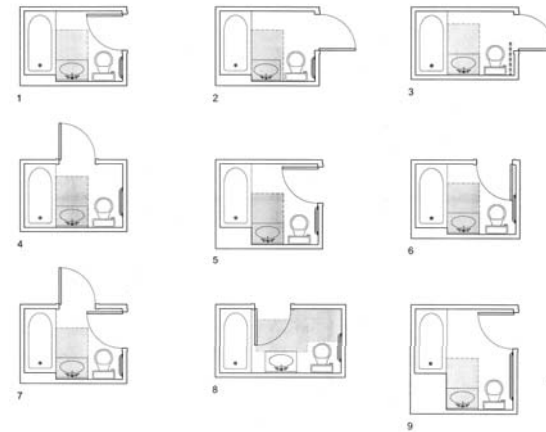Porch   Family Room and Kitchen   Bath.   Bedroom   Lin.   Master Bedroom

Further changes:
- **Relocated linen closet**
- **Rearranged fixtures in bathroom**
- **Provided wheelchair turning radius in bathroom**
- **Provided wheelchair turning radius under kitchen work counter**

Bathrooms are the key:
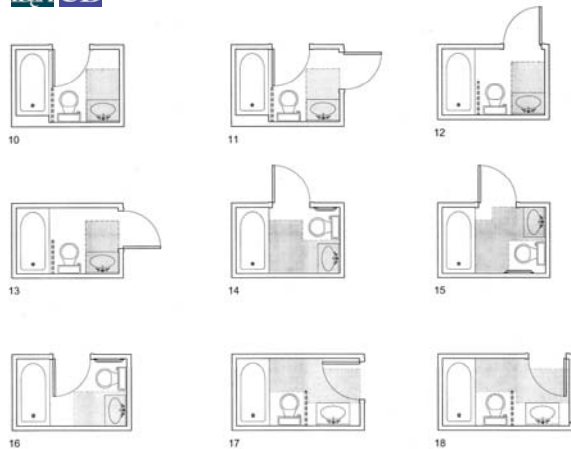
Source: Steven Winter Associates, The Cost of Accessible Housing, HUD

Ramps are usually not necessary:

College Park/LeMoyne Gardens
Torti Gallas and Partners

Design for on-grade access on sloped sites

Access from front and grade drops rear to front

Access from alley and the grade drops front to rear

H

L

No ramp or railings are needed if walk or driveway can provide access at one end of the house

Plan height above grade in relation to length of house or lot.

Length of sloped area >/= 1:20
L= 40' if H = 2'
L= 60' if H = 3'

Design for on-grade access on sloped sites

Access from front and grade drops rear to front

Access from alley and the grade drops front to rear

A

A

To prevent damage from water:
- **Grade away from on-grade entry**
- **Provide porch roof over on-grade entry**
- **Detail foundation properly at point A**

Driveway can provide grade change

Jennifer Kensey (student), Edward Steinfeld (instructor)
SUNY/Buffalo, Dept. of Architecture, Spring, 2006

Ramps done well:

Erina Ardianto (student), Edward Steinfeld (instructor)
SUNY/Buffalo, Dept. of Architecture, Spring, 2006

Ramp tucked under porch

Pioneer Co-Housing Community, Amherst, MA
Photo, Edward Steinfeld

Ramp behind garden wall

Gardella Renovation – Front Entry
Danise Levine, Designer, IDEA Center
Photo, Danise Levine

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