Aging in Place: From Private Porches to Inclusive Communities

SA407
Saturday, June 23, 2018 @1:45 PM – 3:15 PM
1.50 Learning Units
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The fine print:

1. Identify a time when you or someone you know has been limited because of an architectural barrier within your or their own home

2. Discuss walkability and ease of access to services / community amenities in your neighborhood

3. Identify a time when you have been enabled by good design
3 “OPPORTUNITIES”

1. Identify a time when you or someone you know has been limited because of an architectural barrier within your or their own home

2. Discuss walkability and ease of access to services / community amenities in your neighborhood

3. Identify a time when you have been enabled by good design
Course / Learning Objectives

• Begin to identify architectural barriers and other potential dangers for aging populations commonly found within apartments, homes, and neighborhoods

• Learn to design practical interventions that can be implemented in existing housing units and communities to enable safe aging in place

• Gain an understanding of simple architectural techniques in the design and construction of new residential housing units and communities that will facilitate aging in place without the need for future costly modifications

• Explore the ways you can use research-based findings to advocate for age-friendly changes within your practice and among colleagues
Speakers List

- Jason Wheeler
  *Executive Director, ASSIST Inc, Salt Lake City, Utah*

- Keith Diaz Moore, AIA
  *Dean, College of Architecture and Planning, The University of Utah*

- Ivis Garcia-Zambrana, AICP
  *Assistant Professor, City & Metropolitan Planning, The University of Utah*
Keith =
Ivis =
Jason =
Identify a time when you or someone you know has been limited because of an architectural barrier within your or their own home (3 minutes)
The empirical imperative
We all know it’s coming...
Aging Society

Population 60+ by Age: 1900-2050

Source: U.S. Bureau of the Census

- Age 60-64
- Age 65-74
- Age 75-84
- Age 85+
Aging Society

NEXT AMERICA

Percent of U.S. Population by Age Group, 1950-2060

Baby Boomers

MALE

1950

FEMALE

85+
75-79
50-54
25-29
0

4% 2% 0% 2% 4%

PEW RESEARCH CENTER
Aging Society
Aging Society

NEXT AMERICA

Percent of U.S. Population by Age Group, 1950-2060

MALE

FEMALE

Baby Boomers

PEW RESEARCH CENTER
Aging Society
Aging Society
Aging Society
Aging Society

NEXT AMERICA

Percent of U.S. Population by Age Group, 1950-2060

Baby Boomers

MALE 1990

FEMALE

Pew Research Center
Aging Society

NEXT AMERICA

Percent of U.S. Population by Age Group, 1950-2060

Baby Boomers

MALE

FEMALE

2000

PEW RESEARCH CENTER
Aging Society
Aging Society

NEXT AMERICA

Percent of U.S. Population by Age Group, 1950-2060

Baby Boomers

MALE 2020 FEMALE

85+
75-79
50-54
25-29
0

4% 2% 0% 2% 4%

PEW RESEARCH CENTER
Aging Society
Optimal Aging

- “refers to...aging under development-enhancing and age-friendly environmental conditions”
- (Baltes & Baltes, 1990: 8)
Optimal Aging

Percentage of County Population Age 65 and Over With a Disability: 2008–2012

Source: U.S. Census Bureau, 2008-2012 American Community Survey
How Common Are Specific Disabilities by Age?

Percentage of civilian noninstitutionalized population

- With a **HEARING** difficulty
- With a **VISION** difficulty
- With an **AMBULATORY** difficulty
- With a **COGNITIVE** difficulty
- With an **INDEPENDENT LIVING** difficulty
- With a **SELF-CARE** difficulty

*Data not collected for this age group.*
Optimal Aging

SENIORS AGREE

88% “What I’d really like to do is to stay in my current residence for as long as possible.”

89% “What I’d really like to do is to remain in my local community for as long as possible.”

THE FACTS

70% of adults over 65 will need long-term services and supports at some point in their lifetimes

$146B amount Medicaid spends for long-term services and supports

44K older adults are experiencing homelessness

1.8M senior households suffer severe rent burdens

https://bipartisanpolicy.org/library/recommendations-for-healthy-aging/
Optimal Aging

Most people want to “Age in Place”

• Continuing to live in one’s own home and neighborhood safely, independently, and comfortably regardless of age, income, or ability level

(The National Aging in Place Council, 2013)
Optimal Aging

International Classification of Functioning, Disability and Health (ICF Model)

Determinants of Health

Healthy People 2020
Optimal Aging

Discuss walkability and ease of access to services / community amenities in your neighborhood (3 minutes)
Eliminating architectural barriers through strategic intervention...
46% of people with disabilities report feeling isolated from their community.
Architectural barriers are the most frequently cited cause of isolation.
How did this happen?

- Frost footing requirements push floors out of the ground
Architectural Barriers – Home Entry

Railings
Low Rise Steps
Estimating beginning of ramp

Measuring the total rise
SLOPE = 1:2
Architectural Barriers – Home Entry

Vertical Platform Lifts (VPL)
How did this happen?

- Frost footing requirements push floors out of the ground

- Land scarcity and larger home sizes encourage multi-story construction
Architectural Barriers – Interior Access

Interior Handrails
Vertical Lifts / Elevators
How did this happen?

- Frost footing requirements push floors out of the ground

- Land scarcity and larger home sizes encourage multi-story construction

- Post World War II construction efficiencies have largely dictate currently accepted building standards
Architectural Barriers – Interior Access

Widen Doors & Clearing Hinges

36” wide door

28” wide door

Swing Clear Hinge
Architectural Barriers – Bathroom

High Rise Toilets/Risers
Architectural Barriers – Bathroom

Grab Bars
Architectural Barriers – Bathroom

Tub Cut & Walk-in Tub
Architectural Barriers – Bathroom

Curb Shower
Architectural Barriers – Bathroom

Roll-in Shower
Architectural Barriers – Bathroom

Fixed & Hand-held Shower
Architectural Barriers – Bathroom

Shower Chairs & Benches
Architectural Barriers – Bathroom

Roll-under Sinks
Architectural Barriers – Kitchen

Counter Tops & Cook Tops
Architectural Barriers – Kitchen

Oven/Breadboards & Drawers
How did this happen?

- Frost footing requirements push floors out of the ground

- Land scarcity and larger home sizes encourage multi-story construction

- Post World War II construction efficiencies have largely dictate currently accepted building standards

- ADAAG doesn’t apply to homes
“A FOOT OF RAMP FOR EVERY INCH OF RISE”

Standard Ramp – 1 in 12
Up to 30’ linear distance

Threshold Ramp
Up to 3” rise

Sloped Pathway – 1 in 20
No distance limit

Wedge Ramp
Up to 6” rise
Vertical Rise

Beveled Rise

1/4" maximum

1 2

1/2" maximum
Hinged door

Pocket door

34" – 36" wide door

32” clear opening
Space required next to door handles varies between push and pull sides.
Accessibility Building Blocks

Standard Dimensions – Clear Floor Space

30" x 48" clear space beyond the doorswing
Standard Dimensions – Wheelchair Turning

5’ diameter wheelchair turning space
Standard Dimensions – Grab Bar Reinforcement
Knee clearance and counter height

27” minimum
34” maximum
• All controls, switches, and outlets must be a minimum of 15” and a maximum of 48” above the floor. A 30” x 48” clear floor space for parallel or forward approach is required at controls.

• Appliance and fixture controls and window operating hardware to be in an accessible locations and reachable heights and not require tight grasping, pinching, or twisting of the wrist.

• Controls above counters shall not be more than 44” above the floor.
Architectural Techniques for New Housing

No-Step Entry

Front Door  Side Patio  Garage Entry
New Construction – Zero step entries

- Slope to drain 1:48
- Sloped pathway 1:20

Floor joist
Architectural Techniques for New Housing

Adequate Doorways

Low threshold

Clear passage space
Architectural Techniques for New Housing

Usable Bathrooms

High and low sinks          Transfer bench
Architectural Techniques for New Housing

Reachable Switches, Outlets, and Controls
Architectural Techniques for New Housing

Wider Hallways
Accessible Outdoor Living or Patio
Identify a time when you have been enabled by good design (3 minutes)
The study, & preliminary findings...
Defining Mobility

- Travel behavior (planning)/ Universal design (Architecture)
- Relative ease of movement & freedom of movement in all of its forms (Satariano et al., 2012)
- The ability to meet the basic needs to access goods, activities, services, and social interactions (Mollenkopf, 2005)
- Quality of life
- Mobility is essential to older adults due to their limited, or gradually reducing physical and cognitive abilities
Life-space Assessment (May et al. 1985)

1) Five concentric zones:
   - Bedroom (level 0) → Home
   - → Outside house → Neighborhood
   - → Town → Outside Town

2) Frequency of travel

3) Degree of independence
### Life-space Mobility and Aging in place

**Life-Space Assessment**  
(May et al., 1995) at 5 life-space level

<table>
<thead>
<tr>
<th>Life-Space Level</th>
<th>Frequency</th>
<th>Independence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Within each life-space,</td>
<td>How often did you get there</td>
<td>Did you use any personal assistance or equipment</td>
</tr>
</tbody>
</table>

**Life-Space Mobility Assessment** at neighborhood, city & region

<table>
<thead>
<tr>
<th>Life-Space Level</th>
<th>Place</th>
<th>Frequency</th>
<th>Independence</th>
<th>Mode</th>
</tr>
</thead>
<tbody>
<tr>
<td>Within each life-space,</td>
<td>Where did you go</td>
<td>How often did you get there</td>
<td>Did you use any personal assistance or equipment</td>
<td>How did you get there</td>
</tr>
</tbody>
</table>

+ Any place you want to go but can’t? Why? What would make it easier?
Research Design

- Surveys and semi-structured interviews
- 50 low-income older adults
- Home accessibility modifications

Salt Lake County, Utah
Assist Inc.
University of Utah

Multnomah County, Oregon
Unlimited Choice Inc.
Portland State University
Life-space Mobility and Aging in place

- Salt Lake County Context
Accessibility Modifications by Type

- Grabbars: 350 projects
- Ramps: 175 projects
- Steps: 200 projects
- Railings: 450 projects
- Tubs: 125 projects
- Showers: 150 projects
- Bathrooms: 50 projects
- Toilets: 100 projects

AIA Conference on Architecture 2018
June 21-23, New York City
Life-space Mobility and Aging in place

Step 1. Neighborhood boundary mapping

- The area around one's house
- Subjectively named and defined
- Where performing routine tasks
- Social constructions
- Relationships between place & people
Life-space Mobility and Aging in place

Step 2 - Interview

- Life before and after the home modifications
- Aspects of satisfactions & limitations
- Mobility on a typical day/week/month
- Barriers to get around
- Use of public transportation
- What does ‘Aging in place’ mean to you?
Life-space Mobility and Aging in place

Step 3 - Survey

- Socio-demographics
- Home modifications
- Home & neighborhood satisfaction
- Mobility
- Aging in place
- **Life-space Assessment – May et al.**
- Neighborhood Environment Walkability Scale (NEWS) – Sallis et al.
- Instrumental Activities of Daily Living Scale (IADL) – Lawton & Brody
Preliminary Results – The Participants

- 95% Strongly agree they would like to remain in their current home as long as possible.
- 87% have lived in their home for 20+ years.
- 70% have a walkscore below 50.
- 88% Strongly agree they would like to remain in their home even if they were seriously ill.
What do you like about your home?

1. Housing **Affordability**
2. Personal **Safety & Security**
3. Housing **Quality**
What do you wish was different about your home?

ACCESSIBLE DESIGN!
Tell us about Home Modifications

“"I had the railing there, you know, that gave me support… And it's nice to have it for other people if they come to visit me because I have a lot of elderly friends that need it also."

- Shelby Jean Hill

“"They’ve helped—they’ve saved a lot of falls."

- Judy Osborne

“I had fallen. And I got stuck in the tub. And when they came out and put that in, that makes it much, much easier."

- Rosie Chavez
Tell us about Aging in place

“Oh. Aging in my home? It’s hard. It’s a challenge.”

- Merrilee Wyatt

“I imagine I could probably live here for another 10, 15 years, easy. Whatever happens. And I would definitely want to stay in the neighborhood. It's an amazing, kind—a lot of kind people.”

- Judy Osborne
Tell us about **Public Transportation**

“I take it because I feel quite safe. It’s more convenient. I don’t have to fight to traffic, and it’s cheap. 10 years ago, I started to ride TRAX. I learned that from my teenagers (grandchildren).”

- Dora Broberg

“Why I don't use it? Because it's really not accessible. You'd have to walk from here over to there.”

- Anna Marie Simons
Perceived Proximity to Amenities (NEWS)
Actual Proximity to Amenities
Correlation - 0.7 Moderately High

Perceived Proximity

Actual Proximity
Walking Distance to...

- Fast Food Restaurant
- Non-Fast Food Restaurant
- Gym / Fitness Facility
Walking Distance to...

- **Park**
  - 1-5 min: Low
  - 5-10 min: Medium
  - 10-20 min: High
  - 20-30 min: Very High
  - 30+ min: None
  - N/A: None

- **Library**
  - 1-5 min: Low
  - 5-10 min: Low
  - 10-20 min: Medium
  - 20-30 min: High
  - 30+ min: High
  - N/A: None

- **Transit Stop**
  - 1-5 min: Very Low
  - 5-10 min: Low
  - 10-20 min: Very Low
  - 20-30 min: None
  - 30+ min: None
  - N/A: None
Life-space Mobility and Aging in place

• Assists: Improve understandings of the clients’ needs that can lead to improved service delivery

• Policy Makers: Use the tools, framework, and findings to better inform the growing needs for improving accessibility of home and neighborhood environments, including the connections between individuals’ home, transit systems, and services.
Contact Information

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Thank you!