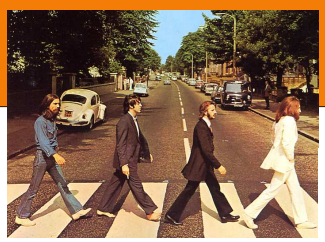
Sidewalks fit for people

April 27, 2010



Christopher Hart

Institute for Human-Centered Design
[Adaptive Environments]

"Design must balance ethics and aesthetics for the good of society."

- Kazuo Kawasaki, Ph.D., M.D.

•www.HumanCenteredDesign.org

Design powerfully and profoundly influences us and our sense of **confidence**, **comfort**, and **control**.

2 core ideas...

Variation in ability is ordinary, not special, and affects most of us for at least part of our lives.

Who are we designing for?

More than meets the eye

Who don't you see?

- 3.3 million: wheelchairs / scooters
- 25 million: arthritis
- 55 million: have a "disability"

Most common reasons for functional limitation of adults in the US...

- Arthritis
- Back problems
- Heart disease
- Respiratory disease
- Diabetes

NOTE: 3.3 M in U.S. use wheelchairs or scooters of 54.4 M with a disability [Source: CDC & US Census]

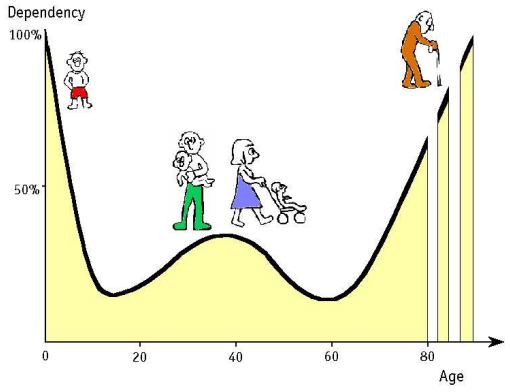
Population forecast

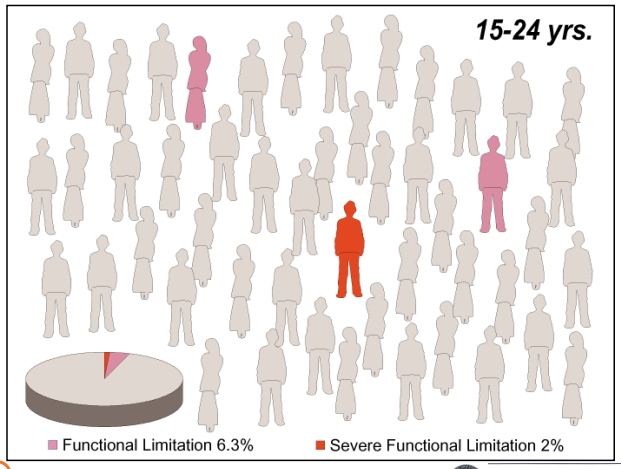
North America– % over 60 years old

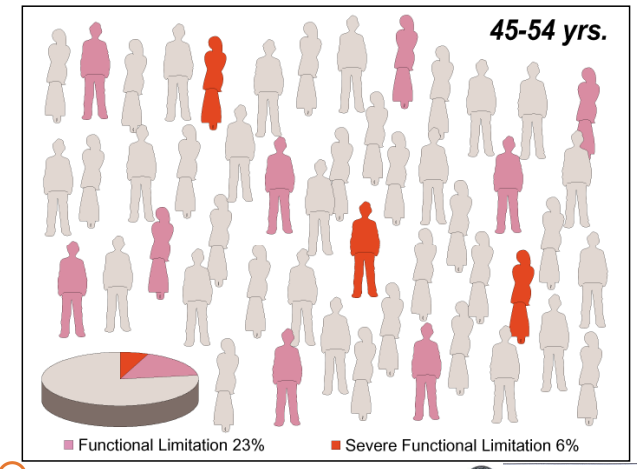
- 2000 16%
- 2050 30%
- 2100 40%

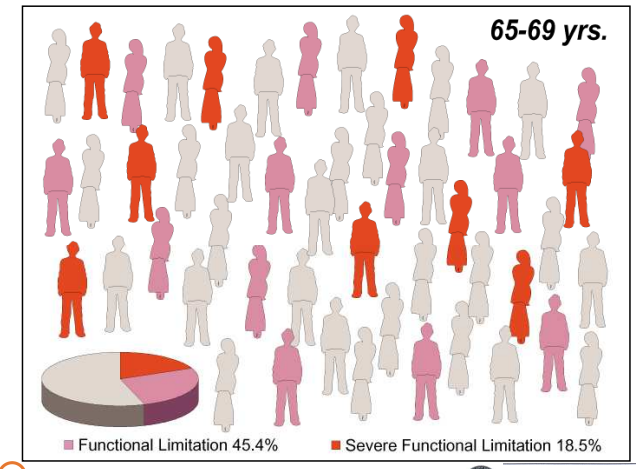
Design for all FOUNDATION

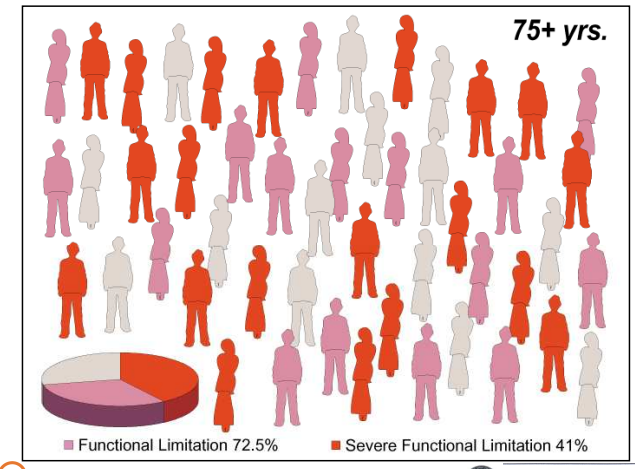
Changes during the life cycle











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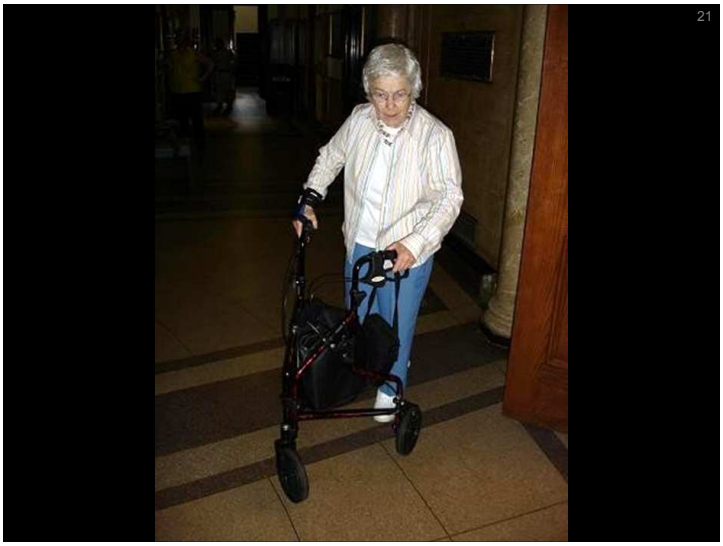
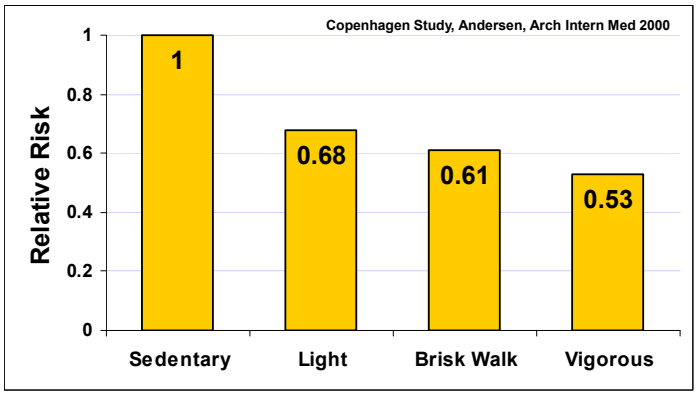


Mortality & Leisure Activity



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Why focus on surfaces now?

- Cities are faced with new sidewalk installations that may inadvertently introduce new mobility obstacles.
- Analysis of seniors in Japan concluded that the need for smoothness is absolute. Taking human error into account, Japanese standards for vertical displacement are based on the highest construction precision that can be reached: 2 mm.

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Why focus on surfaces now?

- Studies indicate walkability is a critical component of quality of life not only seniors.
- People's independence and mobility are directly impacted by sidewalk surface treatments. Enhanced? Limited?
- People's perception of their health improves with their ability to get to amenities by foot.

Sidewalk surfaces must:

- Meet the needs of physically diverse users
- Hold up well in the harsh winter
- Be easily maintained
- Add to the character of the street

Surfaces

- Molded Bricks
- Wire Cut Bricks
- Brick Pavers
- Asphalt pavers
- Concrete
- Concrete pavers
- Granite Pavers
- Boardwalk

Problems with molded brick

- Vibration (see video)

Maintenance

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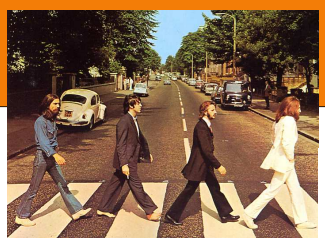

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