Enabling Environments Around the World

Edward Steinfeld
Professor of Architecture and Director
Center for Inclusive Design and Environmental Access
School of Architecture and Planning
University at Buffalo, SUNY

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U.N. Convention on the Rights of People with Disabilities

- **Currently being ratified by countries around the world**
- **Accessibility viewed as a basic right**
  - **Buildings "open or provided to the public"**
  - **Housing, especially social housing**
  - **Transportation, including pedestrian environments**
  - **Information and communications**
- **Universal design**
  - **Introduced and defined**
  - **Countries urged to do education and research**

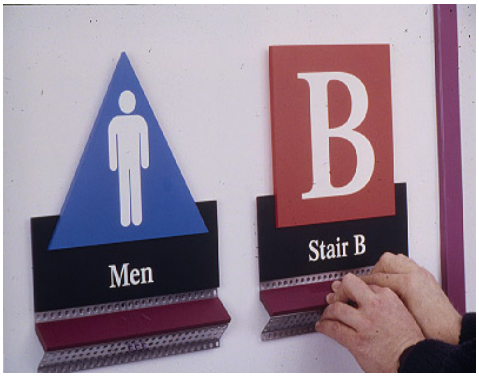
International Classification of Function – WHO (2001)

- "Bio-social" model
- Disablement as a universal experience
- Environmental factors have major role in defining disablement
  - Barriers and facilitators
  - Disabling and enabling environments
  - Environment is physical and social
- Personal factors play an important role also
- Environmental factors not well defined

Enabling Environments

- Eliminate discrimination by design or neglect
- Enable independence and social participation
- Are affordable and achievable
- Include domains of policy, design and management

Evidence for universal design



What is Universal Design?

The design of products and environments to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design.

Center for Universal Design (circa 1995)

Oxo measuring cup

What is Universal Design?

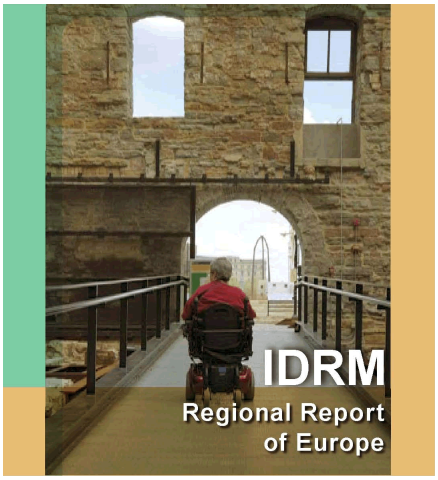
Improving usability, safety, health and participation in response to the diversity of people and abilities.

E. Steinfeld, 2009

Universal design goals:

- **Body fit**
- **Comfort**
- **Awareness**
- **Understanding**
- **Wellness**
- **Identity**
- **Social integration**
- **Appropriate for context**
  - **Physical**
  - **Cultural**

The Status of Enabling Environments



- UN Surveys (1997, 2006)
  - Surveys of all member nations
  - Filled out by government
- IDRM Americas (2004), Europe (2005), Asia (2007)
  - Qualitative reports from limited number of countries
  - Contributing authors

Public Accommodations

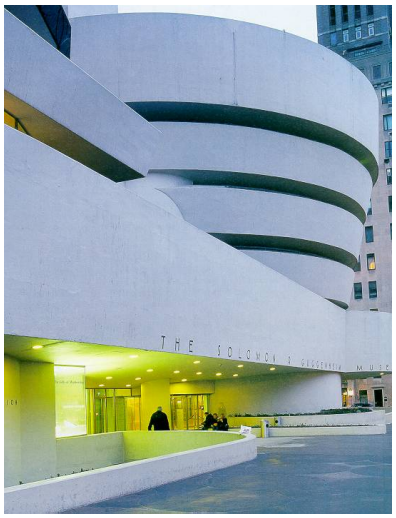
Key Issues

- Good progress reported in many countries but also serious gaps
- 43% of countries have *no policies* on accessible public buildings
- 54% have *no standards* for outdoor environments and streets
- 43% have *no standards* for public buildings
- 65% have *no educational programs*
- 58% have *not allocated any funding*
- *Lack of enforcement*

Key Developments

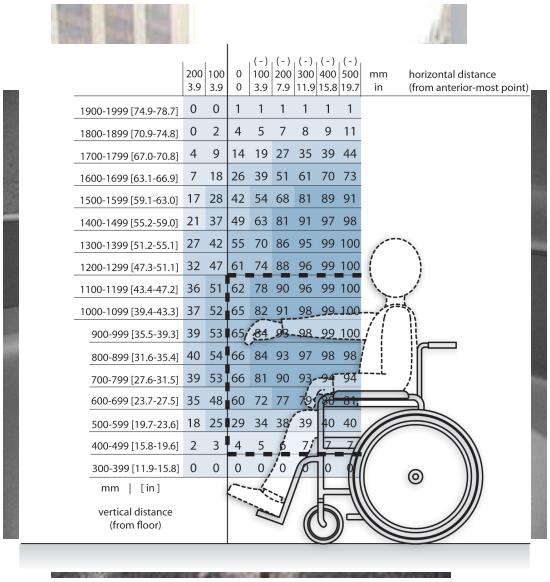
- Convergence on the Developed World (DW) standards
- Informal settlements, refugee camps and rural areas have very serious barriers
- Standards too oriented toward wheeled mobility issues
- Changing wheeled mobility users and technologies
- Developing education and dissemination resources

Emergence of Universal Design



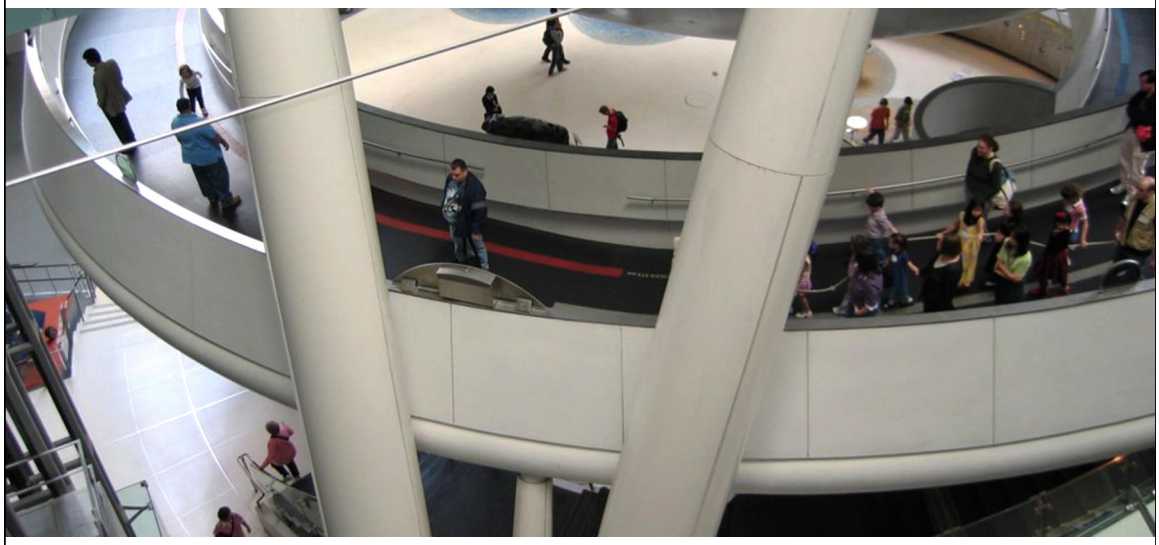
- Ramp metaphor for enabling environments
- Building an accessibility culture - first “landing”
- Many creative interpretations emerging
- Challenge of affordability
- Need evidence of effectiveness

Key R&D Needs

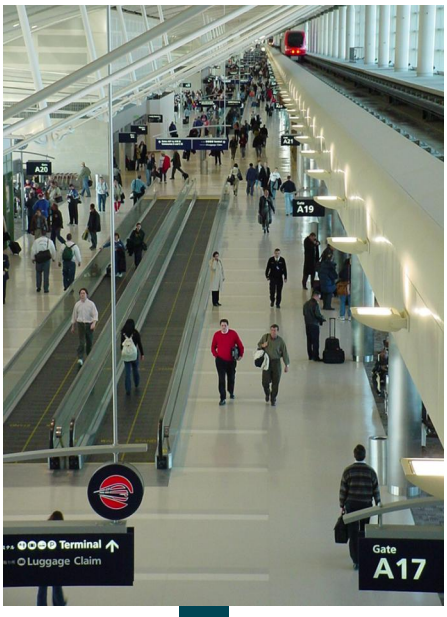


- Sensory, cognitive, mental health issues
- Improve standards on wheeled mobility access
- Effectiveness of standards, e.g. tactile warnings
- Usability testing
- Multi-Tier standards
- Extremely low cost solutions

Rose Planetarium

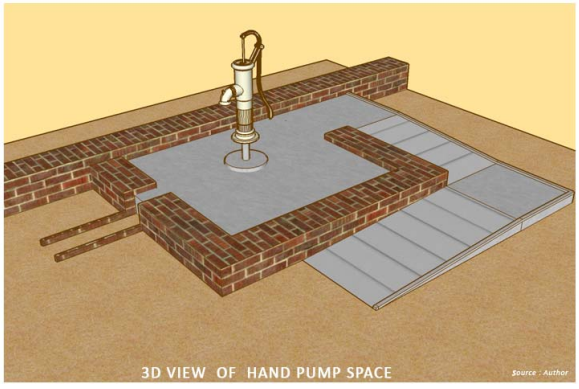


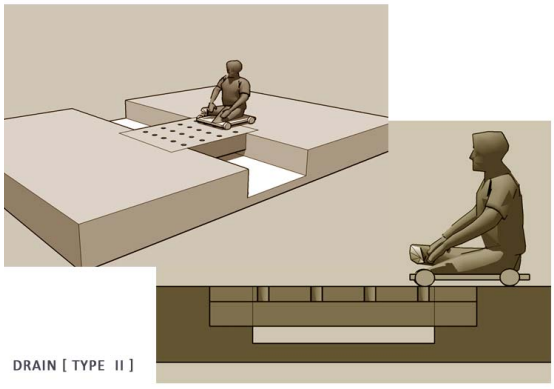
Detroit Metro Airport



Pittsburgh Children's Museum

Rural Villages





Raheva, 2008

Public Transportation

Key Issues

- Lack of decent public transportation
- Great variation in progress on accessibility
- Major improvement projects around the globe
- Pedestrian access to stations
- Burden of special transport services (STS)
- Larger people and devices
- Developing “Travel Chain” solutions

Key Developments

- Low floor vehicles with ramp access
- Bus Rapid Transit (BRT)
- Major system retrofits
- International events as a catalyst, e.g. Olympics
- Innovative demand responsive systems
- Improved access to information through technology

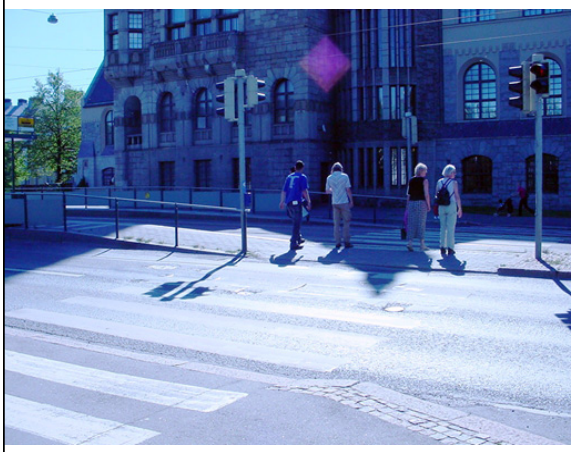
Emergence of Universal Design

- Low floor vehicles
- Improving security
- Attracting ridership
- Automated fare payment
- Complete Streets movement

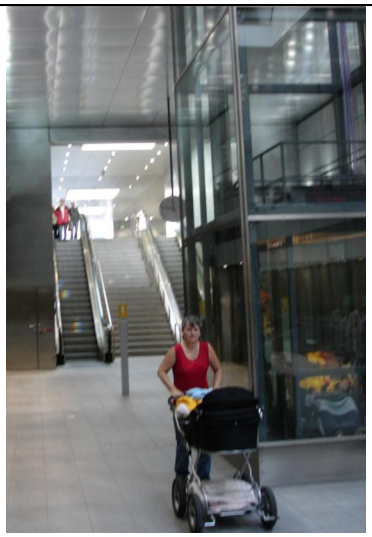
Key R&D Needs

- Evidence base
- The gap
- Wheelchair clearances in low floor busses
- Ramp slope
- UD information systems
- Improving operations

Curitiba's Integrated Transportation System



Helsinki Tram Renovations



Copenhagen Subway Station

Fare Gate

Vehicle Production Group MPV-1

Housing

Key Issues

- Discrimination in social housing
- Barriers to increasing production of accessible homes
- Choice and self determination
- The existing housing stock
- Cultural appropriateness of independent living
- Increasing adoption of universal design
- The neighborhood context
- Natural disasters and homelessness

Key Developments

- Visitability initiatives
- Homebuilder/renovator education
- Funding home modifications as part of "long term care"
- Walkable community initiatives
- Smart products for aging, e.g. fall detection
- Preferences for aging in place not age segregation
- Service supported community housing

Emergence of Universal Design

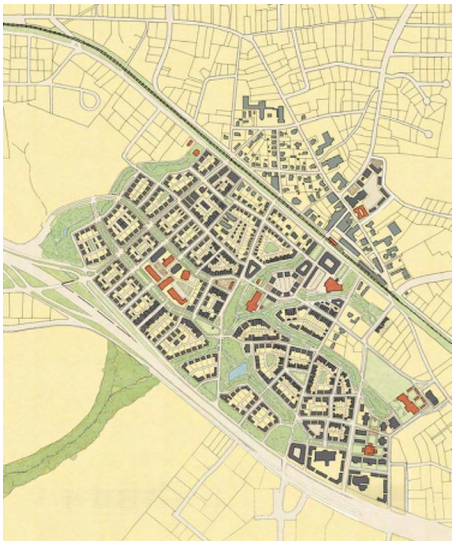
- Lifetime Homes in UK
- Lifelong Community Design Initiatives
- New standards – LEED ND and Type C
- Demonstration houses in N. America, UK and Australia

Key R&D Needs

- Evidence based standards
- Smart products that work for everyone
- Emergency housing solutions
- Sanitation solutions for informal settlements and rural housing
- Continuum of services

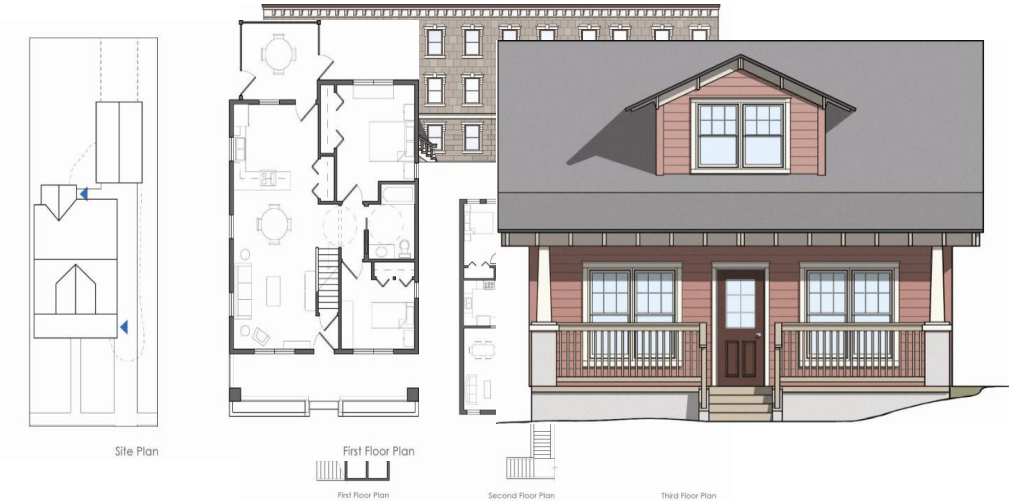
Senior-Garde (Sweden)

Lifelong Community Design



Atlanta Regional Commission

Inclusive Design Pattern Book



Demonstration Homes

Bundling Innovations

- Affordable housing
- Design participation
- Sustainable design
- Healthy housing
- Walkable neighborhoods

IDeA

The Challenge of Home Mods

IDeA

Conclusions: Policy and Standards

- Voluntary approaches do not work to increase accessibility
- Implementation is the elephant in the room – need to rethink policy and standards
- Minimal accessibility standards need to be supplemented by universal design to meet goals of the Convention
- Needs and resources vary significantly from place to place – Developed World approaches may not be feasible everywhere

Conclusions: Policy and Standards

- Needs are urgent in developing countries
- Large transportation demonstration projects can be catalyst but need follow through
- Pedestrian environments are critical in access to transportation
- High priority should be given to increasing accessibility in social housing programs
- New housing is not be the most effective solution for everyone

Recommendations: Policy and Standards

- Develop multi-tiered standards are needed:
  - Basic standards to develop capacity
  - Comprehensive standards to follow later
  - Universal design standards to encourage best practices
- Laws must include funding for follow through – education and enforcement
- Fund independent national commission and local action groups

Recommendations: Policy and Standards

- Develop international accessibility standards for refugee camps
- Develop international initiatives to address accessibility in informal settlements and rural areas
- Major transportation demonstrations should include funding for integrated system planning and capacity building
- Transportation infrastructure system improvements should include coordination with street right of way improvements

Conclusions: Education and Capacity Building

- In most countries, there are not enough knowledgeable professionals
- Design schools are not teaching accessibility and universal design
- Without professional education and technical assistance, professionals do not know what to do to comply with laws and standards
- Good demonstrations provide tangible evidence, build capacity and create a positive emotional response

Recommendations: Education and Dissemination

- Licensing and accreditation requirements in design and engineering fields should require knowledge of accessibility and universal design
- Bundle accessibility and universal design with sustainable design, affordability, smart growth and other innovations
- Develop tools to help plan integrated transportation solutions that address the entire travel chain
- Identify measurable economic and health benefits of aging in place

Key Research Needs

- Identify the economic and social benefits of accessibility in public accommodations, transportation and housing
- Learn more about the needs in low resource environments
- Identify economic and health benefits of aging in place
- Develop evidence base for standards
- Demonstrate the effectiveness of universal design

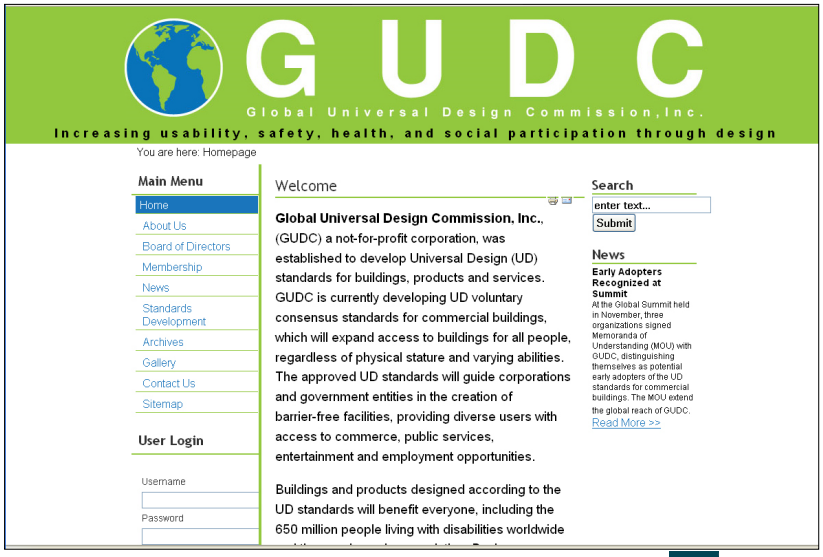
Key Development Needs

- Develop very low cost accessible solutions for emergency housing, refugee camps, rural areas and informal settlements
- Develop low cost accessible public transportation alternatives, e.g. STS, shared cars, jitney service
- More examples of solutions to sensory and cognitive issues and on social participation
- Insure that smart products include universal design features

Increasing Adoption of UD

Design for All Foundation

Increasing Adoption of UD



Center for Inclusive Design and Environmental Access (IDEA)

School of Architecture and Planning University at Buffalo
378 Hayes Hall
Buffalo, NY 14214-3087

Tel:
716-829-3485 ext. 327
Fax:
716-829-3861
Email:
arced@buffalo.edu
Website:
http://www.ap.buffalo.edu/idea