



Inclusive Urban Design

*Accessible PROW
Design and Construction
+ a few thoughts on
thinking differently*

**October 25, 2012
NATCO Designing Cities**

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www.HumanCenteredDesign.org

Institute for Human Centered Design



An international design non-profit dedicated to enhancing the experiences of people of all ages and abilities through excellence in design.

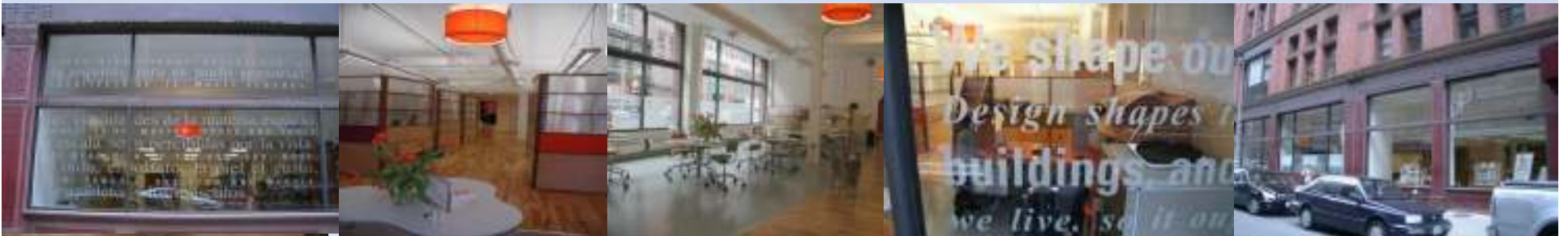


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Design powerfully and profoundly influences everyone and our sense of **confidence, comfort, and control.**

2 core ideas...

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



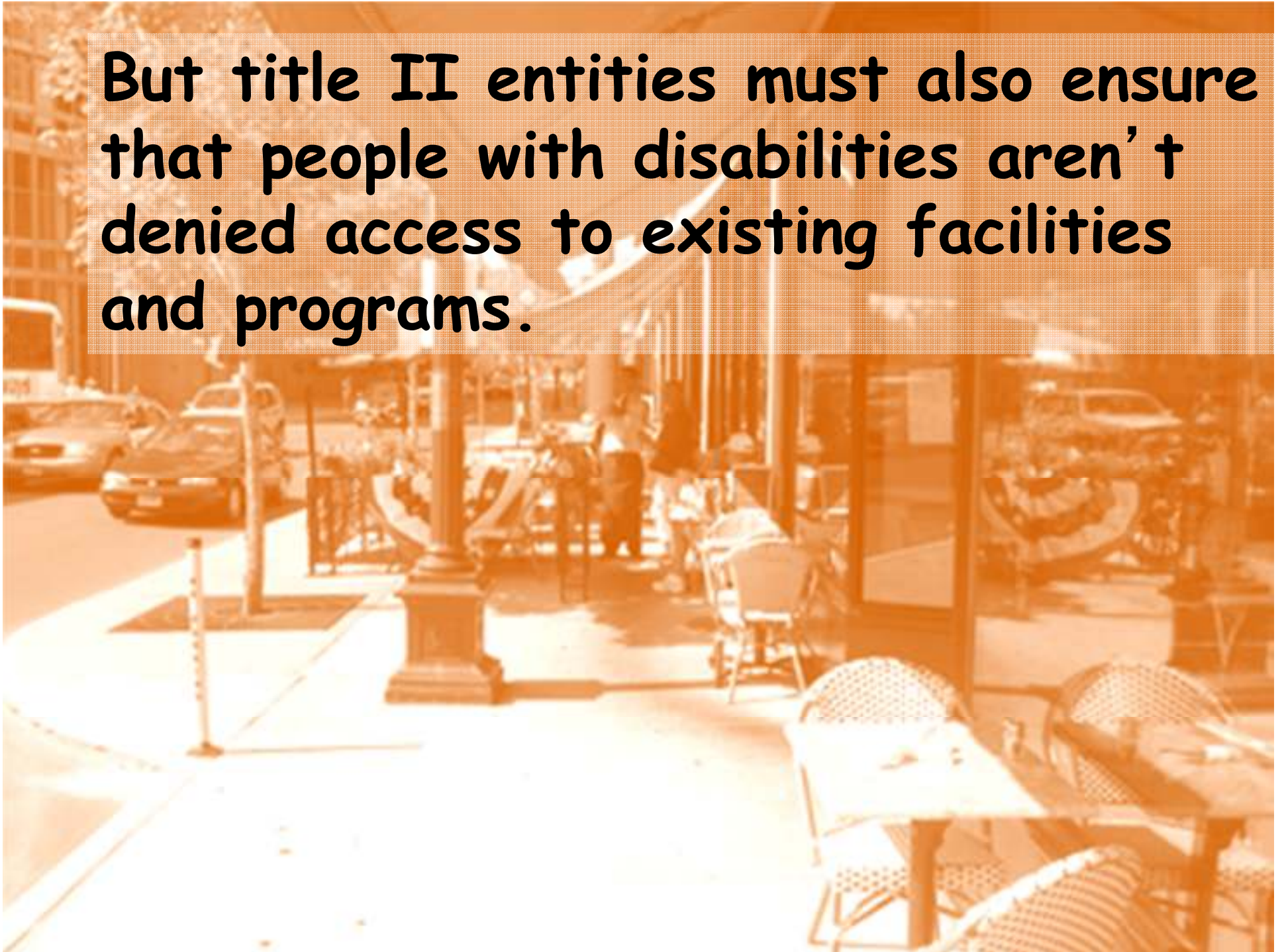
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An aerial photograph of a city street intersection. A wide crosswalk with white stripes crosses a multi-lane road. A white bus is stopped at the intersection. A yellow taxi is also visible. Pedestrians are crossing the street. A large building with a glass facade is on the left. A flat roof of another building is in the foreground.

Constructing inaccessible facilities is prohibited as discrimination under civil rights laws...



But title II entities must also ensure that people with disabilities aren't denied access to existing facilities and programs.



Section 504 of the Rehabilitation Act of 1973

- Prohibits discrimination on the basis of disability
- Applies to programs and activities receiving Federal financial assistance
- Has been in effect for 35 years

Americans with Disabilities Act of 1990 (ADA)

- Civil rights law
- Prohibits discrimination on the basis of disability
 - ✓ Title 1 – employment
 - ✓ Title II - state and local government services
 - ✓ Title III - public accommodations and commercial facilities
 - ✓ Title IV – telecommunications
 - ✓ Title V – Directs Access Board to develop minimum technical provisions
- Applies to all programs and facilities of state and local government, regardless of funding source

ADA and Public Rights-of-Way

Development of Standards

- Americans with Disabilities Act Accessibility Guidelines (ADAAG) – minimum technical provisions for access, published in 1991
- Adopted as a final rule (enforceable standard) by the DOJ and DOT in 1992
- Section on public rights-of-way, originally Section 14 of ADAAG, was not issued as a final rule at that time

ADA and Public Rights-of-Way

Development of Standards

- Public Rights-of-Way Access Advisory Committee (PROWAAC) formed in 1999 to develop recommendations
- Recommendations in report completed in 2001, *Building a True Community*
- Access Board took PROWAAC recommendations and developed Draft Public Rights-of-Way Accessibility Guidelines (Draft PROWAG)

ADA and Public Rights-of-Way Development of Standards

- Draft PROWAG published for public comment
- Revised draft posted November 2005
- US DOT's 1/23/06 issues memo citing 2005 PROWAG as:

“the currently recommended best practices, and can be considered the state of the practice that could be followed for areas not fully addressed by the present ADAAG standards. Further, the Draft Guidelines are consistent with the ADA's requirement that all new facilities (and altered facilities to the maximum extent feasible) be designed and constructed to be accessible to and useable by people with disabilities.”

ADA and Public Rights-of-Way

Development of Standards

- Proposed Accessibility Guidelines for Pedestrian Facilities in the Public Right-of-Way (PROWAG) published in the Federal Register July 26, 2011
- Access Board - next steps in process
 - Finalize Guidelines (2013?)†
- DOJ and DOT adopt as final rule (enforceable standard)
 - Note that DOJ and DOT approval is required for each step in the process of developing guidelines. Though not final and adopted, the latest draft represents the most comprehensive best practice guidance.

How is PROWAG different?

*The **PROWAG** draft adapts ADAAG to the rights-of-way environment. The new guidelines are a **stand-alone** document using rights-of-way measures and language.*

Key differences:

- sidewalk slope may follow roadway;*
- expanded curb ramp types;*
- reduced Detectable Warnings to 2 ft;*
- no path-of-travel requirement;*
- new signaling provisions, and*
- new provisions for roundabout design.*

2005/11 Draft/NPRM PROWAG

R1 Application and Administration

R2 Scoping Requirements

R3 Technical Provisions

--Pedestrian access route (PAR)

--Alternate circulation path

--Curb ramps and blended transitions

--Detectable warning surfaces

--Pedestrian crossings

--Accessible pedestrian signals (APS)

--Street furniture

--On-street parking

*R4 Supplementary Technical Provisions
(from ADA/ABA-AG)*

Draft PROWAG

Key Provisions: A high degree of convenient access is easiest to achieve in new construction



NEW CONSTRUCTION: THE 'CORN FIELD IN KANSAS'

Draft PROWAG

Key Provisions: In alterations, you may not be able to optimize conditions for every user (follow new construction guidelines to the maximum extent feasible; add curb ramps where needed)

RESURFACING (Yerusalim)



RECONSTRUCTION



MEANWHILE....

- ADA implementing regulations require programs of state and local government to be accessible
- Sidewalks and street crossings are a “program’ under Title II of the ADA
- What follows is specific language selected from the regulations, courtesy of the Access Board

ADA Title II: State and Local Government Services

Subpart D – Program Accessibility

35.151 New construction and alterations.

“Each facility...constructed by, on behalf of, or for the use of a public entity shall be designed and constructed in such manner that the facility ...is readily accessible to and usable by individuals with disabilities...”

“Readily accessible to and usable by” means:

- ...that it can be approached, entered, and used by individuals with disabilities (including mobility, sensory, and cognitive impairments) easily and conveniently
- ...To the extent that a particular type or element of a facility is not specifically addressed by the standards, [the above] language...is the safest guide.

ADA Title II: State and Local Government Services

Subpart E – Communications

35.160 General.

“A public entity shall take appropriate steps to ensure that communications with....members of the public with disabilities are as effective as communications with others.”

Bottom line

- ADA requires newly constructed facilities to be accessible even if specific standards are not finalized
- ADA compliance is a civil rights issue
- Federal Highway Administration encourages use of the draft PROWAG as best practice (January 2006 memo)
- DOT adopted new ADAAG, with some modifications, as of November 29, 2006, for transportation facilities

What does that mean to you?

- Despite the lack of finalized standards, you are responsible for building facilities that are accessible
- ADA compliance requires engineering judgment & could be challenged
- Don't assume that "Standard Details" are compliant and can be relied upon in all situations... "One size/solution does not fit all"
- Understanding needs of people with disabilities and the reasons behind some of the guidelines can help you make better decisions

Which one...?

Sidewalk grade: match roadway or provide accessible route?

ADAAG

PROWAG



Key PROW obligations

1/New construction and alterations *must be accessible to and usable by people with disabilities; cost is not a consideration.* 

2/Existing facilities and programs *must achieve program access through retrofit, relocation, or other means of program delivery. Cost and difficulty limits may apply.*

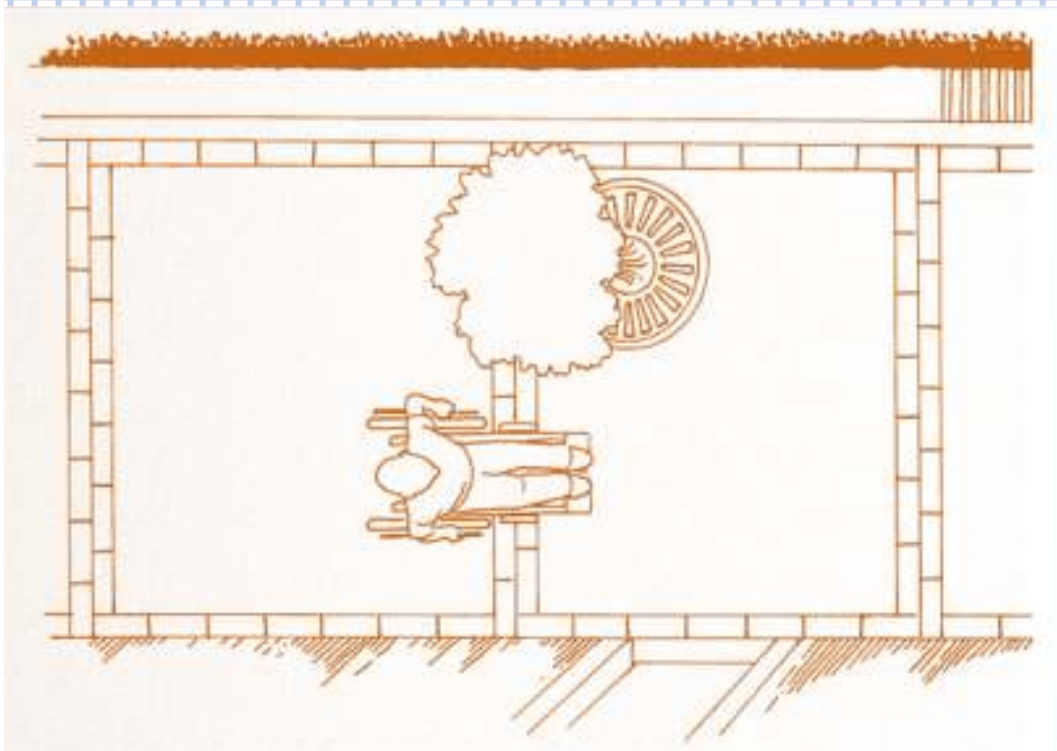
3/Practices *must be modified where reasonable and necessary for access; cost/difficulty limits may apply.*

4/Steps *must be taken to ensure that **communications** with people with disabilities are effective; limits may apply.*

Best Practices

Key Issues: Surfaces

USE TEXTURE SPARINGLY, AS
DECORATION



Transit Stops and Shelters

- Provide a continuous connection to the pedestrian access route
- If there is sheltered seating, provide an accessible 30 x 48 open seating space
- A 5' x 8' loading area is required
- Signage must be accessible

Draft PROWAG

Key Provisions: Facilities provided at bus stops must be accessible: sign, pad, shelters, benches... and a route to get to them...and by them!

HELICOPTER IN?



Transit Stops and Shelters



Recap: Sidewalks...

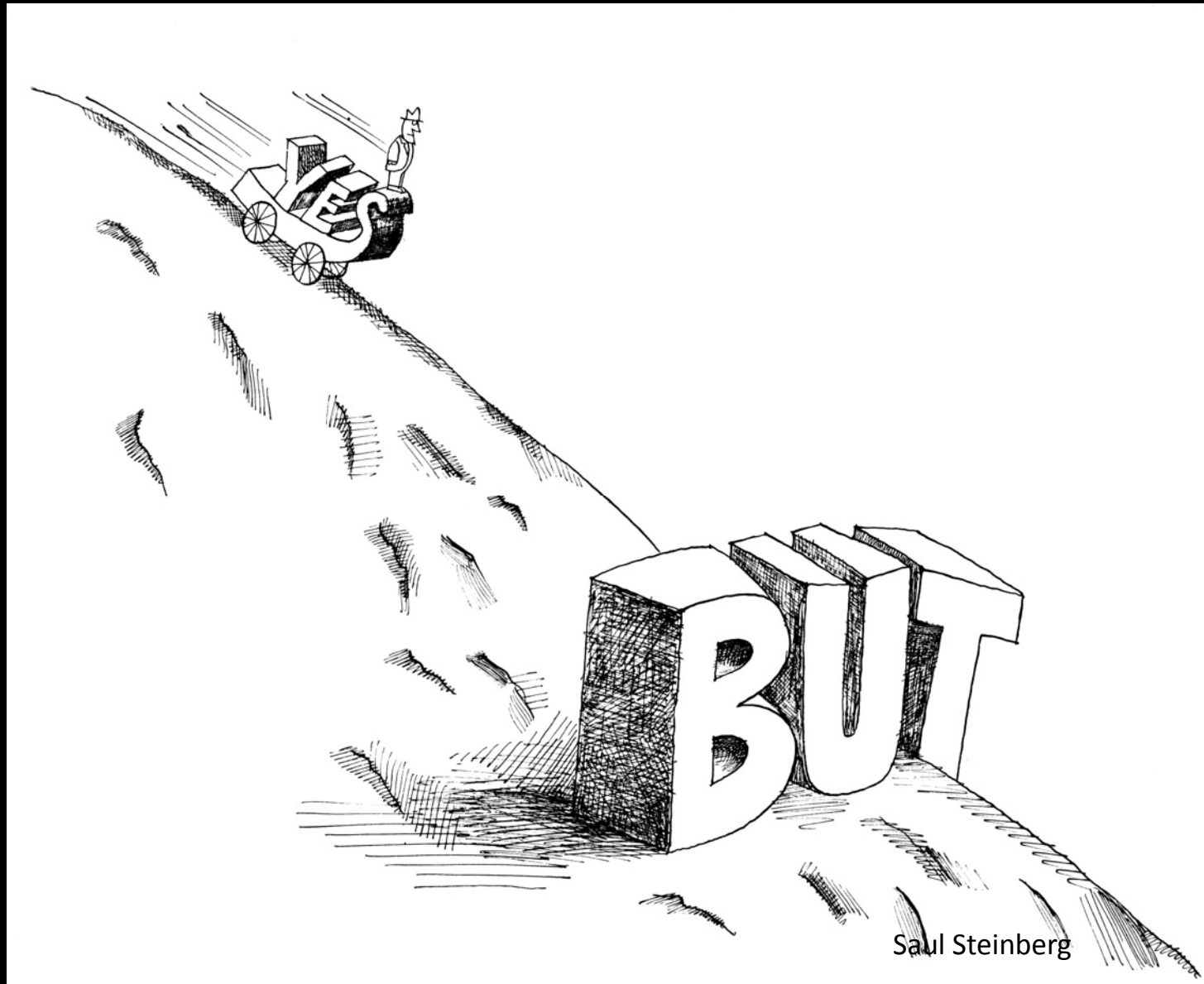
- ✓ *wide enough for 2-way travel;*
- ✓ *contains 1.2 m pedestrian access route;*
- ✓ *planar;*
- ✓ *surfaces with low rolling resistance;*
- ✓ *1:50 maximum cross slope in PAR;*
- ✓ *no protruding objects between .6-2.0 m;*
- ✓ *CFS at entrances, pushbuttons, and other pedestrian features (DF, telephones, kiosks, ATMs...)*

Available guidance materials – Access Board

- *Draft PROWAG – Draft Guidelines for Accessible Public Rights-of-Way*
 - www.access-board.gov/prowac/nprm.htm
- *Title III Standards for buildings and sites*
 - www.access-board.gov/adaag/html/adaag.htm
- Other guidance documents from the Access Board
 - www.access-board.gov/prowac/index.htm

Available guidance materials – Federal Highway Administration

- FHWA 2006 memo on PROWAG
 - http://www.fhwa.dot.gov/environment/bicycle_pedestrian/guidance/accessibility_guidance/prwaa.cfm
- Designing Sidewalks and Trails for Access:
Part 1 and Part 2
 - <http://www.fhwa.dot.gov/environment/bikeped/dwm.htm>
- MUTCD – Manual on Uniform Traffic Control
Devices
 - <http://mutcd.fhwa.dot.gov/HTM/2003r1/html-index.htm>

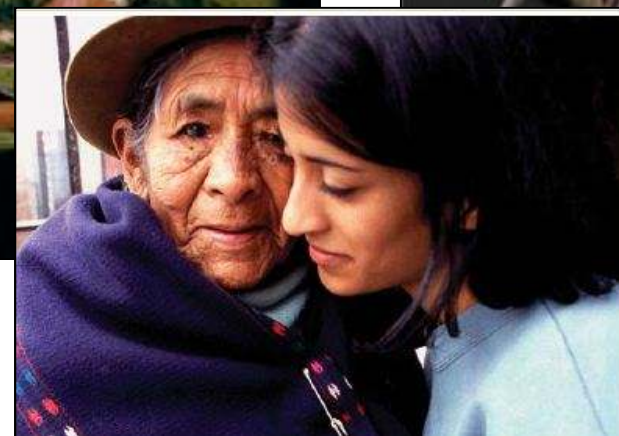


Demographics now and through
2050 demand thinking beyond the
floor of accessibility

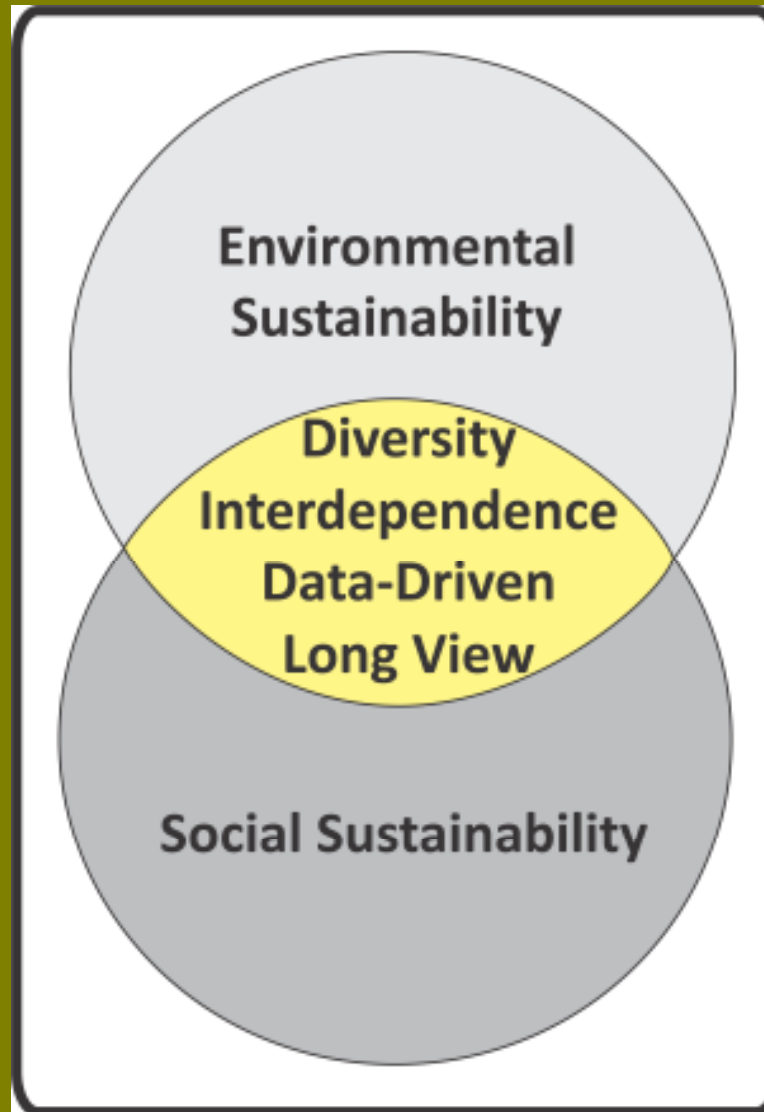
The 20th century impetus to Social Sustainability

Profound *POSITIVE* impact of human behavior. . .

We live longer & survive more - across the globe

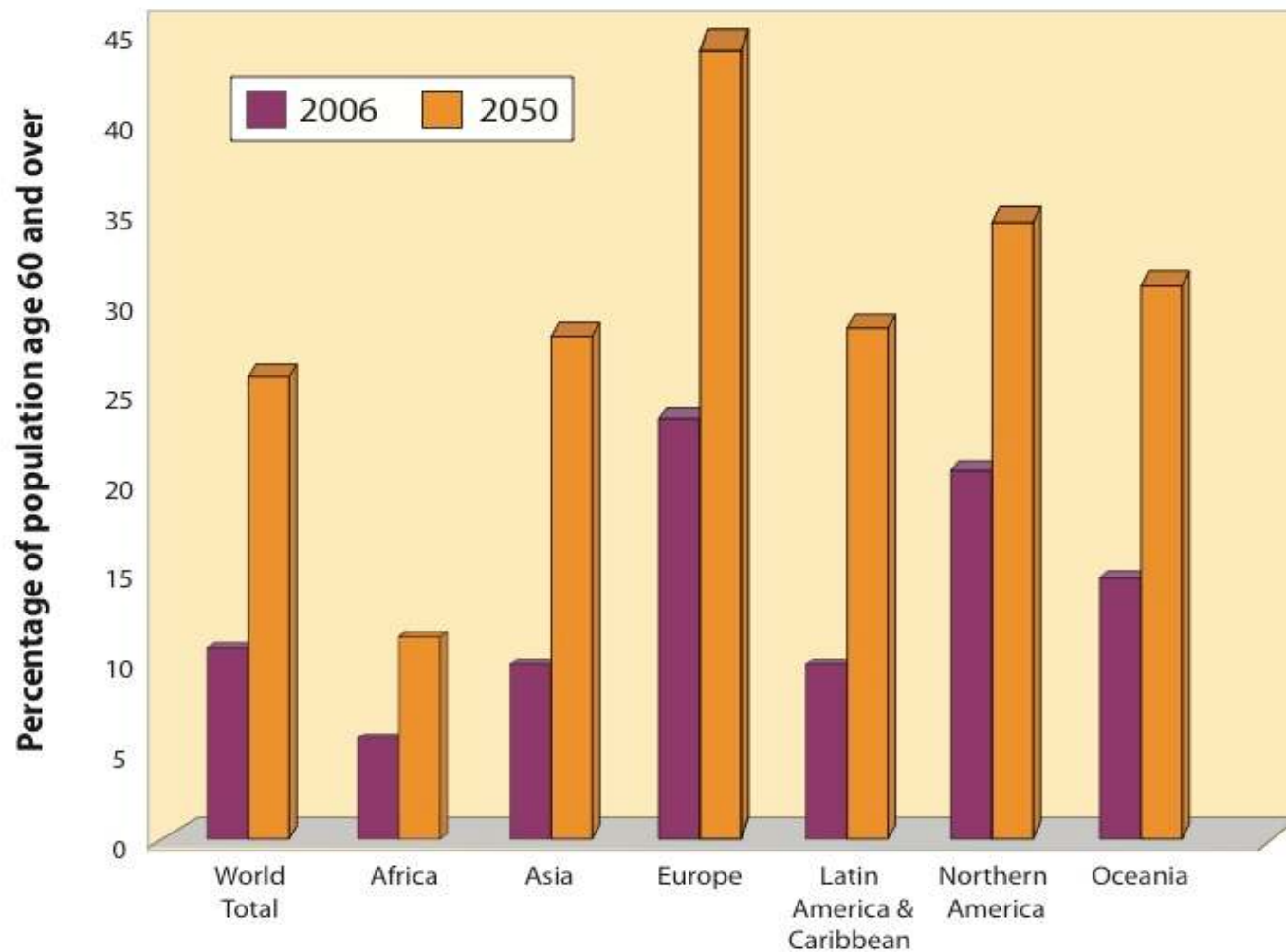


shared values/concepts . . .



Global Aging

Percentage Increase in Age 60 + by Region, 2000-2050



Source: *World Population Prospects, The 2006 Revision, Executive Summary*.
The Population Division, Department of Economic and Social Affairs, United Nations Secretariat

WORLD REPORT ON DISABILITY



World Health
Organization

2011



THE WORLD BANK



**one in seven people
on the planet have
a disability**



**80% of them live in the
developing world**

3 broad categories of functional limitation:

Physical	Sensory	Brain-based
Mobility Dexterity Strength Stamina	Sight Hearing Speech Touch Proprioception	Learning Developmental Mental health Cognitive Brain injury or trauma

Global policies respond to the
new reality



Int. Classification of Functioning, Disability & Health ('01)

- ❖ Functional limitation as a universal human experience
- ❖ Equalized mental and physical reasons for limitations
- ❖ Defined disability as a *contextual* variable.
Functional limitation becomes disabling based upon the intersection with environments:
 - ✓ *Physical* environment
 - ✓ *Communication* environment
 - ✓ *Information* environment
 - ✓ *Policy* environments
 - ✓ *Social* environments





United Nations
Programme on Ageing

*towards a society
for all ages*

Madrid International Plan of Action on Aging (2002)

Priority Direction:

***Ensuring enabling and supporting
environments***



UN Convention on the Human Rights of People with Disabilities (CRPD) 2008



154 nations signed
125 nations ratified

- Respect
- Non-Discrimination
- Participation
- Inclusive design
- Equality
- Accessibility



*universal design...
inclusive design...
design-for-all?*

*...a framework for the design
of places, things, information,
communication and policy
that focuses on the user, on
the widest range of people
operating in the widest range
of situations without special
or separate design...*

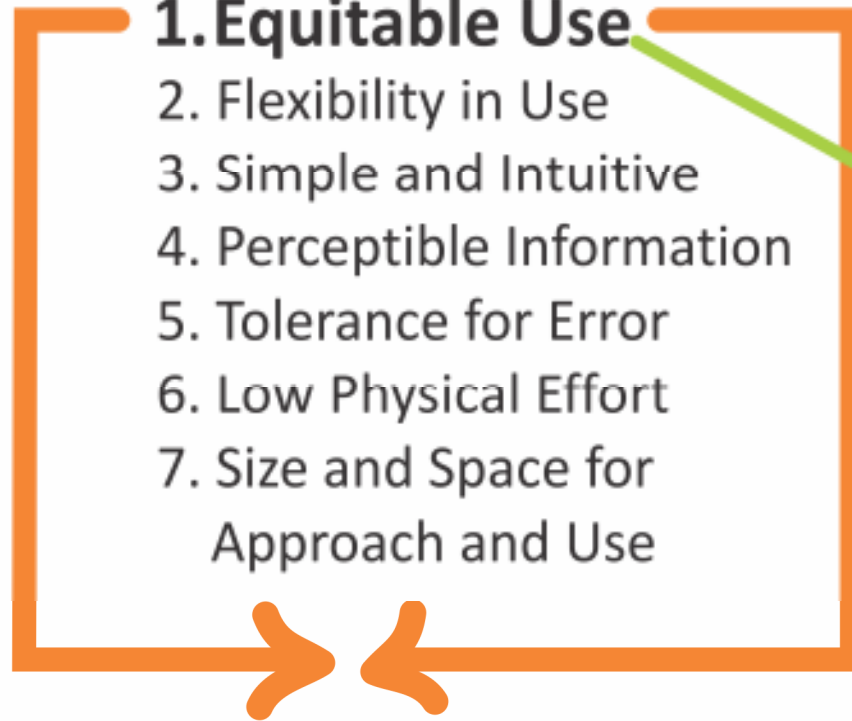
*Human centered
design
(of everything)
with everyone in mind*

Principles of Universal Design

1. Equitable Use

- 2. Flexibility in Use
- 3. Simple and Intuitive
- 4. Perceptible Information
- 5. Tolerance for Error
- 6. Low Physical Effort
- 7. Size and Space for Approach and Use

Overarching
& Transcending
Principle



User/Experts



➤ People at the edges of the spectrum of ability and age are especially attuned to knowing when design fails *but also* to what works.



➤ Observing user/experts in natural settings delivers substantive information and insight



➤ User/Experts are fuel for insight and inspiration – ***help you to generate theories not just see problems***



ACCESS • CITY

THE EUROPEAN AWARD FOR ACCESSIBLE CITIES

MAKING EUROPE'S URBAN ENVIRONMENT ACCESSIBLE FOR ALL

SÃO PAULO SEM BARREIRAS UMA CIDADE PARA TODOS



CET

São Paulo
Cidade da Arquitetura
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Institute for Human-Centered Design
[Adaptive Environments]