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Universal Design: Bringing New Perspectives to Design for All

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Guiding Principles

Universal Design improves accessibility, safety, health and social participation to accommodate the diverse abilities and characteristics of the human population. (E)

Especiallyin the developing world, universal design must be implemented in an affordable, cost effective, manner to insure that new systems will be socially sustainable in the long term. This usually means:

- *Everything new must be built or purchased accessible.*
- *Everything that is accessible must be kept accessible.*
- *Everything that is inaccessible should de transformed to accessible over time. (F)*

Key Issues

What are the goals of universal design in transportation?

- Accommodate diverse needs taking into account differences related to mobility, sensory and cognitive abilities, gender, cultural background, socio-economic status and age

- Support employment and social integration of people with disabilities and other disadvantaged groups (E)
- Provide a seamless accessible transportation network, including the pedestrian environment
- Provide easy access to information and communications in the transportation environment
- Attract people to public transportation systems as an alternative to driving, especially the aging population (F)
- Support sustainable practices by reducing energy and material consumption and the carbon footprint
- Achieve the above goals in an appropriate manner for the context and resources available

What innovative approaches – both political and practical - can be developed to bring universal design into the mainstream of urban planning and transport operation?

- Explicit inclusion of universal design as a goal in all demonstration and development projects
- Inclusion of UD in procurement processes (F)
- Requiring fulfillment of UD criteria to obtain external funding (F)
- Incentives to adopt UD
    - Proposal application and review
    - Linking funding level to fulfillment of UD criteria
    - Fast track process '
    - Targeted innovations
    - Technical assistance to solve problems that develop
    - Social responsibility branding (i.e. the Flag of Towns and Cities for All, Global Universal Design Commission Standards)
    - Sharing innovations globally

- Education of transportation policy makers, planners, operators, citizen advocates and designers (E)
    - Differences from conventional accessible design
    - Advantages of UD for transit systems and riders
    - Needs of diverse customers
    - Relationship to economic development, social equity, health and safety, and environmental agendas
    - Technical issues and design guidelines
    - Eliminating discrimination by drivers and other operating staff

- Identification and dissemination of best practices world wide (E)
  - Urban design to reduce the need for travel, e.g. multi-use zoning, local access to municipal services, improved Internet access, etc.
  - Vehicle design
  - Station and stop design
  - Street and right of way design
  - Implementation process, e.g. planning, organization and management issues
  - Customer relations
  - Fares and fare payment systems
  - Regional planning approaches
  - Coordination with other agencies and partners
  - Innovative legislation, e.g. public procurement, access to products and services

Are there innovative technological applications that could facilitate the uptake of universal design?

- Websites for planning trips using accessible routes
- Overlay routes, e.g. Senior service routes, DC Circulator, LA Flyaway bus, Tijuana Trolley, community taxis
- Transit oriented development
- Joint development of stations
- Integrated accessible transportation planning (e.g. Curitiba, Japan railways, Copenhagen, multi-modal transportation centers,
- Complete streets
- Accessible taxis
- Accessibility "alternative" vehicles like rickshaws and pedi-cycles
- Wide fare gates
- Smart card payment systems (E)
- Low floor vehicles, especially trains with restrooms, space for bicycles and prams, and wheelchair users on lower level
- High floor vehicles with platform loading
- Small flex route accessible vehicles for dense urban areas
- STS (paratransit) for everyone
- Secure parking at commuter stations for bicycles and automobiles
- Real time information on vehicle arrival, location and operations (E)
- Automated ramps and bridge plates for platform boarding

- Automated docking of vehicles
- Visual and audible announcements of next stops
- Removal of mobility barriers like turnstiles in-vehicle
- Clearances to accommodate larger wheeled mobility devices
- Containment areas for wheeled mobility users
- Vehicle interiors designed with enhanced safety features, e.g. handrails at entries, contrasting color handrails, improved lighting, non-slip floors, reduced background noise
- Development of accessible personal electric vehicles (especially for older people in areas with hilly topography) (F)

How can end users (people with disabilities) be engaged most effectively in the design process?

- Education on universal design
- Providing the perspective of deep local knowledge (E)
- National commissions
- Partnerships of consumer organizations
- H.U.M.B.L.E.S. method to include users in the design process (F)
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Where universal design principals have been applied, what tangible differences can be identified?

- Curitiba – normative approach, affordability, door to door accessibility, reduced demand for STS, reduced demand for automobile transportation (F)
- Low floor vehicles – widespread adoption with obvious benefits for all riders
- Accessible taxis – reduced burden on STS
- Real time arrival information – increased user satisfaction
- Barcelona - investment in accessibility led to passenger increase.(F)
- Tourism in Spain: 40 millions of tourists/year. 25% over 65
- Boston – wider fare gates used twice as often (E)
- Kaiser supermarkets (Germany) – after implementing UD, revenues increased 25% above their forecast (E)

What does it take to make universal design work effectively in both developing and developed countries?

- Education of all stakeholders
- Commitment of authorities (E)
- Knowledgeable staff with defined responsibilities for UD implementation
- "Expert user" participation
- Knowledgeable professionals available for technical assistance
- Creativity and innovation in design and planning
- Inclusion of UD in the initial phases of design process
- Long term perspectives
- Tangible economical and social results (F)
- Coordination with other related services