Universal Design and Transportation, Inclusive housing and visitability (accessible building design)

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Visitability

- Visitability is an affordable, sustainable, and accessible design approach that targets single family homes.
- Originated in Europe
- Initiated in the United States in 1986 by Eleanor Smith, a disability rights advocate, and her group Concrete Change.
- Visitability ultimately provides an innovative, cost effective, and viable strategy for transforming and improving the nation’s housing supply and meeting the needs of a changing population.
Goals of Visitability

• A major step towards achieving universal design on a neighborhood level.

• Although less than the ideal of a universally designed home, visitability is actually universal design practiced through community and neighborhood planning. It ensures that a basic level of accessibility will be provided in all housing, and, it opens opportunities for participation in community life” (Truesdale & Steinfeld, 2002, pp. 8-9).

• A visitable home is intended to be a residence for anyone and to provide access to everyone.

• To make all new homes not covered by current access regulations “accessible enough” for visitors with disabilities.
Three Principles of Visitability

• Visitability is based on the idea that inclusion of basic architectural access features in all new homes is a civil right that improves every person’s ability to live productively and comfortably (Concrete Change, n.d.).
  – Visitability strives to create opportunities for all neighbors in a community to socialize, help each other, and interact more effectively.

• Visitability rests on the notion that through good design basic accessibility to single family housing can be provided, in most cases with minimal financial cost.
  – The design philosophy contends that access is cost-effective if planned in advance (Concrete Change, n.d.; Tuesdale & Steinfeld, 2002).

• Simplicity promotes implementation.
  – Prioritizing access features ensures that the supply of accessible homes will increase more rapidly.
Challenges

- Legality of local ordinances
- Cost effectiveness of the program
- Feasibility of implementation
  - Homebuilders are often the most vocal critics of visitability, arguing that besides infringing on homeowners’ “rights,” inclusive design costs too much and negatively affects the aesthetic quality of homes (Lawlor, 2004; Byzek, 1998).

- Traditional Neighborhood Development (TND) and “New Urbanism” also have conflicts with visitability.

- Confusion and conflict exist between visitability and other residential design philosophies like ‘aging in place’

- It appears that the various broad and specific policy issues surrounding visitability may have to be reconciled in order to ensure the future success of this inclusive design strategy.
Future of Accessible Home

Total Number of Visitability Programs, 1989-2006 (Source: Maisel, 2006).
Accessible Transportation

• Universal design in public transportation is the basis for universal access.

• However, many people who have hidden disabilities are more public transportation dependent than those with visible disabilities.
  • epilepsy, traumatic brain injury, or chronic fatigue syndrome

• All people benefit from accessible transportation. Anyone who has traveled with a child in a stroller or with a bicycle or rolling luggage appreciates curb cuts, level boarding, and elevators. In addition, absent-minded or distracted travelers benefit when essential travel information is presented in both audible and visual formats.

• All of the links on a trip chain must be accessible for the total trip to be accessible. If any link is missing or broken, it is unlikely that an accessible trip can be completed successfully.
Trip Chain Model

Trip Chain Conceptual Model
Types of Accessible Transportation Systems

- **Urban Public Transportation Mode**
  - Fixed Route Fixed Schedule
  - Demand responsive

- **Vehicle Accommodations**
  - Vehicle accommodations include design elements on the vehicles that insure the safety of all passengers, such as safe stair geometry, contrasting stair nosing, and strategically placed stanchions, hand rails, and grab bars. Good illumination is important as well, particularly in stairways.

- **Rubber Tire Vehicle**
  - High floor or low floor
  - Disadvantages of accessible high floor vehicles: Stairs at boarding and lifts

- The type of operating environment also has direct influence on the type of access to vehicles.
  - Canada and Sweden-countries with snow has rear door access.
  - Rear axle ride quality particularly in smaller vehicles are behind the front axle ride.

- The public information systems, fare machines, and safety and security amenities must be accessible to accommodate the needs of passengers with a spectrum of physical, sensory, and cognitive abilities.
Rear Facing Securement

Rear-facing securement
Accessible Transportation

Trimet’s ticket machine is color coded for each step in the process (Source: Paul Ryus).

Bi-level vehicle with bridge ramp (Source: Paul Ryus)
Reflection

• Evaluate following scenario to answer the question.
  
  - A curb cut that leads to a vehicular environment from the pedestrian, without a detectable warning can be hazardous. A detectable warning can be implemented to reduce this hazard for one special group of users. But does this design that favor one particular group of users may pose hazards for others?