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Author name(s):
1. Eleanor A. Smith
2.

Contact information for primary author:
Organization (if applicable): Concrete Change
Address: 600 Dancing Fox Rd., Decatur GA, 30032
Telephone: 404-378-7455
Email: concretechange@mindspring.com
Paper Abstract (250 words):

With regard to housing, most community planning documents state some version of the following: “Provide housing types appropriate for older and disabled people.” Such statements are halfway to what is needed, in that some members of those populations want special, set-aside housing, which may have certain services attached. But it is woefully shortsighted to omit in planning and in practice an essential second half of the statement: “…and construct nearly all other new houses with universally designed, basic access.” This paper will provide a rationale for building every new house with access; will address construction and cost considerations; will highlight municipalities that already require basic access in all or most new home construction; and will suggest strategies to achieve universal basic home access.

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Please note that the body of the paper appears to be six pages but is actually five. In spite of efforts I was not able to remove the blank line from the last page.
With regard to housing, most planning documents state some version of the following: “Provide housing types appropriate for older and disabled people.” Such statements are halfway there to what is needed; indeed, some members of those populations do want special, set-aside housing, some of which has services attached. But it is seriously shortsighted to omit in planning and in practice an essential second half of the statement: “…and construct all other new houses with a basic level of universally designed basic access.”

What constitutes ‘basic home access’? The few features most essential to visiting and to remaining in one’s home if a disability occurs: At least one entrance with zero steps; all interior passage doors, including bathrooms, providing at least 32 inches of passage space; and at least a half bathroom, preferably a full bath, on the main floor. These features can be thought of as the ones most necessary to come home from the hospital with mobility impairment, and most necessary for visiting friends or relatives (sometimes called “Visitability”).

Why Universal Basic Home Access? People with disabilities are one of the largest and fastest growing segments of the population, cutting across racial, ethnic, economic, social, age, gender and geographic boundaries. Only in recent decades have broad changes occurred which reflect that reality. The Americans with Disabilities Act of 1990 requires basic features in new public buildings such as offices and restaurants. The Fair Housing Act, since 1991, has required that new multi-family residences offer basic access in all ground floor units and in every unit of every floor if there is an elevator.

But single-family homes, where most people in the U.S. live, remain as the last piece of the built environment routinely built with gross barriers: steps at all entrances and narrow interior doors.

Building houses with basic barriers wrongly assumes that people are willing and able to move into special housing if they develop a disability. But as research has shown, most people strongly desire to remain in their own homes as they age or become disabled. Most people with disabilities were formerly non-disabled, and they live in inaccessible homes at the time disability occurs. Many lack the resources to retrofit their homes, so they remain in houses that have become unsafe in order to stay in their house and neighborhood. If the disability occurs suddenly, people are often discharged from the hospital before they have time to make housing arrangements. The next stop is often nursing homes, which becomes a permanent placement.

The number of houses projected to have a resident with a major mobility impairment is often drastically underestimated by assuming the number of houses needing access is roughly equal to the number of people with disabilities at any one time. This ignores the following facts: that when one person in a family develops a disability, access is needed in the house; that individuals and families with disabilities,
like other people, move from house to house; that most single-family homes will house four to five different families over the lifetime of the house itself; that disabled people want to visit in the homes of their friends and relatives; and perhaps most strikingly, that it is impossible to predict in which houses disability will occur.

*The Journal of the American Planning Association* estimated that by one measure of disability 25 percent, and by another measure 60 percent, of all new homes built in the year 2000 will have a resident with a severe long-term mobility impairment at some point in the lifetime of the house. The 60 per cent figure is the more likely, partly because the projections are based on US Census measures which omit people residing in institutions such as nursing homes, where the incidence of mobility impairment is very high. Ironically, lack of home access is a factor forcing people out of their homes into the institutions, where they are no longer counted as part of the population needing home access.

Large numbers of people who develop disability but lack the resources for retrofitting remain in their home with barriers still in place, unsafe, and unseen by the general public. Home barriers constitute a public health problem whose proportions have yet to be fully recognized by health professionals, community planners, housing developers, legislators and others who influence construction practices. A presentation at the 2009 conference of the American Public Health Association noted numerous negative health effects tied to home barriers. These include:

- Increased risk of falls: Having a step at every entrance contributes to the risk of injury, particularly for those with weakness, poor balance or other mobility impairments. Indeed, falls are the leading reason people over age 65 go to the emergency room and the leading reason they are hospitalized.
- Narrow interior doors: Lack of access to one’s bathroom, or the bathroom in a house one is visiting, causes disabled people to chronically limit intake of liquids or postpone trips to the bathroom, resulting in bladder and kidney maladies.
- Inability to exit in case of emergency such as a fire, gas leaks or threat of abuse.
- Negative effects on mental health. Steps at all entrances prevent participation in community events and informal human connections, and causes people not to receive invitations to the homes of others, which in turn leads to isolation, loneliness and depression.
- Diminished health of caregivers, a population that has grown exponentially in recent years. Caregivers tend to have worse health and higher mortality rates than control groups not doing caregiving. Barriers often exacerbate this, forcing caregivers to lift a loved one in and out of the house repeatedly, or do the ongoing work of managing bathing and toileting in a bedroom because the bathroom door is too small to enter.

There is some evidence of a growing awareness of how basic home access affects health and safety. In 2009 the American Public Health Association included
Visitability among its policy recommendations, stating that for many older people, “traversing a doorway, managing a door (and possibly a screen-storm door as well), while negotiating a step is ergonomically challenging and dangerous.”

Construction Basics/ Fiscal Implications. The added cost of basic access on new houses has been demonstrated to be zero when building on a concrete slab, and around $300 when building over a basement, less than half the cost of a bay window. These low costs have been amply demonstrated in practice, for example by the two US municipalities with ordinances requiring access in virtually every new house (further discussed later in this paper). City and county officials in both those municipalities have gone on record stating the above low costs, based on thousands of houses already constructed. Several factors explain why the costs are low:

- Figures refer to new construction, where the builder has the opportunity to plan, site and grade for cost-effectiveness.
- Existing laws provide for exempting the zero-step entrance requirement when site conditions make it impractical. As a result, zero-step entrances are omitted on the small percent of sites that present unusual difficulties (less than 5%), so “worst case scenario” cost estimates are not relevant to estimated costs.
- Virtually all existing laws reiterate that the zero-step entrance may be located at the front, side, back or from an attached garage—whatever location on a given site is most advantageous.
- A ramp in the conventional sense of a structure, with railings and 90-degree drop-offs at the edges, is rarely used. Instead, earth is graded in such a way that sidewalk seamlessly connects to a porch or landing at the entry.
- Cost-effective methods have evolved through direct construction experience.
- The door width specified in most existing single-family mandates is the same width required in multi-family residences by the Fair Housing Act. Thus it is now available from wholesale suppliers at the same cost as other standard doors.
- Mandates for a zero-step entrance on single-family homes do not require that the driveway on a steep property be graded to a slope negotiable by a person with a disability. This permits a low-cost zero-step entrance to be feasible on a steep lot, proceeding from a driveway or attached garage into the house. Nor do these mandates require a usable path from one house to another in a neighborhood,
- The existing footprint of a floor plan rarely needs to be expanded to accept wider doors; the walls already accept the slightly wider door, or a few inches can be shaved from an adjacent room on the house plan.

Cost considerations are incomplete without calling attention to the public costs incurred from building barriers: the costs of current typical construction. These include the cost of retrofitting, i.e. adding zero-step entrances and widening doors after the fact when a resident develops a disability, a cost sometimes borne by much under-funded
programs; the health care costs generated by the health problems delineated above; and by the cost of nursing home residency by persons for whom home barriers re a factor in their institutionalization. An AARP study reveals that the total cost of care for one person, double occupancy, in a nursing home averages $75,190 per year; 64% of these costs are paid for with public dollars.

Building without basic access results in higher costs to the environment as well. Since retrofitting a home often involves tearing out materials from homes before installing additional ones, more waste ends up in landfills and more materials are used. Recognizing this, the LEED (Leadership in Energy and Environmental Design) is one of several "green" initiatives that have developed standards for new home access.

**It Can't Be Done? It Already Is Being Done**  In 2002, Pima County, Arizona passed the Inclusive Home Design Ordinance, requiring basic access in all new houses. (As in similar ordinances across the country, the requirement for a zero step entrance can be waived where terrain or other unusual site characteristics make that impractical. When the ordinance was being proposed, many builders and other groups opposed it, arguing that the features would add $2,000 to $3,000 to the cost of each home. After passage, builders began meeting the requirements, and in the end, found that the added costs were minimal or nonexistent. Stating that more than 21,000 homes with access had already been constructed under the ordinance, a country building official charged with enforcing the law stated in a 2010 letter to Congress that "...it became evident that with appropriate planning, the construction could result in no additional cost. Indeed, the jurisdiction no longer receives builder complaints regarding the ordinance and the ordinance has been so well incorporated into the building safety plan review and inspection processes that there is no additional cost to the County to enforce its requirements."

Another concern of Pima County builders was that access features would give homes an institutional look and make the homes less attractive to buyers. To the contrary: according to the same local official, that fear has not materialized: "From a real estate perspective, homes built to this standard are deemed more marketable, but even more importantly, the accessible features of these homes remain unnoticed when toured by individuals not seeking accessibility."

Given Pima County's success, in 2007 the City of Tucson, Arizona, passed a similar ordinance requiring basic access in every new house,

When considering these positive results in Arizona, some critics have noted that in Southwestern states most houses are built on a concrete slab and have posited that broad ordinances would not be practical in areas where basements are the norm and/or snow might block the door. However, the city of Bolingbrook, Illinois, near Chicago, has demonstrated that a comprehensive ordinance is practical under those conditions. In 2003, Bolingbrook passed an ordinance requiring basic access in every new house, resulting more than 3,700 homes to date, nearly all with basements. In 2004,
Bolingbrook received a Best Practices Award from the Illinois Municipal League, in response to which Bolingbrook’s mayor stated, “It just makes sense, because they are minor modifications that should be just normal business practice throughout America.”

Probably the least appropriate housing type going up at this point in history is the townhouse. Townhouses usually require walking up interior steps to reach the bedrooms and bathing facilities, have steps at all entrances, and often have short setbacks that make it impossible to fit an add-on ramp if a member of the family develops mobility impairment. A viable alternative in neighborhoods where density is desired but high-rise residences are not desired is low-rise multifamily apartments or condos. These several layers of flats, accessed by elevator, are covered by the Fair Housing Act, thus offering access in all units. This type appears to be increasing.

**Getting from Here to There:** Certainly, consumer demand has influenced and can continue to influence creating single-family houses with basic access. However, the ability of the market alone to bring about basic access on a wide scale has been slight. As discussed above, the negative consequences of lack of housing access are too major to be left to the market. In spite of decades-long efforts at education such as universal design educational campaigns and the Visitability movement, and of notable success like the above-mentioned ordinances, the reality is that the great majority of new houses continue to be built with steps at all entrances and narrow doors. Planners, legislators, and housing-related organizations must speak strongly on this issue, change how development money is allotted, and create laws and policies requiring basic access. Following is a summary of possible strategies.

**Unadvisable:**
1. Relying on the market alone to bring about universal basic home access.
2. Offering tax breaks for including basic access. (This inappropriately undermines the tax base for something that costs almost nothing to accomplish).

**Good:**
1. Including basic access in virtually all new homes in planning documents, public presentations, articles and all other communication about housing.
2. Instead of new financial incentives, making access a requirement for receiving existing incentives such as low income housing tax credits, down payment assistance, zoning for denser construction, etc. This can happen through governmental agency decisions, but also through board decisions by housing-related organizations.

**Best:** Passing legislation requiring basic access in virtually all new houses.

Citations for statements throughout this paper are available on request but not included for space reasons.