

## **Introduction**

Urban lifestyles require both mobility and accessibility such that people are able to freely move about and be able to get to the many facilities, necessities and pleasures available in urban areas. However, in doing so, two fundamentals need to be observed. Firstly, the impact of moving through the urban fabric should not inconvenience or reduce the quality for others. Secondly, the ability to move through urban areas should be available to everyone such that some groups are not better provided for to the disadvantage of others. By assessing urban transportation as mobility and accessibility and using these two fundamentals to guide urban design, planning, provision and use, both quality of life and mobility can be enhanced for all those who use or wish to use urban areas.

## **Access disability**

Mostly people associate disability with those whose disability is obvious eg having obvious difficulty climbing stairs or people using an aid such as a hearing aid, a guide dog or a wheelchair. Experience of the needs of people with access disabilities is however often limited to personal experience eg an elderly injured relative or friend, or to observations of or assisting others in public eg while using public transport or shopping. General community understanding of disability and in particular access disability is therefore often rather limited. Accordingly, the provisions to reduce or eliminate difficulties for people with disabilities are also rather scarce but, when present, seem both expensive and excessive. Thus, before considering what is needed to improve accessibility and mobility, a more detailed understanding of what access disability is, who it effects and how it effects all of us is necessary.

When we are very young, we suffer from access disability. Accessibility and mobility are very restricted. Stairs are dangerous and difficult, slippery and sloping surfaces are risky, traffic threatens us. It is difficult to find our way into new or unfamiliar places. We learn that walking outside our space is dangerous. It might seem to younger people that the world has been designed that way. Of course, being designed primarily by and for adults, it has been!

The same criteria apply through early school ages and on to middle and high school. As young adults, we not only have become adept at overcoming access difficulties, we quite naturally forget them! Accessibility and mobility are no longer so restricted. Stairs are no longer dangerous and difficult, slippery and sloping surfaces are risky, but we now know how to overcome the risks, traffic threatens us but we are now able to avoid it. It is no longer as difficult to find our way into new or unfamiliar places. Of course, being designed primarily by and for adults, it suits us!

But before continuing our own life story, access difficulties do actually occur during these periods of youth and early adulthood. Illness or injury can give us experience of reduced accessibility and mobility. A broken leg will not fit the seating on the school bus and makes the steep stairs almost impossible. A friend who now needs to use a wheelchair cannot get to all the places we would like to go. Recent research is showing that we all suffer in particular from local access disability impacts although few realise how much.

Australia is always thought to be a place of low density cities and towns and of plenty of space. Yet even there, a recent major study (Cunningham et al, 1996) has shown that children are being severely deprived of educational and physical experience and exercise. By being driven to organised activities, avoiding the dangers of traffic means children are unable to discover the risks, the skills and the self-confidence necessary. It happens to most of us!

These avoidance strategies also mean that the threats and risks are not only not addressed, but allowed, and often, by design, made worse. As explained above, we have learned so well how to avoid them in our youth, sometimes to the point where it is actually quite difficult to identify the many common threats. However, this difficulty is easily overcome when, rather than being in familiar places where we know what the risks are and how to avoid them, we find ourselves in unfamiliar territory, perhaps in a foreign country where we cannot read signs or understand or speak the language or read the local rules. Suddenly we are effectively blind, deaf and unable to speak and any signs or maps are difficult but potentially helpful if only we could understand them. Similarly, with access disability.

And then we begin to feel the effects of older age. Again, we suffer from increasing access disability. Accessibility and mobility again become increasingly restricted. Stairs become more dangerous and difficult, slippery and sloping surfaces more risky, traffic again threatens us even when we are driving! It becomes more difficult to find our way into new or unfamiliar places. It might seem to the older person that the world has been designed that way. Of course, being designed primarily by and for young adults, it has been! With age comes inevitable deterioration of abilities. In that sense, ageing inevitably increases access disability. Yet there are many more access disabilities.

For example, economic access disability occurs when cost and/or lack of money or resources reduce accessibility and mobility. Examples include the necessity to have a car due to lack of other adequate alternatives. This may impact on people of all ages from the very young unable to be taken to other places eg for trips to the country, students eg at university or college some distance from home, and the elderly or those with restricted or minimal income or welfare support who are forced to spend money on expensive modes eg taxis and therefore to reduce ability to experience other basic needs often even food or medical support. Yet most needs could be met locally.

Another form is environmental access disability which can include people threatened by weather conditions eg too hot or too cold, and by particular forms of pollution eg those suffering from or threatened by asthma or reduced lung or cardio-vascular performance where even increased exertion from walking too far can be a risk factor.

A final and particularly important form of access disability is the perceived and/or real fear or threat eg (1) the lack of accessibility or mobility, (2) the imposition upon others to assist in overcoming the disability eg needing and being forced to rely on assistance of other people who may not even be available or (3) the vulnerability and/or personal insecurity of being vulnerable. Examples include using public transport but unsure of being able to get to a new destination because of steps or other barriers and lack of directional material eg accessible route maps, Braille maps or textured or tactile surfaces. Finally, all people feel somewhat threatened by new environments. For people who already are vulnerable or threatened by lack of certain mobility and accessibility, any sense of personal insecurity much increases the likelihood that trips simply will not be made or will be made under considerable, perhaps unreasonable, pressure and tension. Should trips in urban areas be under such conditions by design?

## Integration

As has been shown above, access disability potentially but inevitably impacts on all of us. By substitution or avoidance if we can, we tend to minimise the impacts of access disability although often at considerable cost to ourselves and/or others, eg by buying a car or hiring a taxi, yet excessive provision for and dominance of cars increases access disability for those not using them. We need to reduce the impacts on others (Yeates 1998a).

Provision in urban design for people with a particular access disability, eg reliance on wheelchairs or on tactile indicators, frequently serves only to emphasise the extent of such disability and the cost of specific remedial or avoidance projects eg safe and convenient overbridges, underpasses, lifts, ramps and disabled access for public transport, urban areas, public spaces, buildings and facilities. The huge cost for so relatively few people specifically identified as beneficiaries tends to preclude any but very minor improvements for them.

However, the whole-of-life perspective and awareness of how access disability impacts on all of us means that all improvements are in fact for all of us! Even if we are not as effected as others, everyone gains.

Of course, in practice not everyone gains. Current urban design and transportation design has, as we have seen above, primarily, been provided for the fit, able young adult. The massive expenditure on continued provision for this group cannot continue if the unmet needs of others are to be met without increased funds. In some countries, population growth is not stable. In Australia, a post World War 2 baby boom and increased in-migration created a major cohort of "baby boomers" now aged 50+ including me! We and especially our parents and their friends and relatives are experiencing disability access. We look for ramps and lifts rather than stairs! Better, more accessible public transport and urban areas and facilities such as shopping centres, medical and hospital services are becoming essential and reliance on cars impractical. Provision of special disability services is expensive and somebody has to pay. Most people do not like to admit to being in need until they are forced to. Life in cities and towns should not be so threatening. Access should and can be easy for almost everyone.

So what does "integration" mean for urban design and transportation design in urban areas? What are some of the major impacts and benefits? Who and what do we ask for advice (Yeates 1998a).

Firstly, a whole-of-life awareness of access disability is essential to inform and influence the decision makers to provide an accessible urban environment for all of us. This suggests urban areas where children and adults of all ages and abilities are safe, where accessibility and mobility allows safe and convenient access such that people of all ages and abilities can learn, explore, exercise and enjoy their urban environment with minimum threat and impact on others. Such a place is likely to be more healthy, more safe, more convivial, more community aware, more sustainable. A place where people care for others much more.

Secondly, such a place will make those with access disability more obvious. It will allow and welcome them by making the place accessible to all. All people will feel safer, more comfortable, less threatened, more welcome. But it will also work better for all of us because it will provide better accessibility and mobility. It will have more and better accessible public transport. Escalators and stairs will be replaced by safer, more secure and convenient ramps, travelators and lifts. The roads will be safer with convenient and safe crossings. Footpaths, doorways and roads will no longer be barriers to walking or using a wheelchair.

Thirdly, footpaths and pedestrian areas will expand to again provide adequate space, safety and convenience for pedestrians and also for those with access disability. The priority of pedestrians will continue to expand "pedestrian priority" and 30km/h speed limits throughout urban areas provide safe, connected and convenient walking. Public transport will use smaller accessible buses for easy, short trips to fully accessible, local, urban and transportation centres. However, these will be almost self-sufficient as integrated urban design and transportation design policy requires. European experience has shown integrated urban and transportation design is more efficient, more economic, more environmental and more healthy and seems more sustainable and thus more viable, for the future.

### **And what of cycling?**

The urban design and transportation design requirements for urban areas with high levels of accessibility and mobility require safety and convenience for people of all ages and abilities. The physical requirements of ramps, safe, operational space and perceived safety and security for all ages and abilities are essential for those who rely on wheelchairs and similar wheeled vehicles together with those who require smooth operating surfaces without steps or stairways and other barriers and designs that increase perceived or real insecurity and risk. Fully connected, safe and convenient footpaths and road crossings and the ability to cross and use roads due to "pedestrian priority" and 30km/h traffic speeds are also essential. A public transport system that is fully accessible reduces or removes barriers to access by provision of convenient, accessible operational space and access to and from vehicles and into the adjoining urban areas for all potential users. These conditions suit cycling in urban areas.

It appears that cycling requirements are in fact very supportive of and complementary to high levels of accessibility and mobility for all people due to the combination of very similar physical and efficiency operating criteria for safe and convenient walking, cycling and disability access. Complementarity rather than competition implies integration.

### **But does cycling threaten others?**

For cycling to "fit" into an accessible urban area, it, as with all other modes of transportation, must not threaten others. Again a whole-of-life perspective is useful. It is clear that people including those with access disability are very threatened by cycling. People with limited hearing will not hear an approaching bicycle. People with limited vision will not see an approaching bicycle. Young children, other pedestrians and cyclists of all ages, can and will make sudden unexpected deviations. Some such conflicts are predictable and require cycling accordingly. Many others are equally predictable and can be reduced or eliminated by design which must include both space and any provisions for other vulnerable users (eg Sustrans, 1994) rather than just for cyclists.

Use of safety and convenience audits to address the needs of all potential users is fundamental to achieving economical but substantial improvements in accessibility and mobility for all including cyclists. Clearly an access audit for a proposed cyclists facility that does not address for example, convenience of pedestrians is highly likely to result in a path that is attractive to pedestrians resulting in conflict due to incorrect provisions and expectations. Similarly, a pedestrian and/or cycling facility that is inappropriate for those with an access disability or even for the intended users eg an expensive overpass with long steep insecure ramps is highly likely to be rejected or subject to complaint when it was really built to ensure through traffic benefited rather than the users, who most likely will continue to try to

use their preferred routes or stop walking or cycling and use a car. Such outcomes are still prevalent and are clearly not exemplars of integrated urban design and transportation design. They can be avoided by ensuring all users inform the safety and convenience audits and that their needs are met (Yeates 1998b).

### **Meeting the needs of all people**

Access disability impacts on all of us whether young, aged, adult, walking, cycling, whether trying to use public transport to get to shop, school or trying a trip to explore beyond a known world of experience. In particular, access disability impacts on urban design and transportation design by educating and then inculcating behaviour which first avoids and then ignores its impacts. Inclusion of a whole-of-life awareness of the impacts of access disability and integration of the needs of all people in urban areas will provide safe, convenient, convivial and more sustainable urban areas by design including for cyclists by integration and complementarity but not competition.

### **References**

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[for notes regarding the author and the conference, see the following page]

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Definitive title :

**INTEGRATING URBAN DESIGN: MEETING THE NEEDS OF PEOPLE WITH ACCESS DISABILITIES ... AND CYCLISTS**

Short summary :

**Improved cycling infrastructure for cyclists is the expected goal of cycling advocates. Identifying and promoting common needs of various groups provides a powerful alliance to achieve goals individual groups may find difficult. This is generally true for pedestrians, cyclists, people with disabilities and in particular, cyclists and those with access disabilities who rely on wheeled equipment.**

**By reference to examples, benefits of facilities and conditions provided for each of these groups are used to demonstrate their potential benefit for others and to reduce conflict by design.**

**By seeking infrastructure and operating conditions which better suit the needs of the larger alliance of groups, current competition for separate space and resources will be minimised.**

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