THE BENEFITS OF ACCESSIBLE BUILDINGS AND TRANSPORT

AN ECONOMIST'S APPROACH

by Jack Frisch

Background - Transport and Building Regulatory Impact Statements

The cost of implementing the revisions to the Building Code of Australia and the net cost of implementing the draft Transport Standards were estimated in recent Regulatory Impact Statements at $3.4 and $3.7 Billion over 20 years respectively. i.e. total $7.1 Billion or $355 Million per year. These sums may appear to be large, but they cannot be interpreted as such without reference to aggregate benefits.

While the Transport RIS attempted a narrow definition of benefits focussed on the extra patronage and consequent fares raised and on savings to some Government programs due to improved transport, the Building RIS made no attempt to measure the benefits of changes to the Building Code except through a vague qualitative survey of people with disabilities, the results of which defied logical interpretation.

An Economist's Approach to Measuring Benefits

It is impossible to estimate the benefits of any particular DDA Standard because the standards are inter-related i.e. one part cannot work without the other. There is little point in having accessible transport if buildings are not accessible; and there is little point in having accessible education if transport is inaccessible or if discrimination is allowed to continue in employment etc.

It is however possible to estimate the benefits of accessibility in the community as a whole by attempting to estimate:

- how much people would be willing to pay for an accessible environment; and
- the production lost to the economy as a result of an inaccessible environment.

Economists make these sorts of measurements all the time. The final estimates involve reasoned guesswork which can be refined ad infinitum, but which reasonable people may argue over if the basis of the measures is made explicit and if the measures are verifiable (even if they are hard to actually find). The estimates below are initial "back-of-the-envelope" calculations.

Community Willingness to Pay for Accessibility

How much would people in the community be willing to pay to avoid inaccessible buildings and transport if they knew the probability of their requiring an accessible environment, and if they were aware of the costs of an inaccessible environment?

Better economists would look for the answer to this in an "insurance" model, for the issue really boils down to people insuring against the "hardship" of an inaccessible environment in the event of a person's needing such an environment.

The actuarial method is the same whether one insures against the loss due to fire, theft or disability. There is of course a market for insuring against the short-tem income loss due to disability, but there is no market for insuring against long-term income loss, or losses due to an inaccessible environment (and for various reasons the necessary conditions for the existence of such a market are unlikely to ever occur).

The formula for estimating what a risk-neutral rational informed individual would be willing to pay for such insurance is simple - namely, multiply the probability of loss by the value of the loss. Of course not every individual is risk-neutral, few are informed, and possibly fewer are rational - but economists carry on regardless because it is not clear what the implications of alternative assumptions would be.

Given that almost 0.5% of the population use wheelchairs, it would not be unreasonable to assume that 0.5% of the population will need an accessible environment at some time in their lives. Nor would it be an exaggeration to suggest that the average value of loss due to an inaccessible environment when an average person acquires or develops a disability is 20% of income - because of income loss, higher cost of living, loss in lifestyle options etc (i.e. $6,000 loss for a person on $30,000)[#].

Multiplying 0.005 by 0.2 gives what is known as an *actuarially fair shadow price* of 0.1% of income i.e. $30 per year for a person with an income of $30,000. Multiplying by the 17,000,000 population, this amounts to **$510 million per year or $10.2 Billion over 20 years.**

This is a conservative estimate in that:

- it adopts a low probability of needing access (only 0.5% of the population) even though 4% of the population cannot access transport because of their disability; and 14% of the population has a handicap (i.e. limitation to perform certain tasks in relation to self-care, mobility, verbal communication, schooling and/or employment);
- it ignores the amount that people would be willing to pay so that friends, family, and other citizens are not handicapped by an inaccessible environment - surely people have some altruistic and citizenship feelings and are not wholly individualistic[Ψ].

[#] This assumes that:

i) the total "loss" is about 40% of the income where the "loss" includes both out-of-pocket expenses and lost opportunities and

ii) half of the total loss is due to an inaccessible environment

[Ψ] I am willing to entertain arguments for both upward and downward bias at frisch@chilli.net.au.

ii. Lost Production

A second benefit of an accessible environment is the lost productivity in the community due to people with disabilities being unemployed because of inadequate access.

Thus, people with disabilities have a lower participation rate in the workforce because of direct and indirect discrimination, with a major element of the indirect discrimination being due to inadequate access to buildings and expensive transport costs.

The participation rate in the workforce of the estimated 80,000 wheelchair users in the community aged 15-64 has been reported to be 38% as compared to a 76.9% rate for people without disabilities. If just 12,000 currently unemployed wheelchair users were made employable as a result of an accessible built environment and transport, the participation rate would increase to 53% which is still 23% below the national average. If these newly unemployed workers had an average productivity of $25,000 per annum (almost $10,000 below national worker productivity) then National Income would increase by **$300 million per year, or $6 billion over 20 years**.

This figures is an underestimate of an accessible environment not only in that it is conservative in assuming that the participation rate only increases by 15%, but also insofar as it:

- excludes people with vision and hearing impairments and people with ambulant disabilities who also have a lower participation rate and whose productive potential is also lost because of inadequate access;
- excludes the lost productivity due to the lower workforce participation of family members and voluntary carers who are needed to assist in transport, transfer and mobility because the environment is inaccessible.

The $10,000 discount for productivity is problematical. On the one hand people with disabilities take more time in getting some things done, and in our system, the value of time is one of the keys to monetary reward. On the other hand, the greater workforce loyalty and problem-solving skills, the thicker "hide" and wider vision are factors which enhance productivity.

Distribution Effects

What is the cost of an inaccessible environment to a person with a disability? What would be the cost per person of an accessible environment if the cost of access was shared across the population?

These are what economists call distribution issues as opposed to a real resource or efficiency issues. It is a question which modern Economics has tended to ignore, but which used to be a principal focus of Economics. It is a critical question for people with disabilities.

People with disabilities have a higher cost of living due to an inaccessible environment because:

- they have to catch expensive taxis instead of using less expensive public transport;
- they have less choice in shopping and entertainment and therefore pay more for lower quality goods and services;
- they spend significantly more on non-discretionary equipment, goods and services which have little intrinsic "utility" apart from the ability to assist in accommodating an inaccessible environment (portable ramps, mobile phones, attendants for access);
- they face undesired cultural marginalisation and discrimination because so much ordinary activity requires "special" treatment in the face of an inaccessible environment.

$4,000 per year would be a conservative estimate of the average out-of-pocket costs of an inaccessible environment to wheelchair users. Given the 120,000 wheelchair users of all ages, this implies an total cost of amounts to **$480 million per annum, or $9.6 billion over 20 years.**

This does not account for the large number of people with ambulant disabilities, people with hearing and vision impairments, and people with other disabilities affected by an inaccessible environment. If we were to apportion $1,000 per year as the cost of an inaccessible environment to 250,000 of the almost 1 million people who use sticks, frames and crutches as mobility aids, then an additional **$250 million per year or $5.0 Billion over 20 years** could be added to the value of an accessible environment.

This still excludes 300,000 people who use mobility devices other than sticks, frames, pushers, wheelchairs and scooters as well as 620,000 other people that the Australian Bureau of Statistics has counted as having handicaps. In this, the estimate makes the **patently incorrect conservative assumption** that people with these handicaps (including people with vision and hearing impairment) are handicapped by factors other than the built environment or transport.

The estimate also excludes the cost to family and friends who also bear some cost of an inaccessible environment.

Thus we have 370,000 people bearing a $730 million annual bill for an inaccessible community i.e. $1,973 per person with a disability. This compares with 17,000,000 citizens paying $355 million per year for creating accessible buildings and transport i.e. $20.88 per citizen.

Conclusion

The approach taken has been on Economics grounds, and many people would argue that the issue should really be judged on the basis of Social Justice.

But Social Justice is a vague concept which means different things to different people for different reasons, and is implemented quite differently even by people who mean the same thing. Models include:

- the social-equity model of "from each according to ability, to each according to need";
- the charity model of "from those who can afford, to those who deserve help";
- the Darwinian model of "let it rip and see who wins"; and
- the Homer Simpson model of "from them, to me".

Economists have trouble with the concept because there is so much disagreement on what it means and because the concept is not obviously measurable, but it is hard to see how, one can justify not creating access when:

- the annual benefit is $810 million and the annual cost is $355 million;
- people with disabilities will stop losing $1,973 each and people without disabilities will lose $20.88 each;
- the benefits of an accessible environment and the costs of an inaccessible environment to people with a disability have been underestimated[X].

[X] Research into the cost of disability in Australia has been limited, and has had critical shortcomings in not accounting for the lost opportunities due to having a disability, the low "utility" value of many non-discretionary goods and services, time costs and other non-monetary costs, higher prices of ordinary goods, and the differences across age groups.

Why Won't Accessibility Happen

Without a change in attitudes, some sensible talking and some decent political leadership, the chances of getting access is slim even though it makes economic sense on both efficiency and equity grounds because:

- Governments do not know how, or do not have the courage, to finance the $355 Million annual cost ie. how to raise the taxes, what expenditures to cut, how to share the cost among industry sectors and taxpayers etc;
- 10,000 or so property developers, transport operators etc. through their industry associations believe that the $355 million cost of access will be born by them at something like $35,500 per developer, operator etc. rather than by 14,000,000 citizens at $20.88 per citizen;
- people with disabilities are unaware of how short-changed they are, and how they have internalised their oppression through the charity model, the Darwinian model and the Homer Simpson model;
- individuals lose sight of social justice issues on taking power because of their overwhelming desire to gain and retain power so that they can pursue social justice issues "in the future".

We will however get access when:

- people with disabilities increase the political cost to politicians of not providing access;
- people in the media, universities, interest groups and political parties start thinking of how their lives would change if they or family member or friend acquired a disability;
- people in the community at large begin to see people with disabilities as citizens with rights and abilities and the same wants, aspirations and hopes as other citizens.