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1. **Methodology: Guesstimates, Estimates and Sensitivity Analysis**

I note with approval and satisfaction that the RIS has accepted my suggestions for a methodology for measuring the benefits of an accessible environment, but I feel it is important to note that the quantities referred to were “illustrative guesses” rather than “estimates”. While a dictionary definition of “estimate” - *to calculate approximately (the amount, extent, magnitude, position, or value of something) or to form an opinion about* - is consistent with “illustrative guess” I feel that the word “estimate” suggests too high an order of calculation. I believe the appropriate word would be the “**guesstimate**” - *inference or judgment based on inconclusive or incomplete evidence; guesswork or a statement, opinion, or conclusion based on guesswork*.¹

I state this not to resile from my guesstimates since I believe that careful research would bear them out as fairly accurate. I state the above to suggest that the upper and lower bound quantities referred to could have made use of more rustication, and that by not doing so may have biased the costs upwards and the benefits downward². Since the RIS’s qualitative comments themselves suggest benefits in addition to the quantitative benefits, and since the quantitative estimates were themselves guesses, I do not see the logic of not undertaking further “rustication” for the upper and lower bounds, particularly when there are solid reasons for such adjustments. I outline what I believe to be the solid reasons below.

2. **Costs**

I believe that the **RIS overestimates costs** because it fails to account for likely and expected “*substitution effects*” referred to qualitatively, it fails to account for the “*learning effects*” that are likely to be associated with the development of a Premises Standard, and it errs in “*categorising lost useable space*” as a resource cost. Furthermore, because the demand by business operators and consumers for particular ‘property characteristics’ is likely to be elastic demands and certainly more elastic than the demand for property itself, I expect that the burden of the Premises Standard will fall mainly on property investors with diversified investment portfolios and not on small business operators as asserted by the RIS.

2a. **Substitution Effects and the Burden of an Impost**

The ‘model’ used to calculate aggregate costs is not clearly specified, but it appears to be based on fixed coefficient production/consumption functions which assume away the substitution effects which are core to a meaningful cost-benefit analysis. Although the RIS recognises that there will be some substitution between building design-types as a result of changes in relative costs (e.g. mall complexes instead of commercial strip centres), it recognises them only qualitatively and fails to incorporate these comments into the RIS conclusion.

¹ www.dictionary.com

² I note that the RIS did make some upward guesstimating adjustments to my benefit guesstimates, and fully endorse the adjustments.

Fixed coefficient production/consumption function are useful approximations where changes are marginal, but where cost increases are likely to be greater than 25%, ignoring substitution effects leads to **significant upward bias** in cost estimates.

I recognise it is beyond the scope and capability of the RIS to develop a full econometric model of the building sector which would give better estimates, but I feel that the effect could have been readily addressed in the sensitivity analysis. Thus, I believe that it would have been appropriate to guess **an alternative lower bound** based on a positive elasticity of substitution (perhaps equal to unity perhaps) instead of assuming infinitely inelastic demand.

This is particularly so in view of the likelihood that substitution would be high for the two most contentious cases i.e. ‘2-storey restaurants’ and ‘dwelling size 2-storey offices’ respectively, and that two-storey detached buildings form a large part of current building activity. (While I accept the assertion that there is a great deal of new building of two-storey restaurants, I find it hard to believe and trust that there has not been confusion between the stock of two-storey restaurants and the production of two-storey restaurants³).

2.a.i Two-storey restaurants

I expect that when restaurant patrons go out for dinner, they want to go to a place with a view, good service, an ambience and a good chef - not necessarily in a ‘detached 2-storey restaurant’. A view can be accommodated on the second or higher floor of a larger complex, and the other characteristics can as easily be accommodated on the ground floor of one or more adjoining shopfronts. A two-storey restaurant is unlikely to be one of the characteristics sought by patrons⁴ and therefore consumers will not pay a higher price simply to be in a detached two-storey restaurant. Operators will consequently not want to lease this type of space and will prefer instead to lease in an alternative design space - e.g. a specialist entertainment or food complex, a shopping centre etc...Indeed “detached two-storey restaurants” might disappear as a result of the Premises Standard, but this is not the same as the disappearance of “restaurant” or even “two-storey restaurants”, and it may not lead to any loss in consumer welfare or restaurant profits.

Although substitution of design types will involve some additional cost due to the Premises Standard, it will fall far short of the 41% cost currently estimated. Needless to say if some patrons have a strong preference for eating in a detached “2-storey restaurant”, they should pay for their preference for this particular characteristic, in much the same way that other consumers pay for their idiosyncratic tastes.

2.a.ii Electric Lifts

I am not sure why it is absolutely essential (as implied in the RIS) to install electric lifts rather than AS 1735.7 or AS 1735.15 lifts into 2-storey restaurants. It

³ I would have thought that most of the stock of restaurants comes from conversions and renovations of general spaces, and that there would not have been many purpose built new restaurants. But I accept that my judgement may be wrong.

⁴ Lancaster’s characteristics.

seems a fairly easy management issue to ensure that the latter type of lift was restricted to eligible users. I am not conversant with the legal meaning of the term “high traffic public use area” but I find it hard to believe that a restaurant would be considered as being equivalent in terms of “traffic” to a theatre, cinema, auditorium, transport interchange or shopping centre. The latter accommodate thousands of people in a day instead of the maximum 120 that would patronise a dwelling size 2-storey restaurant.

It seems unreasonable to make the electric lift the base case and AS 1735.7 or AS 1735.15-lift the lower bound. It seems to me that the latter ought to be the base case and that should be the base case rather than the lower bound, and a reasonable substitution-effect should be estimated to establish the lower bound.

2.a.iii Dwelling-size 2-storey offices

The comments relating to restaurants apply with greater force to “dwelling size 2-storey offices” for which the impost was estimated to be 63%. It seems obvious that the demand for this type of design would fall quite significantly and people currently occupying this sort of design would rent or buy strata units in multi-storey office buildings.

While some firms may desire the corporate image which goes with a free standing building, the notion of a free-standing building is only one of an innumerable number of ways to create a corporate image. If a firm has a preference for ‘dwelling-size 2-storey buildings’, they should have to bear the full cost of this particular preference - with one of the costs being that of making their building accessible to everyone.

2.a.iv Malls versus Strip Shopping Centres - A Biased Assertion

It was surprising to see in the conclusion, without evidence or prior discussion, the implication that people with disabilities prefer strip local shopping centres to malls because “malls are more distant and less accessible to people with a disability from the transport perspective”. While it is true that the local shops are closer to homes and do not involve transport costs, most shops in older strip centres areas are generally NOT accessible and therefore useless. Nor are they always more accessible from a transport viewpoint when there are steep roads to the local strip centre, in which case, if a taxi is used, it will generally be at least as worthwhile to take the taxi to the accessible mall where there are more choices and the prices are less expensive because of the greater competition. Conversations with wheelchair users suggest to me that, contrary to the RIS, wheelchair users prefer and disproportionately frequent malls rather than local strip shopping centres.

I believe this questionable assertion should be supported by evidence, explained at greater length earlier or **withdrawn** from the conclusion. The assertion frames the conclusion with a very strong bias against the Premises Standard by undermining the importance of the substitution effect discussed above. By implying that wheelchair users will bear part of the cost of the substitution from detached dwelling commercial buildings to malls, the conclusion implicitly allies wheelchair

users with interests which seek to maintain the status quo without a Premises Standard when the long-term interests are far more likely to diverge widely.

2.b. Learning by Doing - Increased Specialisation and Scale

Starting with Kenneth Arrow⁵, specialises in Technology and Innovation Economics have accepted that the costs of innovations decrease over time. This is because producers improve production and management techniques as uncertainties decrease and learning increases and as the number of direct specialist suppliers input supplies increases and take advantage of economies of scale that comes with increased output.

There is obviously room to disagree about whether or not the Premises Standard constitutes an “innovation” but I believe there is still a great deal to learn about universal accessible design – in bathrooms, lifts, renovations etc. and I believe that access to buildings in Australia are still at an innovation stage because access is still at an early phase of diffusion.

Admittedly anecdotal in terms of evidence, my own conversations with friends and colleagues in the building industry and my experience on Access Committees suggests that the industry still gives little thought to access. I expect therefore that as more architects, developers, designers, building suppliers, inventors and the building industry in general are compelled to comply with the Premises Standards, **the costs of new buildings and renovations is likely to fall over time**. Research (including that from the US and Europe) showing the time path of costs following the adoption of access standards would be invaluable.

There are obviously limits to the size of the decrease in costs, but I believe that the ‘learning’ effect is likely to lead to marginal decreases in costs in the first three years, significant decreases in the next 3-8 years following promulgation of the Premises Standard, and modest decreases after 8 years. Furthermore, I expect that learning effects will be higher for renovations than for new building while economies from scale and specialisation will apply equally to new buildings and renovations.

In view of the fact that the RIS has made only two estimates for its cost scenarios and that it has not considered substitution, learning and scale effects, I believe it should incorporate these as lower bound estimates. I expect “guesstimates” of cost decreases of 15% for new buildings and 20% for renovations would be appropriate.

2.c. Useable Space

I note that the RIS has internalised “lost usable space” into its cost estimates for new buildings and estimated them at \$312 million for renovations. I believe the RIS errs in categorising “lost usable space” as an opportunity cost because space is endowed by nature and therefore has no resource cost. The debate about the nature of land goes back to David Ricardo⁶, who showed that being bestowed by nature, land

⁵ Ken Arrow, Dosi, Evolutionary Economics.

⁶ Ricardo

per se has no opportunity cost, and that the rent associated with land is due ownership of scarce land due to some superior quality over unproductive land. He further concluded radically that the consequence of a 100% tax on the rent from the land would be without negative efficiency consequences on the supply of land. **It would seem appropriate therefore to incorporate the Ricardian position at least as a lower bound for lost usable space.**

I expect that some cost should however be allocated for lost useable space because the additional space/land taken up with “wider corridors, sanitary facilities and the like” will mean that the city and town boundaries will need to be larger than they otherwise would be, with a consequent marginal addition to resource usage in the form of transport and infrastructure costs.

I believe that the \$312m estimate ought to be the upper bound rather than the base case since the need for additional space implied by the Premises Standard would be as much due to planning ordinances as would be due to access, and therefore should be allocated to the community’s demand for low-rise building.

A specific floor-to-land ratio is not a scientifically determined “law of nature” but socially constructed standard - as would be a Premises Standard. If, for example, “wider corridors, sanitary facilities and the like” could be accommodated (without having to expand city and town boundaries) by increasing a floor-to-land ratio from 140% to 144% and if there were no locally prescribed Building Heights Standard, then there would be no additional transport and infrastructure cost, and the Ricardian view of a zero opportunity cost of space would hold.

I believe the base case ought to be allocated to both the Premises Standard and an implicit “Building Heights Standard” - on an arbitrary 50% basis⁷.

I conclude therefore that it would be reasonable to estimate the lower bound for lost useable space as zero, the upper bound as \$312m and the base case as \$156m.

2.d The Incidence of the Premises Standard Impost - Wrong in Theory and Fact!

The RIS asserts that the *“compliance cost of the proposed Premises Standard is likely to fall disproportionately on the small business sector, who will be the predominant users of these smaller buildings.”*

In Economic parlance, this is of course a distribution issue rather than an efficiency issue, and therefore one which requires political assessment as well as economic assessment.

I believe that in portraying small business as being the main “losers” from the Premises Standard, the **RIS is wrong on a critical issue**. Because politicians and the electorate have a strong associative fondness for ‘small business’, this incorrect assertion strongly frames the conclusion against the Premises Standard. Needless to say, there would be no bias if small business were in fact the main losers, but I believe that the **RIS assertion is based on both an incorrect understanding of Economics,**

⁷ This issue is the familiar problem of apportioning fixed costs between two divisions in a firm.

and an incorrect understanding of the sophistication of the contemporary Australian capital market.

The RIS assertion is misleading for two reasons:

- it fails to conceptually make the important distinction between the ownership of a premise and the operation of the business on the premise and
- it assumes an inelastic demand for and an inelastic supply of a particular design-characteristics for which both the short-run demand and long-run supply are more than likely to be highly elastic.

I believe, in contrast to the RIS, that the compliance cost of the Premises Standard is likely to fall disproportionately on the **owners of property rather than operators**, and the **owners will be able to avoid the cost** by reducing the supply of new 2-storey vertical spaces and increasing the supply of alternative design formats to accommodated restaurants and offices. Furthermore, the owners of property ought to be categorised as individual or institutional “investors” (rather than “small business”), with the individual investors being either wealthy or with diversified portfolios. These classes are politically very different from “small business”.

Burden of a Tax/Impost

As is taught in elementary Economics course (but generally not internalised in the press or the popular imagination), the actual burden of a tax or impost is based on the elasticity of demand and supply by consumers and producers - not by the party that bears the immediate burden of the tax or impost⁸. In assuming that the burden of the impost is on the users of smaller buildings, the RIS’s implicitly assumes that demand and supply curves are both inelastic.

If the demand (by both operators and consumers of restaurants and offices) for the “dwelling-size 2-storey” characteristic is as elastic as I believe it is, then any additional cost will be born by the **owners of the property rather than operators or consumers**. Operators and consumers will bear the cost **ONLY if they insist** on having meals or operating offices in dwelling-size 2-storey buildings (i.e. only if they an inelastic demand, or fixed taste, for the ‘2-storey’ characteristic). I would expect that such inelasticity would be an exception rather than the rule.

Contemporary Capital Market

While it may be expedient for lobbying purposes for building owners to represent themselves as part of the small business sector, in general owners of property are a diverse group which includes

- large financial institutions which form the listed and unlisted Property Funds sector
- small and large risk-taking developers
- specialist property syndicates which aggregate individual investors for specific properties
- wealthy individual investors and non-wealthy investors with diversified portfolios

⁸ Introductory Economics (preferably HSC) text

- operators of large businesses which for one or another reason choose to own rather than lease the property in which they operate their business.
- operators of small businesses which for one or another reason choose to own rather than lease the property in which they operate their business.

Of these, only the last group may be considered as part of the “small business sector”. I would suggest that for this group, ownership of a premise and the operation of the business on the premise is separable and that accounting and financial efficiency considerations require ownership and operation to be separated. Furthermore, I believe that if a particular operator chooses to own rather than lease the premises, then this is an idiosyncratic taste for which they ought to pay and that the particular “taste” ought not deserve special political consideration.

Another group that generally receives special political attention (but which the RIS does not mention because it fails to properly assess the incidence of the Premises Standard) are middle-class and working-class investors. While it is true that they will bear some of the cost the Premises Standard if they hold shares in Property, I expect that the effect will only marginal because such investors can reasonably be expected to hold a diversified share portfolio to minimise risk. As above, if a particular investor holds only property securities, this can be considered a speculative “taste” for risk which I believe ought not to deserve special political consideration.

Finally, I expect that one of the ways in which Property Investors will reduce their risk will be by accommodating restaurants and offices in alternative design forms.

Finally, I expect that operators who wish to own their premises for security of tenure will still be able to do so by investing in strata units in the new design forms.

Employment Effects

It is important to note I do not assert that there will be no additional compliance costs as a result of the Premises Standard, but I believe instead that additional costs will be marginal, and that the 2 case studies showing 40% and 65% increases for new buildings are significant overestimates, and that the 5.4% increase for 2-storey storage/warehouses is also likely to be marginally overestimated (as ground floor offices substitute for upper storey offices in larger industrial land blocks).

I note an inconsistency in the RIS between its assertion relating to the employment effect of the Premises Standard and its implicit elasticity assumptions. Specially, it can be shown that where demand and supply curves are inelastic there is no output effect from an impost, and therefore no employment effect. It is only when the elasticity of demand and supply are high that output effects are large, with a consequent large employment. The RIS cannot have it both ways - i.e. implied inelastic demand/supply curves and a large employment effect.

While the above superficially suggests that my view that of the high elasticity of demand and supply implies a large unemployment effect, it does not do so because of it is important to distinguish between **final product** and **characteristics which are**

embodied in final products. Thus, the demand for the “detached 2-storey design” characteristic embodied in a restaurant space can be elastic even as the demand for restaurant space is inelastic. Where this is the case, an impost on the “detached 2-storey design” characteristics will lead to a negative employment effect for “detached 2-storey buildings” which will be offset by a positive employment effect for substitutes⁹. This may be taken to I do not however believe this will have a large employment effect, because while there will be a large employment effect as a result of the effects described above, **employment effects are likely to be marginal.**

3. Benefits

I believe that the **RIS underestimates benefits** because it makes no attempt to account quantitatively for a number of effects that it seems to accept qualitatively - such as the benefits to associates of wheelchair users, income distribution effects, and the benefits to others via occupational safety and health and convenience. The RIS also underestimates willingness to pay by using an expenditure approach and thereby implicitly assuming consumer surplus to be zero. In addition, the RIS is ambiguous in both its interpretation of my estimates and mistaken in its interpretation of the relevant of the empirical evidence of the effects of the DDA on employment participation. Finally, and most seriously, the RIS shows both bias and a misunderstanding of the nature of the Premises Standard when it described many of the benefits to wheelchair users as mere low-order matters of convenience.

3.a Workforce Participation

3.a.i Associates of Wheelchair Users

Although the RIS has noted that there is a lower workforce participation rate of family members of people with disabilities, it has not accounted for this quantitatively. Nor has it either noted or quantitatively accounted for the lower incomes of associated who participate in the workforce but work shorter hours than they otherwise would. I have no evidence on the size of the latter effect, but expect the differential between work hours of the general population and work hours of associates of people with mobility restrictions to be both significant and to have increased in recent years.

I would expect a **short-period increase in differential work hours during transition** in the premises and transport access both because of and despite the improvement in building and transport access. This is because the improvement in access in the community has given more opportunities for people with mobility restriction to get about and participate socially, while the uncertainties during transition has meant that there is still sufficient uncertainty about the quality of the access to require associates to be “on hand”. The net effect is of course uncertain, but my experience and conversations with other associates suggests that the demand on time may perversely have increased rather than decreased during the transition to full and complete access.

Although reliable quantitative estimates of the employment and hours effects on associates of the Premises Standard in the post-transition long-term are not available, there is I believe nevertheless a case for account for this effect by adjusting the upper bound guesstimate.

⁹ In terms of demand and supply curves, an impost will lead to a leftward movement along the demand curve for detached 2-storey buildings and a rightward shift in the demand for substitutes for detached 2-storey buildings.

3.a.ii Ambiguity and Inconsistency of RIS Estimates

The RIS's adjustment of the employment participation of wheelchair users is **confusing and ambiguous and makes the rationale for the \$300m base case unclear**. The RIS claims that I suggested "a doubling in employment rates for users of wheelchairs" when I made no such estimate. I believe I suggested that the increase in participation would only be 12,000 out of 80,000 wheelchair users (i.e. a 15 percentage points increase) and that the rate would therefore increase from 38% to 53% (i.e. a 40% increase). The 50% increase in participation suggested by the RIS would take the participation rate to 57% which is above the rate I suggested. In view of this above, I see no basis for halving my estimate to establish the base case, and in fact suggest that by the RIS's conjecture of a 50% increase, the \$300m base case should be marginally increased.

I note that although the RIS made an appropriate upward adjustment for my willingness to pay estimates to account for **people with mobility problems who are hampered from inadequate building access but do not use wheelchairs**, it did not make a similar upward adjustment for income loss due to their lower workforce participation due to inaccessible premises. I believe there is justification to be consistent and to account for the 4% of the population who are not as affected as wheelchair users by the lack of access, but who are more than likely nevertheless affected.

3.a.iv Evidence Issues Relating to Employment Effects

The RIS cites empirical evidence suggesting that the participation rate of people with disabilities has decreased despite the Americans with Disability Act, and it consequently estimates a lower bound of zero on the income effect of the Premises Standard. The perverse effect of the decrease in participation rates is a puzzle which labour economists are seeking to unravel, but the evidence has **no bearing whatsoever on the income effect of the Premises Standard** and therefore does not justify the RIS lower bound estimate.

The evidence cited fails to distinguish between the employment provision of the ADA and the infrastructure provisions, it fails to look at the labour market as a general complex system, it fails to distinguish between wheelchair users trained pre-ADA and other people with disabilities and thereby fails to account for the structural shift in labour markets to knowledge labour, and it fails to recognise some positive participation effects.

Distinction between Employment Provisions of the ADA and Infrastructure Provisions

The labour market is made up of a wide range of institutional characteristics where complex interdependencies exist between wages, income support programs, employment programs in-kind subsidy criteria, marginal tax rates and thresholds, infrastructure, economy-wide structural and business cycle conditions and the like. The market is a complex inter-relationship of unintended effects, nonlinearities and lags. As a result, an employment participation equation is ideally made up of many variables which offset and reinforce. Some variables contribute positively while others contribute negatively. The ADA is just one of many variables in an equation, and indeed, the ADA itself would be represented by at least two variables - one for the employment-discrimination provisions and one for the infrastructure provisions.

No equation disentangling the various effects has been estimated, and certainly no evidence suggests that the "ADA infrastructure provisions" has a negative effect. The evidence cited refers only to the ADA employment

discrimination provisions, and therefore is of no relevance to a discussion of the Premises Standard.

The working hypothesis of those critiquing the ADA refer to a decrease in the demand for labour due to increased firing costs and accommodation costs in the workplace and to an increase in the supply of disabled workers as a result of the greater stringency of non-disability welfare criteria¹⁰. These are all reasonable hypotheses but irrelevant to the Premises Standard. Epstein correctly distinguishes between the employment provisions of the ADA and the infrastructure provisions, though in his conclusions he appears without justification to lose sight of his own distinction. **The RIS has failed to make this distinction, and has therefore not justified its lower bound estimate.**

Wheelchair Users Educated Post-ADA

The RIS's conclusions with respect to income also errs because none of the evidence distinguishes between wheelchair educated after the ADA and wheelchair users educated before the ADA. This is an important distinction which I believe undermines the justification for the RIS lower bound estimate. Before the ADA most wheelchair users were educated to a level below their intellectual potential, but with the passing of the ADA, this is slowly changing.

Distinguishing between post-ADA educated wheelchair users and other people with disabilities is particularly critical in the labour markets of the last 20 years as the advanced industrial economies have moved towards the "knowledge economy". The premium for education has increased because of greater job opportunities and higher incomes as products have become more knowledge-intensive and there has been a parallel decline in the demand for unskilled labour and repetitive process manufactures as capital has substituted for labour and as the demand for unskilled labour has moved offshore. My interpretation of the summary of deLeire's comprehensive study confirms this structural change towards a greater demand for what may Peter Drucker and others have termed "knowledge labour"¹¹.

Because deLeire's evidence only accounts for people born before 1969, and educated before the ADA education provisions came into effect, I do not believe that deLeire's evidence has any bearing whatsoever on the Premises Standard.

Positive Empirical Findings

The RIS shows some bias in not also citing positive empirical findings such as:

*"Therefore, when looking only at people who say they are able to work, fully 56% of people with disabilities are working, and the gap between people with and without disabilities shrinks from 49 percentage points to 25 percentage points. For people 18-29 years old, the gap between people with and without disabilities is at its smallest - 15 percentage points"*¹²

or

¹⁰ See also my submission on Welfare Reform, where I discuss the inter-relationship between labour supply and PADP, transport costs, social security thresholds and rent assistance programs, and show that low paid wheelchair users are out of pocket from employment as a result of these programs.

¹¹ Drucker.

¹² <http://www.nod.org/content.cfm?id=134>

Evidence from the 1994-1995 Survey of Income and Program Participation (SIPP; McNeill, 1997) reported that 26% of individuals between 21 and 64 with severe disabilities were employed, compared to 23% in 1991-1992 (McNeill, 1993). Kaye (1998) reports increases in employment among people aged 21-64 with severe functional limitations (i.e., a smaller group of individuals compared to those with severe disabilities) from almost 28% in 1991-1992, to 32% in 1994-1995. An analysis of SIPP information (McNeill, 2000) from 1994 to 1997 for persons with non-severe disabilities finds that employment rates increased from 77% to 81%. Although during 1994 to 1997 employment rates for those with severe disabilities declined from 34% to 29%, overall employment rates for younger individuals with severe disabilities are higher than in 1991.¹³

There is still much careful analysis to be done on labour markets. I **doubt that any analysis will ever suggest that improved infrastructure will decrease employment participation or have nil effect.** Interestingly enough, if such evidence does arise, it will not only raise puzzling questions, but it will bizarrely suggest that perhaps less building and transport infrastructure should be provided in the community to increase workforce participation in the community as whole.

3.b Income Distribution Effects

For most projects subjected to Cost-Benefit analysis, the effects on particular individuals are often marginal, and income distribution effects across groups often offset one another because the income and wealth levels of the 'gainers' is not significantly different from those of the 'losers'. Where there is a difference in the income/wealth levels across the groups, explicit account should be taken of income distribution effects¹⁴.

There is a strong case for increasing the weight attached to the benefit of the income gains likely to result from the Premises Standard. The case is based on:

- the large income gains that may be expected by the 12,000 wheelchair users who are likely to gain employment and who are currently substantially below the average income of the community.
- the relatively small income losses of average investors, consumers and taxpayers who will finance the Premises Standard.

If one accepts the standard view of diminishing marginal utility, then it follows that the marginal utility of income of the below-average income workers with disability who gain will be greater than the marginal utility of income of the above-average income workers¹⁵.

3.c Consumer Surplus - Willingness to Pay versus Expenditure

The RIS estimate of benefit is biased downward by the extent to which the premium expenditure measure understates willingness to pay by the extent of consumer surplus (or difference between the hidden unknown subjective amount that consumers are willing to pay and the actual amount that is paid). The consumer surplus is not directly measurable, but it can be estimated from a fully specified

¹³ <http://www.mswitzer.org/sem00/papers/blancck.html>

¹⁴ Sen, Atkinson, references

¹⁵ J.S. Mill, John Rawls.

demand curve. Thus, it is easy to show that for a straight line demand curve, the consumer surplus is:

- equal to 50% of the expenditure if demand is unit price elastic
- greater (or less) than 50% when demand is price inelastic (or elastic).

Because I expect that the demand for insurance is price elastic, I believe it would be conservatively reasonable to add a **20% premium above the fair value plus profit formula account for the consumer surplus.**

3.d Other Effects

I concur with the RIS adjustments to my illustrative estimates, including the addition of people with disabilities other than wheelchair users and the 20% risk-aversion premium and therefore accept that the appropriate base case should be higher than my estimate.

The RIS adjustment does not however go far enough because it still leaves unquantified many issues which it qualitatively recognises, explicitly or incidentally, including:

- the population's ageing (page 81)
- the reduction in accidents (page 47)
- reduction in property damage, convenience benefits to families (p. 49)
- potential increases in economic activity and tourism (p. 49)

These are significant benefits, and could and should have been estimated if not as part of the base case, then at least in the upper bound.

All the costs and benefits in the RIS are in reality only "guesstimates" based on known data or expected relationships. I believe creative honest calculation could and should have been undertaken to adjust for these factors, and that by not doing so, the RIS has left itself open to the charge of biasing the benefits downward.

3.e 'Convenience' Benefit - An Unnecessary Qualifying Bias

The RIS describes many of the benefits of the Building Standard as being "convenience benefits". The use of the adjective "convenience" is a seriously biased and unnecessary adjective. To qualify benefits in these terms shows a lack of understanding of the issues faced by many people with disability, and in so doing, devalues the benefit being described. For the term "convenience" connotes "comfort" which **in any hierarchy of utilities would rate as a luxury rather than a need** and thus a lower order value.

While people with disability have a right to comfort as much as anyone else in the community, many of the so-called "conveniences" described in the RIS are of a far higher order than mere comfort. Thus for example, the current status quo of a single accessible entrance, or lack of accessible links between related buildings on different allotments

- may spoil an outing when a group of people go somewhere together (e.g. nightclub) but the wheelchair user is forced to separate himself/herself from the group and miss critical moments of the social interaction

- may involve 10 minutes searching from a drop-off point (and more assistance is need to manoeuvre to or find the accessible entrance) - which at a \$24/hour wage rate involves up to \$4 of disutility
- may involve wasted resources if faced with an \$18 dry-cleaning bill due to wet clothes, more than \$25 of medical expenses and time spent off work due to illness from getting wet, at least \$20 of wasted transport costs and time wasted as the wet wheelchair user returns home without participating in the expected outing etc

While the requirement to make main entrances accessible decreases the likelihood of these scenarios, the reality of geography, parking spaces and errors in disembarking make them possibilities which involve more than a mere “inconvenience”. In reality, wheelchair users are often likely to call off an outing because of these possibilities, and the “inconvenience” consequently results in exclusion.

The RIS has expressly articulated the additional percentage costs for 40 building types/scenarios, but it has failed to describe case studies showing the real consequences of lack of access, and thus, the real non-dollar benefits of a Premises Standard. Most people without disabilities (including Members of Parliament, architects, town planners and developers) do not have a clear idea about the realities of an inaccessible built environment, and I believe it negligent of the RIS not to have taken the opportunity to inform the Parliament of the real benefits of provisions such as multiple entrances, and accessible links. The RIS has thus been an exercise in theory rather than an exercise in providing real information.

I believe that above suggests that:

- it is inappropriate to estimate the lower bound of income losses to be zero
- it is appropriate to adjust upward the income effect to account for distribution effects, the effects on associates, and the income effect on people with disabilities who are not wheelchair users
- it is appropriate to estimate a lower bound for the income effect to account for the possibility that the base case employment effect is overstated
my original \$300m estimate is the appropriate base case, a \$150m estimate is an appropriate lower bound, and a

The above suggests that the

- **the base case ought to be \$1163m used as the upper bound by the RIS**
- **the lower bound ought to be the \$1119m used as the base case by the RIS**
- **the upper bound ought to be \$1457m (i.e. 20% for consumer surplus and 10% for safety, family, tourism and economic activity effects mentioned on page 49).**

The Cost-Benefit Framework

Although the Regulatory Impact Statement shows a sensitivity to many of the limitations of Cost-Benefit Analysis (CBA), it fails to note how the limitations of CBA are particularly relevant to people with disabilities in the context of the built environment.

I don't propose to fully detail the **fundamental** limitations of CBA here, partly because the RIS appears to have recognised them in a general sense even if it has not sufficiently accounted for their particularity regarding disability. I do however refer the directors of the RIS to the work of Amartya Sen (the Nobel Prize winner in Economics for his work on Welfare Economics) and the philosopher Martha Nussbaum¹⁶ because these two authors pay particular attention to the limitations of CBA in the context of people with disabilities and others classes of people who do not fill the "representative" consumer or citizen model which frames CBA.

Both authors argue that a sound and careful CBA is an important tool for evaluating and making transparent public policy choices, but argue that the "information-base" it accounts for when confronted by atypical citizens is too narrow, and therefore of limited usefulness compared to the fuller accountability of what they call a "capabilities" approach.

In Development and Freedom, Sen uses the wheelchair user and famine as prototypes cases of falling short of capabilities for social reasons, and endorses the capabilities approach in favour of the utilitarian, libertarian and Rawlsian approaches without directly specifying the threshold human capabilities listed by Nussbaum and reproduced below.

Sen (2000) argues that while there is substantial plausibility to CBA as a general discipline, there are critical problems in common application because too much important information is implicitly ignored. In particular, he argues that although "*the market analogy has merits in the case of many public projects, particularly in providing sensitivity to individual preferences, relevant for efficiency considerations...its equity claims are however, mostly bogus, even though they can be made more real if explicitly distributional weights are introduced (as they standardly are not in the mainstream approach)*".

CBA's weighting are problematical when

- benefits or costs to particular groups are substantial rather than marginal
- less exactly measured consequences or less clearly agreed values are ignored or insufficiently accounted for, even though they may be extremely important
- uncertainty is not accounted for, or probability weightings are left unjustified
- ethical concerns, human rights, the intrinsic value of freedom, and/or changes in values due to the project itself are not accounted for and
- there is over-reliance on what Sen calls the "lone-ranger" model of environmental valuation and under-specification of social values.

Nussbaum articulates the moral limits of CBA by distinguishing between “*the obvious question*’: *what shall we do?...[and] ‘the tragic question*’: *is any of the alternatives open to us free from serious moral wrongdoing?*” She argues that although CBA may be proper for asking the ‘obvious question’, it is ill equipped to ask the ‘tragic question’ which is prior to the ‘obvious’ question which CBA may answer. In Nussbaum’s words:

*“Armed with the tragic question, a decision maker approaches a complex situation of choice. What does my approach urge her to do? First, she must examine all the available alternatives, holding them up against the account of basic entitlements, together with her society’s current specification of them. She must get very clear about whether any of the alternatives involves violation of a fundamental entitlement. If none of them does, then she may proceed with the obvious question—which may frequently, of course, be very difficult to answer. If one or more involves violation of a fundamental entitlement and the others do not, then there is an **extremely strong case for striking the tragedy-bearing alternatives off the list**; [highlighting mine] indeed, it would be hard to know what could make one keep them on the list, other than a suspicion that the list had been badly constructed, or the levels of entitlements set too high. Then, having eliminated the morally unacceptable alternatives, she may, again, proceed with the obvious question, using whatever techniques she has at her disposal to answer it”.*

Furthermore, she adds,

“an economic loss, for example, will not make a case into a tragedy, [highlighting mine] unless it is related to capability in the way I have described, pushing citizens beneath the threshold of capability in some area.”

Critical to Nussbaum’s view is the concept of capabilities entitlement, developed elsewhere by Sen. The box below lists the capabilities which Nussbaum argues ought to be the minimum entitlements that a society should seek to provide for its citizens. An examination of her list suggests that the status quo is a ‘Nussbaum tragedy’ and I argue below that the cost of partially offsetting the tragedy through the Premises Standard is unlikely to involve any more than a non-tragic “economic loss” to a broadly diffused group of investors who can be expected to diversify their risks.

Thus, an inaccessible environment violates Capabilities 3, 7 and 9 directly and Capabilities 4 and 10 indirectly by restricting:

- free movement from place to place - Capability 3 (bodily integrity)
- ability to live with and towards others - Capability 7 (affiliation)
- various forms of social interaction - Capability 7 (affiliation)
- the social bases of non-respect and nonhumiliation - Capability 7 (affiliation)
- access to recreational activities - Capability 9 (play)

- access to an adequate education - Capability 4 (senses, imagination and thought)
- the search for employment on an equal basis with others - Capability 10 (control over one's environment) and
- entering meaningful relationships of mutual recognition with other workers - Capability 10 (control over one's environment).

If one accepts these consequences of an inaccessible environment, and if one accepts my arguments below about the true as opposed to the nominal incidence of the Premises Standard impost, the Nussbaum criterion suggests that the status quo should be struck 'off the list' of options.

I believe this moral limitation should be clearly articulated, even if not endorsed, by the RIS. If the RIS sees fit to note (but not endorse) over two pages of Epstein's irrelevant and incorrectly named market alternative (see below), then I believe it should note Nussbaum's fundamental ethical critique.

The Sen/Nussbaum critique is particularly relevant to people with disabilities in the built environment because:

- many of the limitations of CBA are relevant to people with impairments in the built environment.

Although the RIS seems to recognise that non-compliance with the DDA has important distributional consequences (p. 10), it proceeds with its CBA oblivious to the methodological problems resulting from the distribution problem. Using Sen's outline of the imitations of CBA:

- the benefits of access are non-marginal (of the order of thousands of dollars) for the people with impairments who stand to gain significantly while the costs are marginal (of the orders of scores of dollars) for the rest of the population among whom the costs will be diffused
 - the less exactly measured benefits are shown only qualitatively or less clearly agreed values, even though they may be extremely important"
 - it has not accounted for uncertainty with respect to costs and only imperfectly justified its probability weighting for benefits
- it has not accounted for ethical concerns, human rights, the intrinsic value of freedom, or changes in values due to the project in question – points forcibly made by Nussbaum and the Nussbaum/Sen capabilities approach
- it has relied too much on what Sen calls the "lone-ranger" model of environmental valuation, and under-specified the social values which can lock 'lone-rangers' into a Prisoner's Dilemma when individuals preferences are informed by social and historically held expectations, prejudices, customs and beliefs.

The Central Human Capabilities

1. **Life.** Being able to live to the end of a human life of normal length; not dying prematurely, or before one's life is so reduced as to be not worth living.

2. **Bodily Health.** Being able to have good health, including reproductive health; to be adequately nourished; to have adequate shelter.

3. **Bodily Integrity.** Being able to move freely from place to place; to be secure against violent assault, including sexual assault and domestic violence; having opportunities for sexual satisfaction and for choice in matters of reproduction.

4. **Senses, Imagination, and Thought.** Being able to use the senses, to imagine, think, and reason-and to do these things in a "truly human way, a way informed and cultivated by an adequate education, including, but by no means limited to, literacy and basic mathematical and scientific training. Being able to use imagination and thought in connection with experiencing and producing works and events of one's own choice, religious, literary, musical, and so forth. Being able to use one's mind in ways protected by guarantees of freedom of expression with respect to both political and artistic speech, and freedom of religious exercise. Being able to have pleasurable experiences and to avoid non-beneficial pain.

5. **Emotions.** Being able to have attachments to things and people outside ourselves; to love those who love and care for us, to grieve at their absence; in general, to love, to grieve, to experience longing, gratitude, and justified anger. Not having one's emotional development blighted by fear and anxiety. (Supporting this capability means supporting forms of human association that can be shown to be crucial in their development.)

6. **Practical Reason.** Being able to form a conception of the good and to engage in critical reflection about the planning of one's life. (This entails protection for the liberty of conscience and religious observance.)

7. **Affiliation:**

A. Being able to live with and toward others, to recognize and show concern for other human beings, to engage in various forms of social interaction; to be able to imagine the situation of another. (Protecting this capability means protecting institutions that constitute and nourish such forms of affiliation, and also protecting the freedom of assembly and political speech.)

B. Having the social bases of self-respect and nonhumiliation; being able to be treated as a dignified being whose worth is equal to that of others. This entails provisions of nondiscrimination on the basis of race, sex, sexual orientation, ethnicity, caste, religion, national origin.

8. **Other Species.** Being able to live with concern for and in relation to animals, plants, and the world of nature.

9. **Play.** Being able to laugh, to play, to enjoy recreational activities.

10. **Control over One's Environment:**

A. Political. Being able to participated effectively in political choices that govern one's life; having the right of political participation, protections of free speech and association.

B. Material. Being able to hold property (both land and movable goods), and having property rights on an equal basis with others; having the right to seek employment on an equal basis with others; having the freedom from unwarranted search and seizure. In work, being able to work as a human being, exercising practical reason and entering into meaningful relationships of mutual recognition with other workers

Epstein's Call for Repeal of the DDA

The RIS discussion of Epstein's Forbidden Ground is totally inadequate and smacks of ideological 'political correctness' in that it does not directly confront the arguments on Epstein's terms, but merely writes them off as 'outside the range of feasible alternatives', seemingly because they are 'economic rationalist'.

In the current context, Epstein's arguments can be confronted directly without resort to political correctness i.e. they can be confronted on economically rational grounds. I refer here to my most recent submission to the Productivity Commission's report on the DDA. While I accept Epstein's arguments on the injustice of requiring individual employers rather than taxpayers, property-owning investors and/or consumers having to bear the impost of a regulation, I do not accept his argument that the ADA ought to be repealed.

Firstly, Epstein couches his argument only in terms of affirmative action in employment and in *Forbidden Ground* specifically claims that he is **not** writing about infrastructure such as buildings - where externalities, public goods issues, and information asymmetries issues come into play in ways in which they do not for employment affirmative action. Secondly, the section on Disability is **tagged on** as a 20-page generalised afterthought without attention to the detail of disability, whereas the bulk of his 400-page critique of affirmative action goes into specific detail on race and gender cases. Thirdly, his paradigm is based on a consequentialist libertarian value base, which Sen has pointed out¹⁷ is only a special case which assumes away rich information content (about heterogeneity of the distribution of capabilities in the population) which arguably ought not be so easily dismissed.

Epstein models a representative homogeneous impaired person living and working in a singular topographical geography without distance and time. This is not reality. People with impairments have at least as wide a range of skill endowments as the rest of the population and they live in as dispersed a geography as the rest of the population and therefore have to sometimes travel great distances to their workplace. Epstein's model can basically be characterised as arguing that it would be more efficient to build one ramp in a workplace that employs 20 wheelchair users than to build 20 ramps at 20 different locations i.e. that it is more efficient to segregate than to require employers.

If one accepts that people with impairments live and have a right to live in geographically dispersed locations, then it does not take extreme assumptions to show that the transport costs involved in travelling to a centralised segregated workplace over a lifetime may be greater than the capital costs of 20 separate ramps, and it may therefore be more efficient to build 20 decentralised ramps than a single ramp at a central segregated workplace. Similarly, if one accepts that people with impairments have a wide range of skills, it seems incredible to suppose that they can be accommodated in a single workplace unless the single workplace requires only the lowest common denominator of skill levels. That is, it is fantasy to expect that the single workplace with the ramp will produce a good or service which may require the

¹⁷ Development and Freedom.

skills of a linguist, a computer engineer, an economist, a film director, an astrophysicist, a lawyer, 3 bricklayers, a plumber, a welder and a motor mechanic etc... I suspect that the only skills that would be required in this segregated setting would be basket weaving - the traditional skill to which people with impairments were trained in the pre-ADA days which Epstein seems to wish to resurrect.

While Epstein may be an eminent legal scholar and seeks the mantle of 'rational Economics' I believe his Economics is more ideological than rational and that to critique him on the grounds of being 'rational' demeans the integrity and intellectual rigour of the RIS. He is rational in terms of deriving conclusions from assumptions, but he is being less than rational in his use of unrealistic and simplistic assumptions.

I believe it is a misnomer to call Epstein's view a 'market alternative' since his work addresses only employment, and explicitly points out that it is NOT addressing the built environment as a system of networked externalities. I would have thought a more promising "market alternative" would involve institutions paralleling the tradeable permits or Pigouvian taxes solution to externalities instead of the regulatory framework. Thus for example, the most efficient solution MIGHT NOT be one of requiring every hotel to have 5% of its rooms to be compliant with Premises Standards, and it MIGHT be more efficient to use "tradeable obligations secured by deposit" to ensure that 5% of hotel rooms in a particular market be accessible by creating a market for tradeable obligations. In small markets the two solutions are likely to lead to identical results, but in larger city/town markets, a tradeable obligation could theoretically be purchased by a hotel which wants to create less than 5% access from a hotel which wants to create more than 5% access. I don't propose here to go into this model since I am still working on still need to refine and develop it and examine its properties and applicability. I suggest that such a model is far more attune with "market" thinking than what the RIS purports incorrectly to be Epstein's view about the built environment.

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1. I note that the RIS did make some upward guesstimating adjustments to my benefit guesstimates, and fully endorse the adjustments.
2. I would have thought that most of the stock of restaurants comes from conversions and renovations of general spaces, and that there would not have been many purpose built new restaurants. But I accept that my judgement may be wrong.
3. Lancaster's characteristics.
4. Ken Arrow, Dosi, Evolutionary Economics.
5. Ricardo
6. This issue is the familiar problem of apportioning fixed costs between two divisions in a firm.
7. Introductory Economics (preferably HSC) text
8. In terms of demand and supply curves, an impost will lead to a leftward movement along the demand curve for detached 2-storey buildings and a rightward shift in the demand for substitutes for detached 2-storey buildings.
9. See also my submission on Welfare Reform, where I discuss the inter-relationship between labour supply and PADP, transport costs, social security thresholds and rent assistance programs, and show that low paid wheelchair users are out of pocket from employment as a result of these programs.
10. A network problem: if 4 lifts and two trains are required at railway stations to get from home to work, then if just one of the four breaks down (which will occur 20% of the time if each lift has a downtime of 5%), then the whole trip has been ruined.

11. <http://www.nod.org/content.cfm?id=134>
12. <http://www.mswitzer.org/sem00/papers/blanck.html>
13. Sen, Atkinson, references
14. J.S. Mill, John Rawls. The 'on average' is stressed because the marginal utility argument cannot be used in particular cases where interpersonal comparisons of utility are not permissible.