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Comments on the Draft Cost Benefit Analysis Methodology for the Aviation Disability Standards Impact Analysis

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Acknowledgment

The University of Melbourne acknowledges the Traditional Owners of the unceded land on which we work, learn and live: the Wurundjeri Woi Wurrung and Bunurong peoples (Burnley, Fishermans Bend, Parkville, Southbank and Werribee campuses), the Yorta Yorta Nation (Dookie and Shepparton campuses), and the Dja Dja Wurrung people (Creswick campus).

The University also acknowledges and is grateful to the Traditional Owners, Elders and Knowledge Holders of all Indigenous nations and clans who have been instrumental in our reconciliation journey.

We recognise the unique place held by Aboriginal and Torres Strait Islander peoples as the original owners and custodians of the lands and waterways across the Australian continent, with histories of continuous connection dating back more than 60,000 years. We also acknowledge their enduring cultural practices of caring for Country.

We pay respect to Elders past, present and future, and acknowledge the importance of Indigenous knowledge in the Academy. As a community of researchers, teachers, professional staff and students we are privileged to work and learn every day with Indigenous colleagues and partners.

Artwork

The art on the front and back cover of this report was created by Bruce Plant, an Australian artist with psychosocial disability known for his colourful, narrative, and abstract primitive style paintings.

Born in Melbourne in 1952, he studied at Melbourne University and began exhibiting his work in 1989. Plant's art is often described as joyful, playful, and providing hope and inspiration, with works appearing in public and private collections.

Credit: Plant, Bruce. Revelation. Displayed at the Melbourne Disability Institute, Melbourne. Acrylic on Canvas, 104x80cm, 2025.

Comments on the Draft Cost Benefit Analysis (CBA) Methodology for the Aviation Disability Standards Impact Analysis

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1. Introduction

I was invited on 2 October 2026 to offer comment on the draft CBA methodology that will form part of the Impact Analysis of proposed changes to Australian Aviation disability standards. The proposed CBA methodology is outlined in the document dated 26 September 2026 and is based on Commonwealth guidance provided by the Department of Prime Minister and Cabinet Office of Impact Analysis (OIA, 2023) and associated references. In addition to these references, I have also drawn on CBA theory and practice across a range of documents, with a focus on transport economics, environmental & resource economics, and health & disability economics.

2. Overview

I found the proposed CBA methodology to be both well-presented and fit-for-purpose. I commend the recognition of substantial quantitative and qualitative benefits flowing from the Aviation disability standards to Australians both with and without disabilities. It is reassuring to see the focus placed on “net gain to society as a whole” and not a partial “problem reduction” analysis that has made some Impact Statement CBAs problematic for stakeholders. The recognition of the potential role of distributional analysis is also to be commended.

That said, there are a number of issues I would like to bring to your attention, which are developed further below. These cover:

I. Additional benefit categories that are recognised in the Transport, Environmental and Health/Disability economics literature, particularly “option value”;
II. The importance of the “caring externality” and its implications for underpinning both government involvement through regulation, together with its possible valuation in the CBA;
III. The growing importance of loneliness as a preventable (and quantifiable) risk factor;
IV. The different normative foundations for economic assessment that have relevance to “arguments” in the social welfare function, particularly in health and disability economics;
V. Inclusion of more recent dollar values for the calculation of statistical lives and statistical life years available in the published literature; and
VI. Noting the likelihood of non-equal valuations between parties in transfer payment elements of the CBA (i.e., distributional considerations where effects don’t simply cancel each other out.)

3. Additional benefit categories - overview

The environmental economics literature, and more recently the transport economics literature, have raised the potential importance of “option value” in CBA, together with a useful nomenclature that classifies benefits in terms of “use value” (UV), “non-use value” (NUV) and “option value” (OV). “Use value” (UV) provides the value core underpinning economic evaluation and generally refers to the direct use of a given resource for its intended purpose, with current practice compared to an option(s) for change (e.g., with/without changes in aviation accessibility regulations). This basic category of benefit is well covered in the proposed CBA methodology document, with appropriate quantification, reflecting the guidance references.

“Option value” (OV) is the value that people place on having the right and/or ability to access and use the resource in future even if that option is never taken up. It is hence not a direct use value but a potential use value. OV can change due to, among other things, technological innovation or changes in government programs and policies.

For the Aviation disability standards under consideration, OV exists because the changed regulations will make access to airports et.al., easier for those with a disability that currently make infrequent use of aviation travel and for those currently without a disability, should they become disabled in the future. There may also be OV for Australians without a disability, because accessibility is improved for all, particularly families with young children and the elderly. The potential OV across these various cohorts is worthy of closer attention as there is a growing transport literature behind it, including both theory and empirical studies. This literature covers the separation of OV from consumer surplus and issues of double counting, together with a range of empirical studies. OV is also recognized as a type of benefit to be considered in cost benefit evaluation of transportation investment alternatives by the UK Department for Transport (2004) and the Scottish Government (2009), and has also been used for assessment of regional rail projects in the Netherlands (Geurs et.al., 2006). In the US, OV has been recognized in several transportation CBA guides for some time, including those of the Transportation Research Board's Committee on Transportation Economics (2010), the Transit Cooperative Research Program (2002), and the Victoria Transport Policy Institute (2009).

From my reading of the proposed CMA methodology, there is mention of wellbeing benefits associated with direct use, such as dignity & respect, increased independence, reduced stigma, etc., but not OV associated with the option of more accessible air travel at some point in the future, even if that option is never taken up. Given there is now a sound theoretical basis for its inclusion, a range of guidance material and empirical examples, this is something you might like to reconsider. Further commentary on OV is provided below.

The final type of value - “non-use value” (NUV) or “existence value”- describes the value that people place on a certain resource even if they would never get the chance to utilise it. For example, the loss of a nation’s largest nature reserve is palpable even for those citizens that might not have visited (nor, indeed, have any inclination to do so). In general, it is not possible to use market prices or other revealed preference methods to measure non-use value. As a result, "stated preference" survey methods are generally used, including most prominently contingent valuation methods (CVM).

From a theoretical viewpoint, NUV has deontological overtones in the sense that it is regarded as morally “right” or a “duty of care” to endorse the policy change that improves access to or maintains the treasured resource. Its inclusion is related to which normative foundation is chosen by analysts and the associated consequence of relevant arguments in the social welfare function (see point 6 below). NUV is, moreover, shaped to a large extent by social norms and economic status. While NUV is recognised in resource and environmental economics, it is also argued in transport economics that governments have a duty to provide public transport as an alternative to private car use. It could be argued that Government action to ensure reasonable access to public transport is a “merit good” that

warrants government involvement, in the same way as access to health care, with access based on need rather than ability to pay (Medda, 2011).

3.1 Option Value – history and microeconomic foundations

Weisbrod (1964) coined the term “option value” arguing that there might be a value of particular services (e.g., transport modes) for those who do not regularly use them but rely on them due to the uncertainty about the future[1]. Critics claimed that including OV would double-count the consumer surplus (e.g., Long, 1967), but Lindsay (1969) refuted such criticism and emphasised that uncertainty is the key to understanding OV. Cicchetti and Myrick (1971) further advanced the microeconomic foundations of OV, arguing that OV was in effect a premium to protect from uncertainty and existed separately from consumer surplus (or expected consumer surplus). He emphasised the importance of supply uncertainty - the loss associated with not purchasing the option and later seeking it but finding it not available. Further to this notion of supply uncertainty, Stanley and Levinson (2016) highlighted the inclusion of OV in appraisal as an important way of bridging the benefit/funding gap within public transport. The literature suggests that this uncertainty associated with OV is not fully captured through standard appraisal methods. In our context, the significance of OV might be argued in terms of uncertainties associated with under-valuing benefits through omission of OV and then finding out that the CBA was not supportive of the proposed regulatory changes.

Finally, a few interesting comments on empirical findings highlighted by Bondemark et al (2021)

> *“First, individuals that are certain of demanding or certain of not demanding a service have no OV, whereas uncertain individuals have a positive OV. In other words, the consumer surplus captures the total willingness to pay of a frequent user of a service (e.g., daily commuter), and the OV increases when use is infrequent, and timing of demand is unknown. Second, higher quality of service (e.g., better comfort and higher frequency) implies higher OV. Third, more transport options that serve the same purposes mean lower OV for each specific one. People living in a dense city with plenty of public transport services and other transport options are likely to assign a lower OV to each of them, compared to a situation where a given optional service would stand alone.” Bondemark et. al., 2021 p467*

[1] Specifically, Weisbrod asserted that option value is present and relevant for public policy where three conditions are met. First, that there are individuals who are uncertain about future demand of the commodity or service in question — or who are infrequent consumers, among whom will be some who will never use the service. Second, that a decision about supplying the service in the future is about to be made, and should the service be curtailed in supply, re-establishing or expanding it would be very costly or even technically impossible. Finally, there must be no practicable way for the resource owner providing the service in question (even a perfectly discriminating monopolist) to collect the option value ("premia" for assured availability in the future) because exclusion (i.e., being able to identify all who would benefit from assured availability and to exclude same for failure to pay the "premia") is not possible. (Cicchetti and Myrick, 1971, p528)

4. Caring externality

Externalities are, of course, a well-known aspect of economic theory and can be positive (e.g., herd immunity) or negative (e.g., pollution). When present, externalities are one of the reasons markets could fail to be efficient, and because of that, externalities are often used as an argument for public involvement (Hurley, 1971). In particular, the caring externality – more broadly termed "altruism" - goes to the question of what kind of society we want to live in (i.e., the relevant arguments in the social welfare function) and for many invoke the rights of citizenship. When deemed important, externalities are normally dealt with by one or a combination of three means: 1) by conferring property rights to relevant stakeholders; 2) through the imposition of taxes or the provision of subsidies; and 3) through regulation.

In addition to providing a key rationale for government involvement, there is the question of whether an identified "caring externality" should be included in economic appraisal (Margolis, 1982). Mishan (1971) argued, for example, that if the external effects in a public program are assumed to be substantial, a conscientious social appraisal cannot ignore them. There is an argument, therefore, for attempting to value the caring externality associated with the regulation under consideration. There is an increasing amount of literature showing that individuals care not only about their own wellbeing, but also about the wellbeing of other persons. See Camerer (2003), for example, for an overview of experimental results from a game theory perspective.

A study by Jacobsson et. al., (2005) is particularly interesting for our purposes. This research team carried out a pilot study using willingness to pay (WTP) questionnaires where internal WTP (own health) and altruistic WTP (others' health) were isolated and examined. The difference was statistically significant ($P < 0.001$). Jacobson & colleagues found evidence for the existence of altruistic preferences and that these preferences were relatively higher for severe health/disability states (and lower for mild states) compared to internal preferences, i.e. when severity of illness increased, the relative increase in caring was higher concerning others than oneself. Their results suggest that more efficient resource allocations could be obtained by directing more attention and resources to severe health/welfare states as compared to mild states, than advocated by internal preferences.

These results are relevant for considering how the general population might value increased travel access for those with a disability, particularly those with more severe disabilities.

5. Loneliness as a major preventable risk factor

A recent report from the World Health Organisation Commission on Social Isolation (2025) has confirmed that loneliness is now a global priority. The Commission concluded that

> *"… the facts are now undeniable – loneliness and social isolation are major public health challenges and must be addressed now. …The consequences of social isolation are severe – and solutions are within our reach. This is a critical moment, and we cannot afford to wait." Foreword*

Australian research has also confirmed that loneliness is significantly related to health and wellbeing (e.g., Kung et. al., 2021; Emerson et. al., 2020). Further, Bishop and colleagues (2024) have established through cross-sectional studies that Australians with disability are 1.5 to 1.9 times more likely to experience loneliness than those without disability. It should come as no surprise that the economic costs of loneliness and social isolation are also substantial. Mihalopoulos and colleagues (2019) found 12 papers in their literature search, including four Cost of Illness (COI) studies, seven economic evaluations and five ROI/SROI studies. An updated systematic literature review from this team, led by Engel (2025), found 15 studies and highlighted the economic burden of loneliness and social isolation. There is also quite recent Australian research on the impact of retirement on loneliness, highlighting the need for social engagement (Kunz et.al., 2026).

These various studies provide helpful information to consider the impact that more accessible aviation might have on facilitating social cohesion. Rather than simply include in qualitative commentary, threshold analysis or "what-if analysis" might be used to assess the potential health care offsets of reduced loneliness for all Australians, particularly those with a disability. Even small impacts attributable to proposed changes in the regulations might plausibly be linked to improvements in health and wellbeing, to health care cost offsets and to productivity impacts. See, for example, Chapter 4 of the WHO report as a starting point.

6. Normative foundations in health and disability economics

Many academics talk about welfare economics in terms of pareto optimality (PO) and potential pareto optimality (PTO), without focussing sufficiently on what is being optimised in these concepts. It is rarely explained that welfare economics goes back to the roots of economic reasoning in philosophy, when discussions about what kind of society was best met the reality of how alternative formulations might be achieved with existing resources. Economists, ethicists and other social scientists all developed theories to guide the difficult choices involved. The economic rationale[2] focussed on benefit vs benefit forgone (i.e., "opportunity cost"), which naturally focuses on what do we mean by benefit in this trade-off? Over time various normative foundations have developed to explain what the appropriate dimensions (i.e., "arguments") of the social welfare function should be. Three important foundations from a health/disability perspective are outlined below. These concepts are relevant to your CBA because they provide the foundation for the various applied techniques of economic evaluation (e.g., CEA, CUA, CBA, etc.,). They provide the theoretical cornerstone for the concept and measurement of "benefit" – often shorthanded as the "value proposition".

6.1 The Concept of Value in Orthodox Economics

The first normative framework that developed using these concepts was called "orthodox" or more recently "neo-classical economics". It rests squarely on notions of individual preferences as the basis of utility, advanced through the consumption of goods and services in well-functioning markets (Baumol, 1969). Social welfare – an increase in which is at the heart of normative economics – is a function only of individual welfare (i.e. satisfaction, happiness or utility) and judgements about the superiority of one policy option over another are made by reference to the sum of these individual utilities. It is assumed that individuals are the best judges of their own welfare (i.e., the assumption of "consumer sovereignty"), a view that with a few added conditions gives substance to the neoclassical faith in free markets. The form of economic evaluation linked to orthodox economics is cost-benefit analysis (CBA), which in many ways mimics the market with outcomes measured in money terms. While impeccably argued, this orthodox normative approach is restricted by its relevance to real-life conditions, particularly in sectors such as health and disability where considerations of social justice, together with "market failure", have generated a strong government presence (Rice & Unruh 2009). Market failure has taken various forms in the health and disability sectors, including monopolistic behaviour, incomplete markets, imperfect information, widespread reliance on provider agency and various externalities (Rice & Unruh 2009; Productivity Commission 2017).

[2] The economic rationale focused on a range of matters, of course, but here I have singled out opportunity cost as the guiding principle. Economists developed quite sophisticated notions and models to guide the application of this principle, guided by the pareto optimality concepts and the key principles of "opportunity cost", "marginal analysis and a "clear concept of benefit", which together help to define and operationalise the concept of "efficiency" and its contribution to "value for money".

6.2 The Concept of Value in Extra-Welfarism

"Extra-welfarism" refers to normative frameworks that reject the exclusive focus on individual utility and add additional elements to the social welfare function. An important theme are characteristics that may have value in and of themselves and not simply seen as a means of obtaining individual utility. Core attributes include health status and wellbeing (Culyer, 1989), individual capabilities and functioning (Sen, 1985) and notions of social justice (Barer et.al., 1999). The most important extra-welfarist strand from a historical perspective was undoubtedly the notion of "merit goods". Musgrave (1959) raised this term in his foundational publication on the *Theory of Public Finance*, describing them as goods such as health care and education whose consumption is so meritorious that they are made available on terms more generous than in the marketplace. The concept of merit goods was a watershed because it involved governments overruling the judgements of individuals about what was of value to them, in so doing broadening the concept of value in economic assessment. The applied technique that best reflects extra-welfarism is cost-utility analysis (CUA), and versions thereof, where outcomes are measured in terms of health and wellbeing rather than dollars.

6.3 The Concept of Value in the Decision-Making Approach

Then in 1972 an explicit departure from orthodox welfarism or extra-welfarism was advocated by Sugden and Williams (1978). Called the "Decision-Making Approach", this normative framework advocated the use of directly obtained or directly inferred values of policymakers. Under this framework the answer to who decides what entities with what weights go into the social welfare function is decision-makers. When the decision-maker is the government, the perspective can be considered "societal" in the sense that governments are assumed responsible for making decisions in the public interest - or at least for the majority of citizens. While less developed than either the "orthodox" or "extra-welfarism" foundations, this approach has appeal in the freedom it offers researchers to match methods to research question and decision context, irrespective of where those techniques come from. It allows the value framework to be framed more broadly in CBA than contemplated under orthodox economic theory. It allows the broader dimensions of value raised in this Discussion Note to be included in your analysis, and where feasible, quantified.

Economic thinking on what "value" means has thus evolved through time, particularly in relation to the practical application of the "value for money" guideline for social welfare policy. Initially focused on well-functioning markets and individual utility, the connections between economics and social justice are now being more thoughtfully considered. Arguably, the Decision-Making Approach is well suited to disability policy because assessment aims and values can be grounded in government policy and legislation, with evaluation matched to decision context and, where appropriate, extended concepts of value.

7. Updated dollar values for statistical lives and statistical life years

In estimating the potential offset for premature deaths averted, it is important for the CBA methodology to keep up to date with published values for the statistical life year (SLY). In 2021 a doctoral student at Deakin Health Economics published a systematic review as part of her dissertation (Ananthapavan, 2021). The results of this systematic review suggest that the VSL used in many Impact Statements ($4.5M) is now far too low and should be replaced with a value of $7.0M [High: $7.9M; Low: $4.5M). Even this value is now a few years out of date and could be brought to 2026 values. The Abstract from this paper is shown below.

> ***"Abstract:** The value of a statistical life (VSL) estimates individuals' willingness to trade wealth for mortality risk reduction. This economic parameter is often a major component of the quantified benefits estimated in the evaluation of government policies related to health and safety. This study reviewed the literature to update the VSL recommended for Australian policy appraisals. A systematic literature review*

was conducted to capture Australian primary studies and international review papers reporting VSL estimates published from 2007 to January 2019. International estimates were adjusted for income differences and the median VSL estimate was extracted from each review study. VSL estimates were used to calculate the value of a statistical life year. Of the 18 studies that met the inclusion criteria, two studies were primary Australian studies with a weighted mean VSL of A$7.0 million in 2017 values. The median VSL in the review studies was A$7.3 million. For Australian public policy appraisals, we recommend the consideration of a base case VSL for people of all ages and across all risk contexts of A$7.0 million. Sensitivity analyses could use a high value of A$7.3 million and a low value that reflects the value (A$4.3 million) currently recommended by the Australian government." [Int. J. Environ. Res. Public Health 2021, 18(11), 6168; https://doi.org/10.3390/ijerph18116168 This article belongs to the Section Health Economics]

8. Non-equal valuations between parties in transfer payments

Finally, your CBA methodology paper explains that equal valuations placed on transfer payments mean that their net societal value is zero and should be exclude from CBAs conducted from a societal perspective. Given the disparities in average income between Australians with and without disability, it is quite possible to mount an argument that non-equal valuations on transfer payments may well arise in this decision context. It is worth referring to the Productivity Commission, for example, as they made this point quite strongly in Chapter 20 of their landmark 2011 report - *Disability Care and Support* - that led to the NDIS. I have included some illustrative extracts below to give you a sense of their views. While these comments on re-distributive effects are penned in terms of NDIS budget support, they are just as relevant to re-distributive effects arising from the proposed Aviation disability standards.

8.1 Some illustrative extracts from Productivity Commission (2011)

"As with many of the other gains from disability reforms, some of the most significant benefits are intangible. In his research using the HILDA survey, Yu (2011) found that the wellbeing effects of keeping or getting a job (when the alternative state was unemployment) for someone with a work-limiting disability was more than $300 000 annually. This is implausibly high, and Yu himself acknowledged that the results varied with different model specifications. Nevertheless, the actual dollar value aside, Yu still found enough supporting evidence that … income is significant for overall life satisfaction but is much less important than economic and social participation and perceived social support; and, participation and social support are particularly more important among people with work-limiting disability than among others. (p. 14)." NDIS (2011), Volume 2, Chapter 20, p964

*"**20.7 A more complex analysis of the 're-distributive' effects of the NDIS***

……The Commission is likely to have significantly understated the benefits of re-distribution because:

- *the value of the marginal utility of income is drawn from analysis of the general population broken down by income levels. It is likely that for families experiencing significant disability, the marginal utility of income, at any given level of income, would be higher than that found for the average person;*
- *the estimates of the benefits excludes the fact that the value of transfers to people with disabilities should reflect that properly measured income would be lower than those recorded by official statistics. Were that effect included, it would raise the weights on the value of the income transfers to people with disabilities and further raise the net benefits."* NDIS (2011), Volume 2, Chapter 20, p972

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