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Local economic appraisal: A study in boundary effects

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Abstract

Economic appraisal is conventionally undertaken at a state or national level reflecting that projects are normally funded from consolidated revenue and that there is a government duty to taxpayers who effectively fund these projects. However, planning is increasingly being undertaken for smaller strategic areas using a place-based approach and/or considering a range of funding sources from different levels of government and the private sector. Appraisal using a larger state or national boundary is likely to obscure the local benefits of these investments due to re-distribution effects. This is particularly relevant in the transport sector where trips, vehicle emissions, people, jobs, tourists and even funding may move across borders as a result of a particular investment.

This paper argues that for strategic local areas, there is merit in supplementing conventional approaches with a local economic appraisal, as well as transparently demonstrating how boundary definition impacts the results of the economic appraisal. Defining a smaller boundary, and what is included in or excluded from the economic appraisal, raises many interesting conceptual challenges. However, the assessment of local net benefits is likely to provide decision makers with rich insights on the strategic merit of place-based investments, alongside traditional approaches.

1. Introduction

Governments are increasingly defining strategic areas deemed important for meeting longer term urban development and public policy goals. They are also investing in these regions using a mix of funding sources across all levels of government, as well as the private sector.[1] A good example of such a region is the Western Sydney Parklands City which is a City Deal between the Australian Government, NSW Government and a number of local councils[2]. Investment in this region is expected to catalyse growth, address relative socioeconomic disadvantage and alleviate development constraints in other parts of Greater Sydney.

Welfare economics, or cost benefit analysis (CBA), is one of the main tools used to assess the merits of an investment. This type of economic appraisal is typically undertaken at a state or national level and considers the population within the boundary of the state or the nation, respectively, as the boundary of the assessment or the 'referent' population.

[1] Examples include City Deals, place-based infrastructure compacts, Renewable Energy Zones, priority growth areas and master planned areas.

[2] Australian Government Department of Infrastructure, Regional Development and Cities, 'Western Sydney City Deal', available at: https://www.westernsydneyairport.gov.au/transport-infrastructure/western-sydney-city-deal#:~:text=The%20Western%20Sydney%20City%20Deal,%2C%20Liverpool%2C%20Penrith%20and%20Wollondilly., accessed 4th August 2022.

The limitation of considering only a state or national CBA is that this is not amenable to demonstrating net benefits within these smaller areas, given that if a state or national boundary is used, the benefits that are re-distributed within that boundary, are treated as transfers and 'netted off' within the appraisal.

Moreover, current approaches to distributional analysis are typically not undertaken at a geographic level (for example, due to the computational complexity within strategic transport demand models), or may not comply with the strict requirements of cost benefit analysis (for example, local effects analysis (LEA) which may include indirect impacts or financial transfers).

However, these local benefits, notwithstanding the redistribution effects, may well be within the broader public interest and strongly aligned to strategic goals. This paper outlines a range of reasons why capturing these benefits in a CBA using a smaller boundary definition provides useful and complementary information to assess the merits of an investment.

There are a number of premises to the development of this paper, which have necessitated re-examining referent population and boundary definitions for economic appraisal in order to apply these findings to local areas:

- Current approaches to distributional analysis are predominantly done by beneficiary and may not be amenable to geographical distribution given the computational complexity of aggregating small areas from transport demand models. However, determining whether costs and benefits fall within or outside a boundary may be computationally simpler.
- Projects are increasingly being funded by multiple levels of government and/or the private sector. Where there is an expectation that this funding is repaid in some form (e.g., a private sector loan) then there is an opportunity cost of this funding. However, a government grant or private sector contribution with no expectation of repayment has no opportunity cost and could potentially be excluded from an economic appraisal depending on how the boundary is defined.
- Tourist benefits are frequently included in cost benefit analysis even though they are not citizens of the jurisdiction. Many of the established approaches to defining referent populations cannot be used to explain this.
- There is no consensus in the literature on defining referent populations or boundaries for economic appraisal.

This paper does not seek to replace current state or national approaches to economic appraisal, but rather to provide an additional tool for distrtibutional analysis alongside conventional methods. In particular, this mitigates the risks that restricting boundaries could potentially be "gamed" by practitioners to understate costs or overstate benefits by transparently illustrating the impact of different boundary assumptions on the economic appraisal results.

1.1. Conventional approach in state and national guidelines

Cost benefit analysis (CBA) in an economic appraisal is undertaken from the perspective of society as a whole, agnostic as to the who incurs these costs and benefits, which is treated separatelty through distributional analysis. However, in practice, consideration of costs and benefits has been limited by state and national boundaries in CBA guidelines from different government agencies[3], and practitioners have tended to rarely divert from the default position.

[3] Default CBA boundaries in Australia are defined as 'state of NSW' (NSW Treasury), 'NSW community', 'state of Qld' (Qld Treasury), 'national perspective/Australian residents' (Australian Transport Assessment and Planning) and 'Australian community' (Infrastructure Australia). Although the guidelines do acknowledge that

The conventional approach reflects that project funding has predominantly come from consolidated revenue, and that governments have a duty to the citizens they govern and the tax-payers that provide the funding.

Some appraisal guidelines published by government require conducting the appraisal from the perspective of multiple geographic groups. For example, *the Guidelines for the economic assessment of mining and coal seam gas proposals* (NSW Department of Planning and Environment, 2015) require both a NSW-centric CBA as well as a local effects analysis (LEA) of the proposed investment on the locality. The guidelines suggest that these local effects are an important consideration for the consent authority granting approval for a project. The LEA is intended to capture how local residents would experience changes triggered by the project. It should be noted that the LEA required by NSW DPE incorporates effects that would not normally be included in a CBA, such as local employment and income effects.

However, the current approach to distributional analysis and/or LEA is not always sufficient because:

- Distributional analysis is done within the economic appraisal boundary, which may not have been correctly specified.
- Generally, these are relatively high level, for example, split by beneficiaries (transport users, community, government, businesses).
- LEAs include effects that are not strictly welfare impacts (e.g., jobs created).
- Disaggregation of benefits into smaller geographical areas such as statistical areas or travel zones is not always possible based on current transport demand modelling approaches and/or may be a complex analytical task.

A smaller boundary definition for economic appraisal may present a simpler analytical task and is aligned with government strategic planning as outlined in more detail below.

1.2. Place-based planning and the need for local economic appraisal

In the context of the current paper, a ‘place’ is an area that is smaller than a state or territory that the government has designated as strategically important[4]. Addressing current limitations in CBA boundary definition and distribitional analysis may be important for decision-makers to demonstrate net benefits to a particular:

- **Community, to build social license** – for example, where there are highly engaged or socio-economically disadvantaged stakeholders.
- **Local government area (LGA), to inform funding negotiations** – for example, where there is funding across multiple levels of government.
- **Designated area, to highlight their strategic importance** – for example, where benefits are likely to be highly concentrated within a particular strategic centre, with dis-benefits that are small and spread across a larger geographic area outside the locality. The issue with using a larger boundary definition in this case is that the dis-benefits may be so small on a per-person basis that they are not perceived by individuals outside the locality, however, when aggregated across the total state or Australian population may be large

'the standing or perspective of a CBA can be national, state/territory, regional or local’ (ATAP) and should be undertaken from the perspective of the ‘relevant community’ (NSW Treasury), ‘economy or society as a whole’ (Qld Treasury), ‘individuals in the community’ (Qld Transport and Main Roads), ‘all members of society’ (ATAP) or ‘relevant community’ (Infrastructure Australia).

[4] This should be distinguished from urban design and place-making considerations in economic appraisal (for example, the quantification of pedestrian amenity benefits) which are related to the quantification of benefits.

enough to offset the significant benefits within the strategic area and potentially skew the results of the appraisal.

This paper develops a practical framework for undertaking local economic appraisal of strategic or local government areas within a particular state or territory. This is proposed alongside conventional state- and national-based approaches rather than replacing them.

1.3. Development of a practical framework for boundary definition

Exploration of cross-boundary effects for these local areas has also raised a number of interesting conceptual questions about boundary definition more broadly which are also examined in this paper.

The concepts of 'standing' or 'referent population' relate to whose costs and benefits should be counted in CBA. These are important concepts because movement of resources across geographic boundaries has the potential to skew the economic appraisal results by defining what is included in or excluded from CBA.

A number of theories have been developed to define the extent of CBA boundaries and explain conventional approaches including opportunity cost, duty to taxpayers, legal and equitable duty, etc. However, Dobes (2017) argues that '[t]he academic literature on 'standing' is relatively sparse and has not been a focus of substantive debate for over a quarter of a century'[5]. Further, a number of conventions appear to be inconsistent with one or more of these theories, such as:

- **Inclusion of all capital costs regardless of the geographic boundary defined** – Boundary definitions may result in certain benefits being curtailed, but capital costs are typically included in full. Increasingly, projects are being funded by multiple levels of government and/or the private sector[6]. However, there may be circumstances where there is no opportunity cost of this funding and could potentially be excluded (e.g. an Australian government grant in a state-based appraisal where there is no expectation of repayment).
- **Inclusion of all emission costs regardless of the geographic boundary defined** – Many transport costs and benefits are incurred beyond state and national boundaries given transport trips and vehicle emissions regularly cross borders. Further, most of the costs of greenhouse gas emissions are experienced overseas. However, greenhouse gas savings are regularly included in full regardless of whether state or national borders have been defined in the CBA[7].
- **Holding land use fixed within a boundary is unrealistic** – Transport investment may also catalyse additional growth from outside the area (in terms of population, jobs or tourism), however, control totals are usually held fixed for ease of land use and transport demand modelling. This may not match reality where there is significant net migration.

The remainder of this paper works through the existing literature on standing or referent populations in CBA, applies these frameworks to transport costs and benefits to identify inconsistencies or conceptual challenges, and develops a framework for local-, state- and national-based appraisals that ties together convention and theory to transparently

[5] Dobes, L. (2017) 'A Cross-Border Perspective on 'Standing' in Cost-Benefit Analysis', p5, Crawford School Working Paper 1711, Crawford School of Public Policy, the Australian National University

[6] It is noted that funding, or the obligation to pay to the costs of the project, should be distinguished from financing, or sourcing those funds from debt or equity. Regardless of how a project is financed, there will usually still be an obligation on the funder to pay or repay those costs. It is funding, rather than financing, which is relevant in an economic appraisal.

[7] It is acknowledged that it is possible to internalise these costs within the boundary defined for the CBA, for example, through the purchase of carbon offsets.

demonstrate the impacts of different boundary definitions on CBA results. This proposes a scenario-based approach alongside existing conventional approaches to provide governments with additional tools for decision-making.

2. Literature review

2.1. Standing and referent populations

According to Trumbull (1990, p. 201), it was Whittington & MacRae (1986) who first coined the term 'standing' while Campbell & Brown (2003, 2016) have used the term 'referent group' instead. Dobes (2017, p5) observes that the former appears to differ from the standard formulation of society and may introduce an element of arbitrariness because it cedes the selection of members of society to the decision-maker. While Dobes (2017) notes that the treatment of standing in the academic literature is relatively sparse, the author provides a useful summary of this (refer to Table 1).

Table 1: Literature on standing in CBA or referent populations

Approach	Source	Definition
Referent Population	Campbell & Brown (2003, p. 6)	• Group or sub-group deemed to be relevant by the decision-marker. This often includes all the residents of a country but may be more narrowly defined in terms of sub-groups such as residents of a state or region, or social groupings such as the poor, unemployed, elderly or First Nations.
Standing	Trumbull (1990)	• CBA is undertaken from the perspective of society as a whole. While there is no reason why 'society' cannot be defined as the local jurisdiction within with a proposed project would be located, the general presumption in CBA is that society is defined as more than a local jurisdiction to account for spillovers. • Stated that national borders are a social construct and cross-border effects should not be ignored. In fact, these may provide a basis to have other beneficiary countries share the costs of a project.
	Zerbe (1991)	Argues that the issue of standing should take into account the general legal and political context, as well as who has a legal right. This leads to the consideration of cross-border externalities, such as the impact an American project may have on Canadians. In this context, a foreigner has a potential legal recourse in the jurisdiction where the project is based. Taking the authors logic further, this recourse could also extend to foreign tourists to a country, albeit this scenario is not covered by the paper.
	Boardman et al (2011)	Provide a comprehensive discussion on standing and recommend ideally conducting a CBA 'from the national perspective'.
	Chadburn & Anderson (2013)	• Reviewed 23 studies that applied CBA to assess community-based climate change adaptation investments, citing some similarities but also notable differences. In the context of climate change, government decision makers often focus their investments to specifically target geographic areas of concern. • The authors recommend the development of a consistent approach, investigation of CBA practices in other areas, and establishing a platform where practitioners can share information.
	Dobes (2017)	Explored the concept of 'standing' in CBA, defined as whose benefits and costs should be counted. The author identifies the orthodox view as being that the CBA should account for benefits and costs accruing to those that ultimately pay for projects, through their taxes, or those who are legal citizens of the jurisdiction being

Approach	Source	Definition
		represented by government. It should be noted that the author highlights the risks of using arbitrary definitions of who that group should be, such as a specific sub-group like the unemployed or elderly. In doing so, he compares the definition of standing being taxpayers or legal citizens, to earlier definitions like the 'referent group' (e.g., Campbell & Brown, 2003, 2016), which may introduce an element of arbitrariness.

2.2 A factor of production framework for geographically bounded CBA

One useful approach for considering whether to include costs and benefits is to consider the factors of production used by the investment. A fundamental principle of CBA is that it should only capture changes in underlying resources and should exclude financial transfers between parties.

The resources captured in an economic appraisal include land, labour and capital. These are often referred to as factors of production and in priniciple, a CBA is concerned with the effficient allocation of these resources. A CBA is also concerned with the potential movement of these resources across the CBA boundary, as this is likely to impact whether costs associated with their use are included or excluded from the cost benefit analysis. Importantly:

- Land is fixed at all times, and the opportunity cost of government-owned land should be included.
- Labour is free to move between all states and territories and is therefore mobile.
- Capital is fixed in the short-run but not in the long-run.

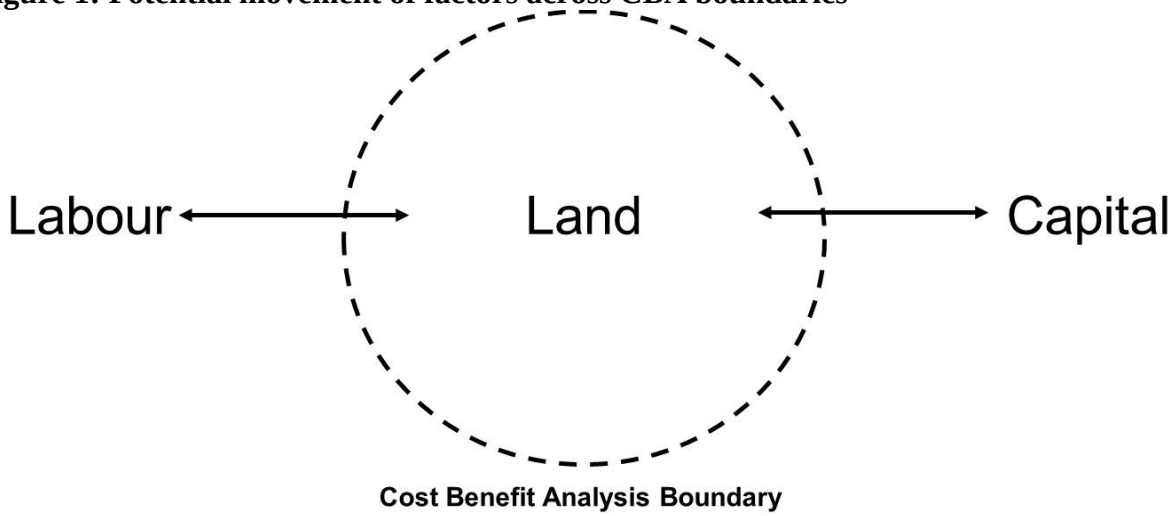
In addition to the three factors of land, labour and capital, a fourth being entrepreneurship may also be included.

Table 2: Factors of production included in economic CBA

Resource	Definition	Comments
Land	Land area used for construction and operation	The location of land is fixed, so should be included within any local boundary definition. Ideally, the opportunity cost of government-owned land should be included.
Labour	Amount of labour (full time equivalent) used for construction and operation	If a unit of labour is deemed within the boundary, the CBA should include its opportunity cost.
Capital	Real capital used in the production of goods and services	Similarly, if a unit of capital is deemed within the boundary, the CBA should include its opportunity cost.
Entrepreneurship	Those that combine the other three factors of production in more novel and efficient ways, to drive economic growth	The economic environment can be more or less conducive to encouraging entrepreneurship. The entrepreneurship stimulated by an investment can raise total factor productivity, and the returns accruing to entrepreneurs can therefore be justified as an economic gain.

Due to their mobility, labour and capital may potentially be included or excluded depending on their location relative to the CBA boundary as shown in the figure below.

Figure 1: Potential movement of factors across CBA boundaries



2.3 Application of the factors of production framework to transport costs and benefits

There are numerous elements of the factors of production framework that can explain current practices in transport cost benefit analysis, but a number of others that are inconsistent.

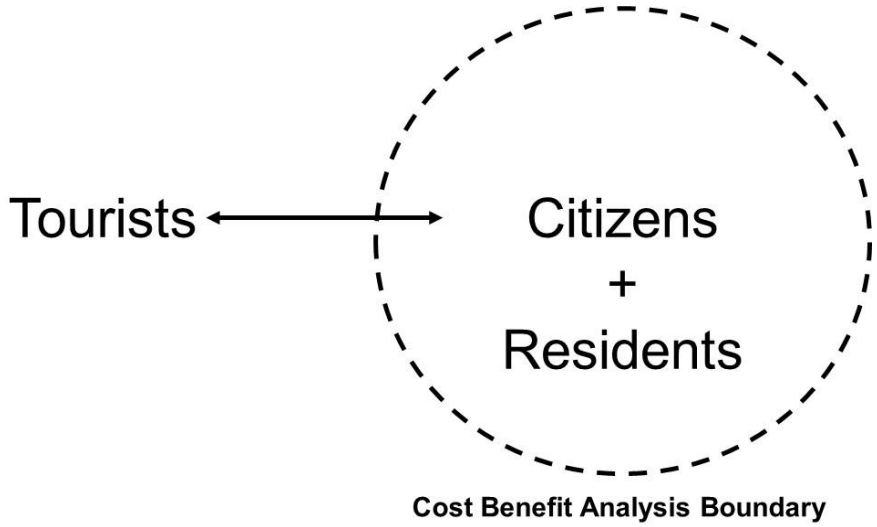
Historically, capital and operating costs for an investment have been included in full regardless of whether the economic appraisal is undertaken from the perspective of the state and territory, or Australian governments. However, there is arguably no opportunity cost of capital sourced from outside the CBA boundary. As such, it may be justified to exclude Australian government funding from a state-based CBA or exclude foreign private capital from a national-based CBA where this is provided as a grant with no expectation of repayment. Some alternative approaches take a 'shadow pricing' approach, whereby external capital is assumed to already be within the jurisdiction and then applied to its best alternative use. However, this is an artificial construct that does not reflect how these capital flows are viewed in reality (that is, that external capital is effectively 'free money' subject to any additional costs of servicing these funds).

Notionally, applying a factor of production framework would also imply that damage costs from externalities that occur outside the boundary should be excluded. This is consistent with the current treatment of benefits such as crashes and most vehicle emissions (for example, air pollution, water pollution and noise). However, full damage costs from greenhouse-gas (GHG) emissions from sources within the boundary that occur outside the boundary are included. One explanation for this different treatment is that countries have set carbon budgets and aspirations to reach net zero, and that an increase in emissions within the boundary would require offsetting those increases at a corresponding cost.

3. Comparison with a population standing approach

A population standing approach to boundary definition is based on the concept of a duty to legal citizens and taxpayers. The population within a boundary at any time could consist of legal citizens, permanent residents and tourists. All of these populations are subject to some form of income and consumption-based taxes and the government has a legal duty to protect them regardless of whether they have the right to vote in the election of that government.

Figure 2: Potential movement of different populations across CBA boundaries



A strict interpretation of the duty to legal citizens would exclude benefits to permanent and temporary residents, and tourists. However, this has not occurred in practice historically. This implies there is a broader duty to this population, regardless of their right to vote in elections. It is also consistent with a duty to taxpayers given these populations are also subject to the same income taxes, in the case of resident workers, and consumption-based taxes as legal citizens.

However, it may not necessarily explain why capital grants from higher levels of government are conventionally included in all economic appraisals, even where there is no opportunity cost or duty to the parts of the population represented by the higher level of government that is outside the boundary.

4. Examples of factor valuations in local CBA

The following sections present examples of conceptual questions relating to each of these factors of production, with the exception of land, in the context of conducting a local CBA. The treatment of land in a local CBA is expected to be similar to a CBA with a larger boundary, in that land should be valued at its opportunity cost in the counterfactual, often valued as its highest and best alternate use.

4.1 Treatment of capital costs

Capital, as with all other factors of production should be valued based on its opportunity cost. For example, the cost of 1,000 tonnes of steel should be valued based on its opportunity forgone by using that same quantity of steel in another project. Assuming the steel market is efficient and reasonably undistorted, this is likely to equal the market value of the steel.

If the steel is sourced locally, it is a local resource that could have been used in a different project. Even if the steel is imported, local financial capital would be expended to purchase the steel, which could have been used to purchase steel or another commodity of the same value for an alternate use.

However, it is likely that in a local CBA a significant proportion of the financial or real capital is sourced from outside the defined boundary. In this case, the CBA practitioner needs to determine how to appropriately value the use of this resource. Potential approaches include:

- Valuing the steel at its opportunity cost and including the marginal benefit of its use

- ‘Shadow pricing’ approach that values the opportunity cost of the steel assuming it is already located within the boundary
- Excluding both its costs and its benefits
- Excluding only the opportunity costs on the basis that the capital is sourced from outside the boundary.

As a general rule, CBA should include matching costs and benefits. In the context of a local CBA, a nuance arises with respect to the terms attached to the source of capital. Under the following conditions, the capital could be argued to have nil or low opportunity costs:

- The capital is sourced from an external party on terms that do not require the repayment of that capital, such as in the case of a contribution from a higher level of government
- Use of that capital for the project does not ‘crowd out’ its use in another local project.

It should be noted that these conditions are not met in the case of external debt or equity financing, as in that case the CBA should also account for the outflow of capital repayments in future years. Equally, the conditions would also not be met in the case of a government contribution that could have been directed to a different local project.

4.2 Treatment of labour

The treatment of external labour raises further questions. Firstly, because a proportion of the labour is likely to be sourced from outside the boundary area. Secondly, because labour is highly mobile.

In relation to externally sourced labour, similar potential approaches to the treatment of capital are available. Namely:

- Valuing the labour’s opportunity cost while also including the marginal product of labour
- Excluding both its costs and its benefits
- Excluding only the opportunity costs on the basis that the labour is sourced from outside the boundary.

Again, if labour markets are reasonably efficient and undistorted, the market wage provides a reasonable proxy for opportunity cost. However, wage payments themselves are considered financial transfers and not directly included.

Another scenario likely to complicate the treatment of labour in a local CBA compared to a larger boundary area is the treatment of human capital. The benefit of training and education can be valued based on the extent to which it increases labour productivity, building so called ‘human capital’. However, in a local CBA context, labour is even more highly mobile, increasing the risk that the benefit is likely to leak outside the boundary at some point in time.

4.3 Treatment of entrepreneurship

Investments designed to stimulate and activate local precincts have the potential to attract substantial entrepreneurial activity into the locality. An activated precinct provides opportunities for business formation, industry clusters and agglomeration benefits. It would be reasonable in many cases to argue that this factor of production would not have been attracted without the precinct. Moreover, if the entrepreneurs are local residents, a CBA has justifiable grounds to include the returns to entrepreneurship[8].

[8] These benefits would accrue to the entrepreneur in the form of additional profits for the value of goods service produced and in the case of entrepreneurship, these goods and services are said to have been produced by combining the other factors of production in a more novel and efficient way.

5. A practical framework for boundary definition in transport economic appraisal

Of the different approaches to standing reviewed in this paper, we propose adopting the definition of standing as being the population that governments have a legal duty towards, being citizens and/or tax payers. This would, by definition, include tourists benefiting from transport investment. This would also include accounting for the full costs of GHG emissions consistent with our accepted and legislated obligations to achieve carbon targets.

Moreover, and to adequately assess the welfare impacts of an investment on key areas of interest, multiple boundaries should be presented alongside a central scenario that is broad enough to capture all materially impacted populations and spill-over effects. This may include CBAs undertaken from the perspective of local, state, national or global populations.

Table 3 summarises the proposed primary approach, and alternative approaches for selected items in a CBA undertaken using multiple boundary definitions.

Table 3: Matrix of approaches in CBA with multiple boundary definitions

Treatment	Primary approach	Alternative approach(es)	Comments
Capital costs	Total capital, operating and maintenance	Funding sourced from within boundary only (local, state, national)	The alternative approaches become relevant where there is funding from multiple levels of government and/or the private sector (some of which has been provided as a grant)
Consumer surplus	As accruing to total citizens, permanent residents and tourists living and working within the largest jurisdiction or groups of jurisdictions materially impacted	Consumer surplus to the population within boundary only (local, state, national) based on trips with origins and destinations within the boundary.	Include local benefits from trips with origins or destinations within the boundary. For commuter trips, origins capture the resident population while destinations capture jobs.
Cross-border externalities	Total externalities regardless of where they occur supplemented by distributional analysis by location	Externalities caused by the population within the boundary only (local, state, national) based on trips with origins and destinations within the boundary.	Excludes externalities from through trips which are captured in the central scenario.

6. Limitations of local economic appraisal

Local economic appraisal has the potential to skew economic appraisal results if it is applied arbitrarily to exclude costs or spillovers. In particular, this paper does not propose that all external government or private sector funding should be excluded, but rather highlights that this may be appropriate where it is provided as an external grant with no expectation of repayment (that is, where there is no opportunity cost of capital). However, the paper also highlights that the current default approach to standing in CBA is relatively arbitrary and practitioners should be more transparent about the impacts of boundary definition.

To address this, and to understand the full welfare impacts of a potential investment, it is proposed that the default position should be to capture all costs and benefits regardless of

geographical boundaries. This is consistent with the 'legal duty' approach to standing in the literature. However, there are opportunities to supplement this approach by presenting CBA at multiple geographies (that is, local, regional, state and national) as an additional tool for distributional analysis. This would address the limitations of local economic appraisal and transparently demonstrate the impact of different boundary definitions in CBA.

7. Concluding remarks

7.1 Conditions for restricting the CBA boundary

The primary approach should be to define a boundary that leads to all material impacts being included. This should include the total population(s) funding and benefiting from the investment as well as the geographic extent of spill-over costs within that boundary. However, supplementary approaches restricting these boundaries may be warranted where:

- **Grant funding is sourced from multiple levels of government or the private sector** – There may be no opportunity cost where funding is sourced from outside the boundary and would not be available in the Base Case (that is, the funding is entirely attributable to the project and could not be used for an alternative purpose). It may also be necessary to restrict the benefits to a particular boundary to understand the optimal funding commitment to a jurisdiction. The former would restrict costs only (that is, a funding scenario), while the latter would restrict both costs and benefits (that is, a local BCR).
- **Benefits are concentrated within a local area while dis-benefits are small and spread across a large area** – A large geographic boundary may dilute the estimated benefits where small dis-benefits on a per person basis accrue to a large number of people outside the boundary. This may be significant enough to offset the local benefits, even though it is likely that small costs and benefits are not actually perceived by travellers and could therefore potentially be excluded (for example, does a traveller even notice a 5- or even 30-second increase in average travel time?). In this situation, the boundary would be restricted to capture local benefits only while the inclusion of capital costs would depend on the source of funding.
- **Boundary definition results in significant cross-border effects** – Significant movement of resources, trips or emissions across defined boundaries may indicate that the boundary has been too narrowly defined and needs to be re-examined. In this case a scenario(s) with a larger boundary should be included to reduce/minimise these movements.

These scenarios are not necessarily comprehensive nor mutually exclusive and may be combined in additional ways as relevant. However, what these scenarios show is that local area economic appraisal may be warranted to demonstrate the net benefits of an investmanet to a particular community, or government area, and/or to inform the appropriate level of multi-party funding contributions.

In these circumstances, it is recommended that the practitioner preparing the local area economic appraisal is transparent about what is or is not included and why, as well indicating the limitations on the interpretation of the results.

While the above cases show there is a case for excluding some capital costs and/or disbenefits that are likely to be so small that they are virtually imperceptible, we recommend that consumer surplus should include all trip origins-destinations within the boundary, and externalities associated with these trips.

7.2 Need for specific local CBA guidance

Ultimately, practitioners undertake a CBA in way that complies with the guidelines published by the relevant authority. While some guidelines and the existing literature recognises that the issue of standing is both nuanced and important, there does not appear to specific guidance on how to tailor the definition of standing to suit the project context.

This lack of guidance is likely to lead to situations where an important aspect of the economic merit of a project is missed. For example, this paper shows that when an investment is key to achieving strategic goals for a designated local area, a local CBA would provide insights on the economic merits of a project, which would be complementary to a state or national CBA. The use of such a CBA in the project evaluation toolkit would provide an additional overlay to other analyses.

To support this, we recommend the development of conceptually sound guidance to practitioners on how and when a local CBA should be prepared, and how to interpret and appropriately qualify its results.

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