
7 Development contributions

Key points

- Development contributions have been widely used in Australia and overseas to fund 'basic' infrastructure associated with the development of land.
- Since the early 1980s, the range of infrastructure subject to contributions has expanded in Australia and overseas to include major headwork infrastructure (arterial roads, pumping stations), and social infrastructure (parks, libraries, affordable housing).
- The scope of mandated contributions varies significantly across jurisdictions in Australia, with greater flexibility in New South Wales and Victoria than in other jurisdictions.
- Contributions are equivalent to an up-front user charge for future infrastructure services. The contribution is equal to the benefit when a nexus is established between the development, the infrastructure and the mandated contributions.
 - When a nexus does not exist, they are more akin to taxes than up-front user charges.
- Contributions are generally required prior to construction, allowing more efficient timing of infrastructure provision.
 - Where these contributions are less than the full cost of the infrastructure, or where they are 'in-kind' such as land for a park, the publicly funded 'gap' has to be financed from other sources, including borrowing.
 - To the extent that they are passed forward to the home buyers, contributions also lead to price signals that promote more efficient investment decisions.
- Transaction costs can be high, particularly where negotiation or disputation occurs.
 - They can also place undue emphasis on 'greenfield' development over urban infill because legislation usually links the ability to impose contributions on subdivision or rezoning approvals.

In the studied countries, local governments have a key role in the provision of infrastructure associated with local residential and business developments. Until the mid-1950s, the majority of urban infrastructure in Australia was financed from local government rates or state or federal government grants. User charges existed for connection and use of services such as water, but were limited in application beyond this.

Over recent decades, local governments have embraced alternative sources of funding and financing, including development contributions. The use of development contributions in Australia and relevant overseas experience are discussed in section 7.1. In section 7.2, the policy concerns associated with the implementation of development contributions systems are discussed. In section 7.3, the strengths and weaknesses of development contributions as a source of funding are explored.

7.1 Applications and trends

Urban infrastructure includes sewerage, drainage, water, electricity, roads, public transport networks and facilities such as parks and libraries (box 7.1). It is fundamental to the wellbeing of local communities, and also contributes to the performance of Australian businesses (ACG 2003).

It has been common practice in Australia from the 1950s for developers to provide basic ‘private’ economic infrastructure (such as roads and drainage) as part of new subdivision developments, with electricity and telephone connection being provided by the relevant authority (Neutze 1997; PC 2004c). Other types of infrastructure (such as parks, libraries and recreational facilities) were funded by grants from higher levels of government, local council property rates and, to a lesser extent, direct charges for connection and service use (McNeil 1998).

The trend in many developed economies has been to require developers to contribute to an increasing range of urban infrastructure (Neutze 1995). The Productivity Commission, for example, observed that for at least the past 20 years:

... the trend has been to install infrastructure from the outset, with more of the initial funding burden shifted onto developers through upfront charges. Developers have in turn sought to pass the charges on in higher prices for serviced lots and house and land packages. (PC 2004c, p. 156)

These changes represent a response to a number of significant developments, including:

- *Increasing demand for, and cost of, infrastructure* — urban expansion and higher expectations from more affluent societies have increased the demand for high quality and a broad range of urban infrastructure (Neutze 1997). In addition, urban expansion — with new developments typically located in outlying, low-density locations — raises the cost of infrastructure. This increases

Box 7.1 Urban infrastructure

Urban infrastructure is traditionally defined as the economic and social networks which are essential for social cohesion and for the efficient functioning of the economy (OECD 1991; Neutze 1997).

Economic infrastructure comprises the physical networks such as hydraulic facilities (water, sewerage and drainage), roads and other transport facilities, energy distribution networks and telecommunications (PC 2004c). This can be further differentiated as:

- Basic economic infrastructure — infrastructure within a subdivision, in most cases connecting each lot to major infrastructure (for example, roads, water, sewerage, gas and electricity connections). Basic infrastructure is sometimes referred to as 'private' infrastructure, because the benefits accrue overwhelmingly to the residents of the particular subdivision.
- Major (shared) economic infrastructure — infrastructure that services a number of land subdivisions. Examples include trunk water, sewerage and drainage, gas and electricity service headworks, urban rail services, major roads and airports.

Social (or community) infrastructure comprises infrastructure used in the provision of welfare and general community support. It can primarily be for the use of residents within a subdivision (for example, parks), or it can service a whole range of subdivisions (for example, libraries, sporting facilities, schools and hospitals).

Environmental infrastructure comprises public investment to protect ecosystem services. Ecosystem services are services provided by the environment that provide resources directly into the economic system (including fisheries, forests and minerals reserves), or services to sustain human life (such as climate regulation, pollination, water purification, genetic diversity and visual amenity) (PC 2006a).

- Examples of public investment to protect ecosystem services include expenditure on national parks, catchment management, wetland restoration, revegetation planting, and bio-diversity protection. Environmental infrastructure that is focused on protecting and restoring natural ecosystems is also termed 'natural capital'.

Sources: Applied Economics (2003); OECD (1991); Neutze (1997); PC (2004c, 2006a).

directly with distance from essential headworks and inversely with the density of development (Slack 2002).¹

- *Fiscal constraints on local governments* — the traditional sources of infrastructure finance available to local governments (such as local taxes and grants from higher levels of government) have been significantly reduced since the 1970s. Local government tax revenues have been constrained by measures

¹ An alternative argument is that urban expansion paves the way for higher-density infill development in the future. Under this argument, infrastructure costs will eventually be recouped and the cost of expansion is simply the cost of providing the infrastructure in advance of when it is needed (Slack 2002).

such as California's Proposition 13 referendum 'tax payer revolt' and rate capping in Australia. Higher levels of government have withdrawn support in response to general economic conditions, changing attitudes toward the role of government and a policy bias in favour of greater fiscal responsibility. The net effect has been a political unwillingness or inability to use national or local taxes to finance urban infrastructure (Grant 1999).

- *A shift towards the use of economic instruments* — during the same period, public policy has increasingly embraced solutions based on economic incentives. Instruments such as user-pay or beneficiary-pay charges have been favoured as a method of influencing development decisions and promoting efficient investment — as well as being a way of recovering infrastructure costs.²

These responses by governments have shifted part or all of the costs of development infrastructure to the private sector through development contributions and other mechanisms.³

Data on the level of, and trends in, development contributions are not readily available for Australia.⁴ According to published financial reports, NSW local governments received at least \$232 million in development contributions in 2005-06.⁵ Accumulated (unspent) contributions amounted to more than \$1.1 billion at the end of that year. The reliance on contributions varied significantly across councils. For example, the largest ten recipients accounted for 41.7 per cent (\$97 million) of contributions received by all 152 NSW local governments in that year (table 7.1).

Similar estimates for Victoria reveal that local governments in that State received around \$454 million in development contributions in 2005-06. The uptake of

² The users and beneficiaries of public infrastructure are not always the same. A landowner can benefit from proximity to public infrastructure — through higher land values for example — without actually using that infrastructure (Bell et al. 2005).

³ Useful overviews of developments are available for Canada (Kitchen 2004b; Slack 2002), the United Kingdom (Grant 1999) and the United States (Mullen 2007a; Galardi 2003).

⁴ Data compiled for official collections by the Australian Bureau of Statistics, or state and federal grants commissions typically group development contributions with other revenue such as statutory fees, other contributions (from higher levels of government) and donations.

⁵ This estimate is based on accounting *Note 17 — Statement of Contribution Plans* reported in local governments' general purpose financial reports in 2005-06. However, the treatment of 'in-kind' contributions (contributed assets) varies among local governments' financial statements. An additional \$113 million of 'in-kind' contributions can be identified under the 'non-cash financing and investment activities' entry of accounting *Note 11 — Note to the Statement of Cash flows*. Local governments in New South Wales also receive contributions in relation to their water and sewerage business activities. These amounts are not included in accounting note 17 or the above estimates.

development contributions is mainly concentrated in the high-growth regions, with the ten largest recipients accounting for 69.6 per cent (\$316 million) of contributions received by all 80 local governments in that year. However, these data are less reliable than for New South Wales and should be interpreted with care (see table 7.1, note d).

Table 7.1 Development contributions received by NSW and Victorian local governments, 2005-06 (\$million)

Local governments	Total revenue ^a	Open bal. ^b	Contributions received			Interest earned	Spent during year	Close bal. ^b
			Cash	In-kind	Total			
New South Wales' 10 largest recipients ^c								
Liverpool	136.0	61.2	21.5	–	21.5	4.8	20.0	67.5
Blacktown	212.2	49.2	10.1	1.3	11.4	3.0	10.6	51.7
Lake Macquarie	151.2	20.7	6.2	5.0	11.3	1.2	7.1	21.1
Wyong	172.6	68.2	9.3	–	9.3	3.8	27.3	54.0
Ku-ring-gai	82.9	11.2	9.1	–	9.1	1.0	0.1	21.2
Sydney	394.6	28.0	8.9	–	8.9	1.8	12.2	26.5
Baulkham Hills	99.4	47.6	8.0	–	8.0	2.3	19.2	38.7
Randwick	93.6	9.7	1.0	5.1	6.1	0.6	5.6	5.8
Shoalhaven	160.9	16.6	6.0	–	6.0	1.1	4.6	19.1
Coffs Harbour	105.8	15.9	5.5	–	5.5	0.9	4.3	18.0
<i>Total 10 largest</i>	<i>1 609.2</i>	<i>328.5</i>	<i>85.7</i>	<i>11.3</i>	<i>97.0</i>	<i>20.5</i>	<i>110.9</i>	<i>323.8</i>
Other	5 663.3	813.7	125.3	10.1	135.5	45.7	182.9	801.8
All	7 272.4	1 142.2	211.0	21.5	232.5	66.2	293.8	1 125.6
Victoria's 10 largest recipients ^d								
Whittlesea	164.1	na	na	na	73.4	na	na	na
Casey	177.6	na	6.5	42.3	48.8	na	na	na
Wyndham	136.2	na	8.9	36.3	45.2	na	na	na
Hume	152.2	na	0.8	30.4	31.2	na	na	na
Brimbank	131.0	na	1.1	24.8	25.9	na	na	na
Melton	82.9	na	2.1	21.3	23.5	na	na	na
Monash	118.1	na	2.9	15.0	17.9	na	na	na
Cardinia	61.1	na	2.5	14.8	17.3	na	na	na
Frankston	997.0	na	1.5	15.1	16.6	na	na	na
Bendigo	105.5	na	2.7	13.8	16.5	na	na	na
<i>Total 10 largest</i>	<i>1 228.4</i>	<i>na</i>	<i>29.1</i>	<i>287.2</i>	<i>316.3</i>	<i>na</i>	<i>na</i>	<i>na</i>
Other	3 880.2	na	34.7	77.3	138.2	na	na	na
All	5 108.7	na	63.8	364.5	454.4	na	na	na

^a Revenue from continuing operations. ^b 'Open' and 'close' balances relate to unspent contributions held as restricted assets. ^c Based on accounting Note 17 — *Statement of Contributions Plans*. Excludes contributions made to water and sewerage services operated by local governments. Also excludes \$113 million of 'in-kind' contributions recorded under accounting Note 11 — *Note to the Statement of Cash flows* but not recorded under note 17. ^d Based on published financial reports. Victorian local governments are not required to provide an equivalent of the NSW Note 17 disclosure in their financial reports. Consequently, estimates of contributions based on published reports require a greater level of subjective judgement, or they could include non-development contributions. – Zero or rounded to zero. **na** Not available.

Source: Local Government 2005-06 *General Purpose Financial Statements* (various).

Development contributions

In Australian States and Territories, developers contribute to the provision of basic infrastructure as a condition of receiving a planning approval (box 7.2). At a minimum, developers are required to contribute to the basic ‘private’ infrastructure that connects individual development lots to road (including footpaths and nature strips), communication, energy and hydraulic services.

Box 7.2 What are development contributions?

Development contributions are legally enforceable up-front contributions towards the cost of new or upgraded infrastructure required as a direct result of a new development. They usually take three forms:

- *transfer of land* — land ceded or ‘gifted’ to the government by the developer for roads, public open space, primary school sites, drainage and other reserves.
- *work-in-kind* — infrastructure works and facilities constructed by developers and subsequently transferred to public authorities on completion.
- *monetary charges* — monetary contributions towards the cost of acquiring land for public use, or providing infrastructure by public authorities or others.

Legislative authority

The power to mandate contributions varies considerably, reflecting differences in the enabling legislation. The legislative frameworks that bestow these powers generally embody the principles and objectives of the systems, the types of contributions that can be required and the scope of infrastructure for which contributions can be levied. For example:

- *New South Wales* — Sections 94 to s.94EC of the *Environmental Planning and Assessment Act 1979* and s.64 of the *Local Government Act 1993* bestow authority on local councils to mandate local infrastructure contributions.⁶ Following a review in 1993, local councils are required to have a development contribution plan in place as a prerequisite for levying development charges.

On 12 October 2007, the NSW Premier announced further reforms aimed at making development contributions more consistent, certain and transparent. A key change is that contributions are explicitly restricted to infrastructure and

⁶ Sections 94ED to s.94EH of the *Environmental Planning and Assessment Act 1979* also enable the Minister for Infrastructure Planning and Natural Resources to declare ‘growth centres’ as ‘special contributions areas’, and impose ‘special development contributions’ as a condition of development consent.

land requirements to support land developments (rather than infrastructure requirements driven by population growth). Other changes, including the framework for setting contributions and administering funds, are detailed in NSW Department of Planning circular PS 07-018 (NSWDP 2007).

- *Victoria* — Part 3B of the *Planning and Environment Act 1987*, as amended by the *Planning and Environment (Development Contributions) Act 1995* and the *Planning and Environment (Development Contributions) Act 2004*, provides local councils with the authority to specify contributions on the basis of development contribution plans, conditions on planning permits, or voluntary agreements between councils and developers.
- *Queensland* — The *Integrated Planning Act 1997*, as amended by the *Integrated Planning and Other Legislation Amendment Act 2003*, enables local councils to require development contributions for ‘development’ infrastructure.⁷ The basis for charges is a priority infrastructure plan which identifies an infrastructure charges schedule for eligible development contributions. This plan also outlines the anticipated infrastructure needs for the community as a whole.
- *Western Australia* — The *Town Planning and Development Act 1928* allows government to require contributions for on-site physical infrastructure and the ceding of land for primary schools and open space. The scope of contributions is guided by Western Australian Planning Commission policies.
- *South Australia* — Development contributions in South Australia are dictated by the *Development Act 1993* and the *Local Government Act 1999*. The *Development Act 1993* allows councils to require basic subdivision infrastructure (access roads, hydraulic connections) and the dedication of open space (s.50A). Section 146 of the *Local Government Act 1999* allows the levying of separate rates, service rates and service charges which can be used as indirect development charges.
- *Tasmania* — Part 5 of the *Land Use and Approvals Act 1993* allows planning authorities (the local council) to ‘negotiate’ agreements with developers that specify development contributions for infrastructure as a condition of a permit, a planning scheme provision or a special planning order (s.73A). Section 70 of the Act defines infrastructure as the ‘... services, facilities, works and other uses and developments which provide the basis for meeting economic, social and environmental needs’.
- *Australian Capital Territory* — Although there is no statutory power to specify development contributions, s.184A of the *Land (Planning and Environment) Act*

⁷ The Act defines development infrastructure as the land or work-in-kind, or both land and work-in-kind, that provide hydraulic (including water supply, sewerage, drainage, water quality), transport and local community services, predominantly in the local area (DLGPSR 2004).

1991 provides for the levying of a ‘change of use charge’ (CUC) for any variation of a Crown Lease that increases the value of the lease.⁸ Developers can also be asked to provide infrastructure as a condition of the initial release of land under a Crown Lease with the cost of that infrastructure being offset against the amount paid to government for the lease (ACT Government 2007).

- *Northern Territory* — Part 6 of the *Planning Act* allows a local service authority (a local council) to make a contribution plan which mandates contributions towards infrastructure external to the development as a condition of a development permit.⁹ As at September 2007, car parking, roads and drainage were the only infrastructure for which authorities could demand contributions.

Principles underlying development contributions

The NSW, Victorian and Queensland systems are similar to those in the United States (box 7.3) and the United Kingdom (box 7.4) in that development contributions must satisfy explicit criteria.¹⁰ Although the language varies in the legislation, each system requires formal development plans that meet standards of *reasonableness* and *accountability*.¹¹

Reasonableness

Reasonableness encompasses the broad concepts of fairness, equity, sound judgement and moderation.¹² Two of the key principles underlying reasonableness

⁸ The CUC, which is effectively a ‘betterment tax’, is generally assessed at 75 per cent of the increase in value from a variation of a lease and aims to ‘... give back to the community some or all of the added value of your lease that results from the change to your lease’ (ACT-PLA 2007, p. 1). Monies collected through the CUC go into consolidated revenue rather than a separate infrastructure fund (ACT Government 2007).

⁹ Part 6 of the *Planning Act* also allows NT PowerWater to make a contribution plan that requires land owners to make a contribution for connections to hydraulic and energy services.

¹⁰ The Western Australia Planning Commission Planning Bulletin No. 18 — which provides guidance on the application of development contributions in Western Australia — contains similar principles (WAPC 1997).

¹¹ In both New South Wales and Victoria, a development contributions plan must be in place before contributions can be levied (DIPNR 2005; DSE 2003). In Queensland, a priority infrastructure plan with an infrastructure charges schedule must be in place before contributions can be levied (DLGPSR 2004).

¹² The Western Australian Planning Commission cautioned that in the NSW context, it is the local council which ultimately determines whether the contribution plan is reasonable (WAPAC 2004).

Box 7.3 Impact fees in the United States

Until 1987, impact fees (as development contributions are known in the United States) were based on local governments' 'police power' functions, with the courts playing an important role in determining guidelines for constitutionally valid impact fees. In 1987, Texas enacted the first impact-fee-specific enabling legislation. By 2007, 27 states had enabling legislation for impact fees. These Acts have tended to embody the standards and guidelines developed through case law (Mullen 2007b).

Dual rationale nexus established in case law

The guiding principles underpinning impact fees in the United States have been heavily influenced by legal challenges based on the 5th Amendment prohibition against 'taxation without just compensation'. Principles established in case law — and mirrored in state legislation — require that a 'dual rational nexus' be established between charges (or exactions) and the development. In particular, it must be shown that both:

- the new development will cause an impact on the community
- the impact fees must be used to mitigate that impact, and no more.

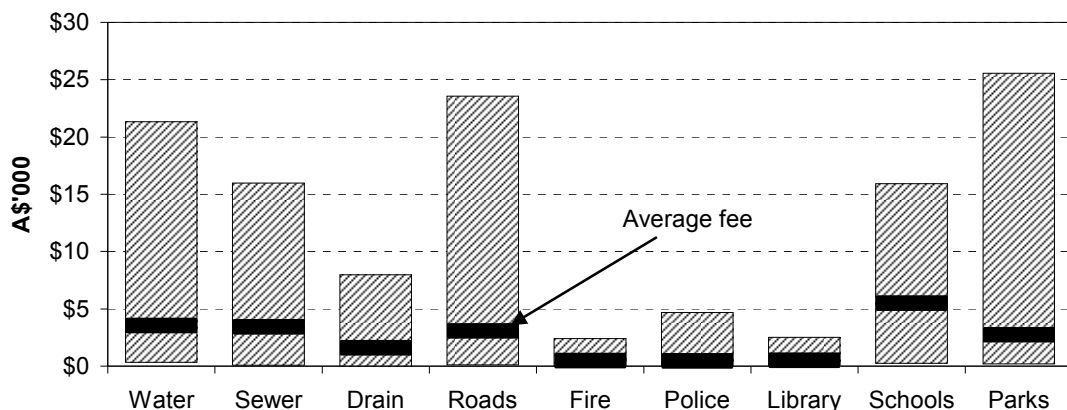
The second point is generally interpreted as also meaning that new developments should not be charged twice for the same infrastructure. Twenty-four state Acts provide for construction credits as in-kind contributions, and 16 state Acts provide for revenue credits to offset future property taxes that will be paid by the development. Six state Acts allow revenue credits for past property taxes (Mullen 2007a).

Eligible facilities and indicative fee level

Although most enabling Acts restrict the types of infrastructure for which fees can be imposed, the range of eligible facilities and services is typically much wider than in Australia. They include for example, fire, police and school services.

Total impact fees for a A\$265 000 20-square house in the surveyed jurisdictions ranged between A\$700 and A\$90 000 in 2006 (Mullen 2007b). The figure below also illustrates the considerable variation in impact fees for different infrastructure classes.

Range of US impact fees by type of infrastructure for a 20-square house, 2006



US dollars converted based on a 12-month average of the daily A\$/US\$ exchange rate.

Sources: Galardi (2003); Mullen (2007a, 2007b); RBA (2007a).

Box 7.4 Planning obligations in the United Kingdom

Planning obligations (as development contributions are known in the United Kingdom) are conditions of planning agreements negotiated as part of a developer's application for planning permission under section 106 of the *Town and Country Planning Act 1990* as amended by the *Planning and Compensation Act 1991*.

Capturing planning gain for the community

The UK system has many similarities with those in Australia and the United States in terms of the need to demonstrate *reasonableness* and *accountability* links between the obligations and documented planning objectives. However, the objectives of the planning system are much broader than in Australia. Circular 05/05 guidelines define the principal objectives of the planning system as being to:

... deliver sustainable development, through which key government social, environmental and economic objectives are achieved. (ODPM 2005, p. 9)

This provides local planning authorities with significant discretion with regard to the obligations that can be included in s.106 agreements. Recent trends suggest that the UK system places a greater emphasis on capturing 'planning gain'^a for public objectives, than on pursuing beneficiary-pays objectives.

Since the 1990s, the use of planning obligations has shifted away from financing narrowly defined off-site infrastructure (such as access roads), toward financing infrastructure and services that provide broader community benefits — the most notable being 'affordable housing'. A survey of s.106 agreements in 2003-04 found that affordable housing accounted for 63 per cent (£1.2 billion) of the £1.9 billion planning obligations contained in agreements (DCLG 2006b).

Negotiation and uncertainty

Although supported by government guidelines, planning obligation agreements in the United Kingdom are fully negotiated. One of the key advantages is that it provides a significant amount of flexibility to tailor obligations to different development situations. However, negotiated agreements are resource intensive, often lack transparency, require expertise, and can influence accountability, cost and the ultimate incidence of planning obligation contributions.

For example, Circular 05/05 guidelines explicitly state that '... planning permission may not be bought or sold ... [and that] ... planning obligations should never be ... a means for securing a betterment levy' (ODPM 2005, p. 10). However, anecdotal evidence suggests that the negotiation basis of the system might lead to divergence between intent and practice. Similarly, negotiated outcomes can introduce uncertainty and significant delays for developers.^b This influences development costs and the incidence of planning obligation contributions.^c

^a Planning gain is the increase in land value attributable to the granting of planning permission. ^b Around 45 per cent of planning permission applications took longer than six months to complete in 2004 (Barker 2006). ^c Systems designed to capture planning gain should shift planning obligation costs to the original owner of the land (Grant 1999).

Sources: Barker (2006); DCLG (2006a, 2006b); Grant (1999); ODPM (2005).

are nexus and apportionment:

- *Nexus* — formal development plans must demonstrate a linkage between the development and a need for increased infrastructure for which contributions are required. Nexus can be viewed from three perspectives:¹³
 - *causal nexus* — the development actually creates a need for, or increases demand for public infrastructure
 - *spatial nexus* — the public infrastructure funded by the contributions is likely to serve the needs of the development making the contributions
 - *temporal nexus* — the public infrastructure is provided within a timeframe that will benefit those who contributed towards its cost.
- *Apportionment* — apportionment encapsulates the principle that the share of new infrastructure costs recovered through contributions should be proportional to the impact on infrastructure from the new development. For example, where infrastructure (such as community centres and open spaces) provides benefits to the wider community, the new development ought not to be expected to meet the full cost of infrastructure provision. Rather, the contribution liability should be proportionate to the share of the total benefit from financed infrastructure that is received by the development. Apportionment should also take into consideration previous payments by the developer (including land, work-in-kind and funds) to the government.

Reasonableness criteria are linked with the economic concept of user charges where the contribution corresponds to the private benefit that the owners of individual developments receive from the infrastructure provided. However, contributions are redistributive and similar to a tax when contributions fund public benefits (Cox 1991; IC 1993; Neutze 1997).

Accountability

Public and financial accountability principles are designed to ensure that contributions are used for the purpose for which they were earmarked (according to work schedules in formal development plans). The process of formalising

¹³ The NSW Department of Infrastructure Planning and Natural Resources notes that the interpretation of causal, spatial and temporal nexus varies between developments and types of infrastructure (DIPNR 2005). Some infrastructure (such as parks) must be closely located geographically to provide service, while others (for example, an aquatic centre) can be located further away. Similarly, although a five-year threshold has previously been a benchmark for temporal nexus, some infrastructure might require a certain demand threshold for viability (such as a new bridge). In this context, the capacity of existing infrastructure to accommodate increased demand will influence the assessment of causal and temporal nexus.

development plans also provides for public accountability, with the public and other stakeholders able to comment and make submissions about proposed development contributions.

When governments fail to adhere consistently to these principles, uncertainty (or risk) is introduced into the financing decisions that developers make. Further, the level of infrastructure benefits capitalised into the land value will be uncertain if there is a possibility that contributions will be levied but not spent. This could reduce the willingness of developers to undertake projects and consequently limit the amount of funding that can be raised through contributions.¹⁴

Court appeals

A common characteristic of development contribution systems in Australia and overseas is the ubiquity of legal challenge. Section 97 of the NSW legislation allows developers who are dissatisfied with a contribution determination to appeal to the Land and Environment Court.

Appeals can result in significant adjustments to contribution liabilities.¹⁵ However, adherence by local governments to formal development plans results in many appeals being dismissed.¹⁶ Nevertheless, disputation contributes to higher costs and delays to development regardless of which party is successful.

Types of infrastructure eligible for contributions

In Australia, New South Wales and Victoria have the most liberal legislation, allowing contributions to be levied for a wide range of capital works associated with economic and social infrastructure (table 7.2).¹⁷ Yet these are modest when

¹⁴ The Allen Consulting Group argued that in New South Wales ‘... significant amounts of s.94 monies remain unspent or are spent on projects other than those against which they were raised’ (ACG 2003, p. 62). The Property Council of Australia estimated that in 2006 unspent development levies in Sydney amounted to \$603 million (PCA 2006, p. 1).

¹⁵ For example, in *Bennett R J and Anor v Bega Valley Shire Council [2007] NSWLEC 667*, the Court upheld the plaintiff’s argument that a cash contribution for provision of car parking was excessive (failing the ‘reasonableness’ test). As a result of the determination, the cash contribution was reduced from \$80 820 to \$24 000.

¹⁶ In *John Mariano v Mosman Council [2006] NSWLEC 271*, for example, Commissioner Watts found that contributions were consistent with the methodology in the Mosman Council’s Development Plan and dismissed the appeal.

¹⁷ Section 47L of the Victorian *Planning and Environment Act 1987* places a cap of \$900 per dwelling (or 25 per cent of the cost of non-dwelling construction) on the contributions that can be levied for ‘community’ infrastructure. Prior to 2004, this cap was \$450.

compared with some jurisdictions in Canada and the United States, and particularly with the United Kingdom where the content of negotiated planning obligations is virtually unbounded (box 7.4).¹⁸

Table 7.2 Public infrastructure eligible for mandatory contributions (excluding basic infrastructure)

	NSW ^a	Vic	Qld	WA	SA	Tas	ACT ^b	NT	US ^c	UK ^d	Can ^e
Parks	✓ ^f	✓	✓ ^f	✓ ^f	✓ ^f	✓	✓	✗	23	✓	5
Education	✓ ^e	✗	✗	✓ ^f	✗	✗	✓	✗	8	✓	1
Trunk roads	✓ ^g	✓ ^g	✓ ^g	✓ ^g	✓ ^g	✓	✓	✓	27	✓	8 ^h
Public transport	✓ ^f	✓	✗	✗	✗	✗	✓	✗	✗	✓	2
Child care centres	✓ ⁱ	✓ ^j	✗	✗	✗	✗	✓	✗	✗	✓	2
Libraries	✓ ⁱ	✓ ^j	✗	✗	✗	✗	✓	✗	12	✓	1
Community centres	✓ ⁱ	✓ ^j	✗	✗	✗	✗	✓	✗	✗	✓	na
Recreation facilities	✓ ⁱ	✓ ^j	✗	✗	✗	✗	✓	✗	✗	✓	3
Sports grounds	✓ ⁱ	✓ ^j	✗	✗	✗	✗	✓	✗	✗	✓	na
Protection	✗	✗	✗	✗	✗	✗	✓	✗	20	✗	1
Housing	✓	✗	✗	✗	✗	✗	✓	✗	✗	✓	2

^a Relates to infrastructure eligible for local infrastructure contributions mandated under s.94 to s.94EH of the *NSW Environmental Planning and Assessment Act 1979* and includes proposed changes announced by the NSW Premier on 12 October 2007. Under these reforms, mandatory contributions will be limited to the infrastructure and land directly required to support land developments (NSWDP 2007). ^b Contributions generated by the ACT change of use charge flow into consolidated revenue and can be used to finance any government objective. ^c Based on a survey of 27 states in the United States (excluding data for counties in Arizona). An entry of 23 should be interpreted as the legislation for 23 of the 27 states allowed development contributions for this type of infrastructure (Mullen 2007, table 3). ^d The UK planning obligations systems are not prescriptive with regards to the types of infrastructure against which contributions can be levied. However, these must satisfy nexus guidelines and are subject to appeal. ^e Based on a survey of nine Canadian cities (Toronto, Vancouver, Surrey, Saskatoon, Calgary, Edmonton, Halifax, Winnipeg and Montreal) in 2006. An entry of five should be interpreted as five of the nine cities allowed development contributions for this type of infrastructure. It should be noted that Montreal does not allow contributions for any of the listed infrastructure types, and Toronto allows contributions for all (Binning 2006). ^f Dedication of land only. ^g Within the sub-division. ^h Eight of the surveyed Canadian cities allowed contributions for local roads and seven allowed contributions for major roads. ⁱ Restricted to infrastructure that services the development site or precinct. ^j In Victoria, contributions for community infrastructure are capped at \$900 (*Planning and Environment (Development Contributions) Act 2004*). **na** Not available.

Sources: Binning (2006); Mullen (2007b); NSWDP (2007); WAPAC (2004).

Negotiated agreements

Negotiated contributions — such as those in New South Wales (box 7.5) — allow planning authorities to extend the range of infrastructure for which contributions can be levied. The Ellenbrook development in the WA Shire of Swan is an example

¹⁸ In practice, judicial appeal has constrained obligations to those that reasonably relate to the development (Cox 1991).

of such an agreement. This agreement provided for contributions by the developer towards:

... the advancement of key infrastructure and sharing of costs for community facilities and public transport. (WAPC 1997, p. 5)

The Western Australia Planning Commission observes that:

... developers may be willing to enter into arrangements with local governments to provide facilities and services in excess of the normal requirements in order to promote the marketing of the development. (WAPC 1997, p. 5)

Box 7.5 Section 93F planning agreements in New South Wales

Section 93F of the *Environmental Planning and Assessment Act 1979* allows one or more planning authorities to negotiate a voluntary agreement with a developer who has submitted a development or rezoning application. Under the conditions of the agreement, developers can be required to make a contribution of land, money or works towards a public purpose which can include (but is not limited to) the:

- provision of (or cost of providing) public amenities or public services, affordable housing, and transport or other infrastructure relating to land
- funding of recurrent expenditure relating to the provision of public amenities or public services, affordable housing or transport or other infrastructure
- monitoring of the planning impacts of development
- conservation or enhancement of the natural environment.

There is no limit to the value of contributions that can be negotiated under a s.93F agreement, and these can be additional or instead of the s.94 contributions or s.94A levies. Unlike s.94 contributions, there is no requirement to establish a nexus between the contribution and the development (s.93F(4)), and there is no right of appeal (s.93J).

Reforms to development contribution legislation in NSW announced on 12 October 2007 include a proposal to limit the scope of infrastructure eligible for contributions under voluntary planning agreements. For example, s.919 of the exposure draft states that a voluntary agreement will only be able to include contributions for:

- a) key community infrastructure — infrastructure prescribed by the regulations as key community infrastructure or
- b) additional community infrastructure — other community infrastructure that the Minister has approved for voluntary contributions.

Source: Environmental Planning and Assessment Act 1979; Environmental Planning and Assessment Amendment Bill 2008 (exposure draft, 2 April 2008).

Negotiated agreements have a number of strengths and weaknesses (box 7.6). Some of the weaknesses are illustrated by an analysis of development contribution practice in South Australia by Kellogg Brown and Root Pty Ltd which found that it:

... is a common practice for a local authority to negotiate with the developer the possible inclusion of contributions to cover perceived external cost. It is apparent that the success of these negotiations to provide the necessary infrastructure is dependent on the negotiating skills of all parties. There is anecdotal information that indicates that elements of bluff, the use of process and legislative ‘blockers’ and the costs of delay are factors that are sometimes brought to bear on the negotiation process. This is not fulfilling the objectives of transparency and equity. (KBR 2006, p. 4-10)

Box 7.6 Advantages and disadvantages of negotiated contributions

A key distinction among development contributions systems is the degree to which contributions are prescribed or open to negotiation. Negotiated contributions have a number of advantages:

- *flexibility* — negotiated contributions are flexible and can be adapted to the circumstances of the particular development
- *voluntary* — negotiated contributions are legally enforceable agreements which are entered into ‘voluntarily’, removing them from the risk of political or legal challenge
- *certainty* — agreements can be made enforceable against local government by state statute, exempting the development from future claims for contributions.

Negotiated contributions can also have disadvantages:

- *increased cost uncertainty* — negotiation can lead to uncertainty regarding the cost (contributions) for developers and local government because the outcome depends on the relative skills and bargaining positions of the participants
- *reduced transparency and accountability* — negotiations can exclude stakeholders with a legitimate interest in the development
- *does not ensure a nexus* — the willingness of developers to enter into voluntary agreements is likely to be more closely related to their ability to shift the costs (or their willingness to accept lower profits), than to any linkage between the developments and the infrastructure financed by the contributions
- *increased transaction costs* — costs to the developer and local planning authority can be high in terms of effort and delays. There can also be costs to society if local planning authorities misuse planning permission as a bargaining, rather than compliance, tool.

Sources: Cox (1991); KBR (2006); ODPM (2005).

Anecdotal evidence suggests that some councils use negotiated contributions — or a negotiated exemption from contributions — to promote development by shifting the costs of development onto existing rate payers.

7.2 Policy issues

Although contributions have been in use in developed countries for many decades, there are a number of policy issues that attract debate as contribution systems continue to evolve. The most common of these is the impact of contributions on housing affordability, particularly for low income and first home buyers. The second ‘group’ of issues is associated with the complexities of implementing these systems.

Who bears the cost and how does this affect housing affordability?

The debate surrounding development contributions and housing affordability relates to who bears the burden of contributions (landowners, developers or consumers), and how this affects housing affordability.

What drives house prices?

An understanding of the drivers of house prices is an important prerequisite to assessing the incidence of development charges (box 7.7) and their impact on housing affordability.

- *Development charges are a material proportion of the cost of bringing a new house to the market* — the Productivity Commission noted that infrastructure charges were one of several key factors contributing to the development cost of new residential constructions in Australia (PC 2004c). In a case study of new house cost components for Penrith (Sydney) and Wyndham (Melbourne), economic and social infrastructure charges accounted for up to 15 per cent of the cost of bringing a new house to market (PC 2004c, p. 160).¹⁹
- *Markets determine prices* — market forces of supply and demand determine selling prices. Ultimately the relative elasticities of demand and supply for

¹⁹ Not all of these charges would be captured by development contributions. For example, the Penrith estimate included costs associated with electricity and telecommunications connections as well as the proportion of s.94 contributions applying to economic and social infrastructure for Penrith.

Box 7.7 The incidence of development contributions

The impact of a development contribution on supply and demand is similar to that of an excise tax except that the infrastructure financed by contributions provides benefits to homeowners.^a As Ihlanfeldt and Shaughnessy (2002) note, the effect on house and undeveloped land prices, and the incidence of the contributions will depend on the relationship between the contribution rate and capitalised benefit:

- *Contribution equals benefit* — neither the developer nor the homebuyer bears any net burden. The contribution is fully passed on to the homebuyer in the form of a higher housing price. Although the incidence falls on homebuyers, this does not represent an additional burden. This is the theoretical objective of the nexus criteria.
- *Contribution is greater than benefit* — homebuyers will not be willing to accept the full pass forward of contributions in the form of higher prices. Developers have to ‘pass-back’ the gap between the contribution and benefit to the owners of undeveloped land in the form of lower land prices in order to achieve normal profits.
- *Contribution is less than benefit* — homebuyers are willing to pay more than the full contribution in the form of higher prices. Under this case, there is scope for the price of undeveloped land to increase by the gap between the contribution and benefit.

Analysis of the incidence of development contributions is further complicated by the effect of higher house and land prices on transaction costs (stamp duties) and value based property taxes and rates. Changes in policy which replace infrastructure subsidies (which are implicit when financing infrastructure from broad-based taxes) with contributions can also complicate the analysis (PC 2004c).

The empirical literature on the incidence of development contributions is inconclusive. Two recent surveys of the empirical literature in the United States, for example, did not reveal a consensus on the incidence of contributions (Been 2005; Ihlanfeldt and Shaughnessy 2002). The lack of consensus was attributed to problems with identifying variables that describe quality and other market differences, as well as technical and theoretical approaches.

^a The benefits financed by an excise tax — unless specifically hypothecated — are more likely to be spread broadly across the community.

Sources: Been (2005); Ihlanfeldt and Shaughnessy (2002); PC (2004c)

undeveloped land and for housing — that is, the sensitivity of buyers and sellers to price — will determine house prices.²⁰

- *Infrastructure adds value to land* — the value of serviced land will increase where the infrastructure financed by development contributions provides

²⁰ Predictability of development charges is critical in determining the degree to which contributions can be passed back to the owners of undeveloped land. While the formal development contribution plans in New South Wales, Victoria and Queensland facilitate pass-back, this is more difficult in the other jurisdictions which rely heavily on negotiation for contributions for other than basic infrastructure.

benefits to the land in question. If the ‘apportionment’ principle is applied such that contributions are equal to the benefit derived, the increase in land value should approximate the amount of the contribution.²¹

However, as Been (2005) pointed out, when development contributions:

... don’t provide infrastructure or financing advantages worth their costs, or when competition from other jurisdictions allows consumers to obtain the same value for less money, impact fees can be analogized to a one-time excise tax that produces no benefits to the taxpayer. In that case, the fee will increase the price of housing either directly or indirectly, depending upon whether the consumer, the developer, or the developer’s factors of production, such as the landowner, bears the cost of the impact fee. (p. 14)

- Where development contributions are not able to be passed forward, they cease to be a user pays or a beneficiary pays charge. Under this scenario, legislative criteria such as apportionment and nexus become irrelevant. In such cases, the developer will usually shift the charge back to the owners of undeveloped land. Where they add to the cost base for the developer, the contributions will form part of a price floor below which it is uneconomic for the developer to produce newly serviced residential and commercial lots.

There is no empirical evidence of a strong linkage between development contributions and housing prices when alternative options for funding the same level of infrastructure are considered. For example, Been (2005), commenting on the US literature, noted that:

... the existing literature does not yet establish that impact fees raise the net price of housing — the price after off-setting benefits such as amenities or savings on alternative financing mechanisms are accounted for. ... Impact fees can [also] be used to correct the myriad of market failures that have allowed inefficient development to harm the natural and built environments of our communities, often at taxpayer expense. (p. 35)

What does this mean for affordability?

Higher house prices affect affordability in two ways, *ceteris paribus*.

- *The ‘principal gap’* — Prospective home buyers must save, or otherwise acquire the initial capital that is necessary to cover transactions costs (such as stamp duties), and to meet the minimum equity levels required by lending institutions. The amount of initial capital required is larger for higher priced houses.

²¹ Development contributions shift the burden of financing new infrastructure from the community at large to the owners of developable land, developers, or buyers of new homes — the beneficiaries. (Dollery 2005).

Affordability decreases as the gap between required capital and available capital widens.

More recently, financial institutions have relaxed equity level criteria. This has allowed some homebuyers to fully leverage a property, and in some circumstances the associated transaction costs. However, such approaches result in larger mortgages (and period repayments) and typically require mortgage insurance that is added to the total mortgage debt.

- *The ‘repayment gap’* — Individuals and households must meet mortgage and all other payments from the households’ disposable income or other available wealth. The literature suggests that a repayment level of between 25 and 30 per cent of total income is a sustainable benchmark for expenditure on housing costs (Burke 2003, NHS 1991). Affordability decreases as the gap between mortgage repayments and the proxy benchmark for disposable income widens.

Higher house prices that result in larger mortgages will widen the repayment gap (or lengthen the term of the loan). However, this gap can also increase for a number of other factors that either increase other demands on disposable income, or reduce the level of disposable income. For example, higher interest rates, price rises in other necessities (such as petrol or food), or changing work circumstances of homebuyers (withdrawal of one or more partner(s) from the workforce).²²

Development contributions might increase up-front housing costs (widening the principal gap), but they also can lower future user charges — reducing the call upon disposable income. How this affects individual home buyers’ access to finance depends on the borrowing criteria applied by lending institutions (PC 2004c). Ultimately, there will always be some prospective home buyers without access to sufficient financial resources to enter the market.

The Productivity Commission concluded in its *First Home Ownership* report that the greater use of up-front development contributions is:

... unlikely to have any substantial effect on housing affordability, irrespective of whether infrastructure was previously subsidised. (PC 2004c, p. 165)

Development contributions also have the effect of removing cross-subsidisation that exists where infrastructure costs are spread across the community (through rates), thus lowering the cost of home ownership for existing home owners and purchasers.

²² It should be acknowledged that not all households committing a large proportion of their income to repayments are necessarily experiencing ‘mortgage stress’. Some homebuyers — especially those on higher incomes — may voluntarily commit a large proportion of income to repayments.

Similarly, Been (2005) cautions that development contributions:

... can be abused, either to exclude low- and moderate-income residents or people of colour from communities, or to exploit new homebuyers, who have no vote in the community. They also can be unfair to those caught in the transition from other forms of infrastructure finance. (p. 35)

Development contributions can also affect housing affordability for renters. In the United Kingdom, for example, the impact of new development on the price of the existing housing stock, and consequently on affordability of rental properties to low-income groups, has been used as justification for the extensive use of planning obligations to contribute to ‘affordable housing’ (box 7.4).

Implementation issues

Dollery (2005) noted that, under ideal circumstances, development charges should possess seven attributes:

Involve full net cost recovery from the beneficiary; reflect variations in the cost of servicing different development areas; result in new developments meeting the cost, but no more, of the services provided through developer charges; cover infrastructure expenditures which can be clearly linked to the development and be reliably forecast; include ancillary costs; be applied to existing and fringe areas alike; and be calculated in a transparent manner so that developers can understand and assess the calculated charges. (p. 3)

In practice, the implementation of development contributions systems raises a number of policy concerns.²³ Dollery (2005) provides a useful overview of the more common implementation issues, which include the:

- trade-off between transparency and sophistication of contributions systems
- avoidance of double-dipping or overcharging
- resolution of competing interests concerning infrastructure quality.

Trade-off between transparency and sophistication

The theoretically ideal development contribution requires a detailed calculation of benefits and costs on a development-by-development basis (McNeill and Dollery 2003). This reduces transparency and increases administrative costs and

²³ For empirical studies on the particular policy challenges facing development contribution systems for water and sewerage, and road provision in New South Wales see McNeill and Dollery (2000a) and McNeill and Dollery (2000b) respectively.

uncertainty because of the complexity involved.²⁴ For example, Dollery (2005) noted that developers have argued that:

... the s.94 levy system in New South Wales has ‘major weaknesses’; ‘it is potentially open-ended and it lacks sufficient checks and balances’ and thus is ‘liable to abuse’, but that ‘these are not irresolvable problems in themselves’. (p. 6)

The ‘off-the-shelf’ development contributions plans recently introduced in Victoria (DSE 2003), and the ‘fixed development consent levies’ introduced by the NSW *Environmental Planning and Assessment Amendment (Development Contributions) Act 2005* are examples of reforms aimed to make the contribution systems simpler and more transparent.

‘Double-dipping’ or overcharging

A key objective of the apportionment principle as applied in the United States, and mirrored to a large extent in Australia, is that beneficiaries of infrastructure should not be required to pay more than once. In practice, this means that the owners of land for which a contribution was levied should not then be asked to meet the capital cost from local government rates, levies and other charges.

Although some systems explicitly take future revenue impacts into account, it can be difficult to have regard for all the possible impacts of new developments on government revenue. As the Allen Consulting Group noted, urban development generates a range of revenues for governments, including:

... taxes and other charges into general public revenue, at all levels of government: Federal (GST, general taxes on employment, income and economic activity), State (land tax, stamp duty, other fees, GST at some stage in the future), and Local (higher rate revenue). (ACG 2003, p. 66)

Divergent incentives on infrastructure quality (the ‘gold plating’ incentive)

In general, development contributions in Australia cannot be levied for maintenance or operating costs.²⁵ Developers have an incentive to provide infrastructure that is either highly marketable and easily recovered from home buyers, or low in initial up-front cost if the charges cannot be passed on. In either case, ongoing maintenance or operating costs could be higher than optimal.

²⁴ In this context, transparency refers to the ease with which the operation of system and methodology for calculating contributions can accessed and understood.

²⁵ The exception in Australia is the s.94 road maintenance contribution. In the United Kingdom, planning obligations can be required for a wider range of ongoing maintenance contributions.

Local planning authorities, on the other hand, have incentives to minimise future maintenance and replacement costs, and to make up for inadequate past investment. This can have two consequences. First, they could seek to over-design (‘gold plate’) infrastructure requirements. Second, they could resist infrastructure investments that impose future costs. For example, ‘no-frills’ parks have lower ongoing costs than a park with play equipment or skateboard facilities. Local authorities could prefer the ‘no-frills’ facility even where contributions finance the initial investment.

7.3 Strengths and weaknesses

Development contributions have a long history of use in Australia and overseas, and are generally more politically acceptable than higher rates or taxes as a way of financing new, mainly urban, infrastructure. Opp (2007), commenting on impact fees in the United States, observed that:

The most obvious benefit of impact fees is the revenue-raising capability. Rather than relying heavily on property taxes, which may already be high and/or capped by the state government, a local government is able to diversify its revenue stream through this alternative source. Often these impact fees are more popular with elected officials who find the general population discontent with the perceived inequity associated with paying the costs for new development. Furthermore, impact fees are imposed upon future voters — not current ones — something of interest to many policymakers looking at re-election prospects. (p. 3)

Although development contributions are primarily a funding vehicle, they have broader impacts on economic efficiency — particularly in terms of development — and have implications for social objectives such as equity.

Development contributions as a source of funds

Whether development contributions fully cover the cost of public infrastructure projects is a funding issue. Gaps between the cost of the infrastructure required and the development contributions must be funded by government. The size of the gaps depends largely on the character of the infrastructure concerned and the flexibility of the individual contribution system.

Types of infrastructure that can be funded

In most Australian jurisdictions, the range of infrastructure subject to mandated contributions is limited to basic development infrastructure that provides services to individual developments and home sites. These are the types of infrastructure for which beneficiary charging is well suited (Neutze 1997).

Although all jurisdictions have the scope for planning authorities to enter negotiated agreements for contributions for a broader range of infrastructure, transaction costs can be high and outcomes uncertain. At the extreme, it is possible for local planning authorities to ‘sterilise’ local development land (make it uneconomic to develop) by shifting too much of the cost to the new development.

Contributions cannot be used to finance all types of infrastructure that urban communities demand. Bankstown City Council, commenting on the application of NSW development contributions in low-growth regions, noted that:

Although development and limited population growth creates some need for additional infrastructure in the City, the overwhelming challenge facing Bankstown is the need to fund the maintenance and/or replacement of ageing infrastructure. Most of this existing infrastructure was developed prior to the advent of developer contributions. Current Section 94 Contribution arrangements do not adequately assist Bankstown in meeting the financial challenge of maintaining appropriate infrastructure for residents. (BCC 2007, p. 10)

Funding for infrastructure that does not fall within the mandate of development contribution systems must be provided from other sources.

Level of funding

Where costs of infrastructure are fully apportioned to the development in question, development contributions fund the full cost of the infrastructure. This is generally easier to justify where specific beneficiaries can be identified and capital costs are easily measured (such as site reticulation or sewage services). This is more difficult to justify on nexus grounds for infrastructure that provides benefits outside the development (such as community or headworks infrastructure).

In practice, costs might not be fully covered by development contributions when the infrastructure is constructed for a number of reasons:

- *Social and headworks infrastructure costs are shared* — where the nexus tests are applied to contributions for community (such as libraries) or major headworks infrastructure (such as dams or pumping stations), financing will be less than 100 per cent.
- *Contributions are discounted to reflect future revenues* — in order to avoid double charging, contributions are sometimes discounted for the future revenues that would accrue to the council because of the development. Where this occurs, the up-front contributions will be less than the full infrastructure cost.
- *Out-of-sequence developments change the timing of infrastructure* — shared infrastructure (such as access roads, main sewer or water trunk lines) must be

installed for all developments. When land releases are developed out-of-sequence, this infrastructure will not be fully utilised — and the costs are not fully recovered from contributions — until infill has been completed. However, charges to offset the financial costs associated with out-of-sequence development have been used in some jurisdictions.²⁶

- *Governments have competing objectives* — local or higher levels of government can have objectives that might make local authorities reluctant to take advantage of development contributions, even when statutory power exists. In its submission to the Productivity Commission study on local government revenue-raising capacity, for example, the NSW branch of Local Government Managers Australia noted that:

State pressure is placed on councils to limit the amount of these charges due to housing affordability, inter-generational equity etc. (LGMA-NSW 2007, p. 4)

Similarly, the Tasmania branch of the Local Government Association suggested that for some councils, particularly in low-growth regions, competition for development projects could make local authorities reluctant to use development contributions even where the mandate exists (LGAT 2007).

Where development contributions do not cover the full cost of the infrastructure, the ‘gap’ has to be funded from other sources.

Timing

Most development-specific infrastructure is required at the time of development. However, shared infrastructure might be necessary before or after the individual development is completed.

Development-specific infrastructure

Contributions typically coincide with planning permissions and site construction and thus provide a source of finance when infrastructure investment is required. As the Allen Consulting Group observed:

A convenient aspect of producer levies is that they can be applied when the infrastructure is needed — ie, when development is afoot. As such, they represent a source of finance that is generally likely to move in concert with the demand for added infrastructure. (ACG 2003, p. 68)

²⁶ In Victoria, for example, guidelines made under the *Water Industry Act 1994* allow water authorities to recoup the cost of shared infrastructure provided for out-of-sequence developments (ESC 2006).

This might be an advantage where alternate sources of cash are limited (for example, constraints on rates and borrowing, or community resistance to user charges), and might make development otherwise impossible to finance by local government (Opp 2007).

A further advantage is that regardless of whether the incidence falls on the owner of undeveloped land, the developer or the home buyer, it is generally timed to occur when the equity in the land is released for transfer of ownership.

Shared infrastructure

The timing of investment in shared infrastructure is influenced by the cost of providing infrastructure in established urban areas and the lumpiness in headwork infrastructure investment.

Providing infrastructure is more costly in established areas

It is generally more efficient to provide spare capacity to shared infrastructure during initial development than to augment capacity in established areas because of:

- *Installation scale economies* — for example, it is generally cheaper to provide one pipe of 2 GL per hour capacity during initial development than two pipes of capacity 1 GL per hour capacity (regardless of when they are installed).
- *Property values in established areas* — land values in established areas will be higher than in undeveloped subdivisions. If land must be acquired, the cost of additional infrastructure will be higher.
- *Higher post-development installation costs* — disruption to existing infrastructure (such as roads, pipes and wires) can increase the cost of augmenting existing infrastructure.
- *Infrastructure construction causes disruption* — augmenting existing infrastructure, such as road widening for example, disrupts the use of existing services in established areas.

Although nexus principles generally allow government or local authorities to recover the apportioned share of this capacity from future developments, this finance will not be available at the time the investment is made.

Headwork capacity is lumpy

For major headwork infrastructure (such as dams and major trunk roads) it is necessary, or more efficient, to add to capacity in relatively large lumps than small

increments. The need for, and timing of, these expansions to capacity can be conditioned on demand reaching a trigger point some time after development. In some circumstances, shared infrastructure can be necessary before development can commence — for example, access roads.

Many systems, including the NSW s.94 contributions, allow governments to levy charges for shared infrastructure and carry those funds until investment is needed.²⁷ However, forecasts of future needs contain an inherent element of uncertainty. Changing needs and cost structures could mean that insufficient contributions are available when investment is required.

Even when costs and needs are forecast accurately, the application of apportionment principles could mean that funding from contributions would need to be supplemented from other sources.

Administrative costs

From a government perspective, the level of administrative costs will depend on the characteristics of the contribution system. Costs to government can be lower where they have substantial flexibility to mandate contributions. However, the more formal systems in Australia and overseas are typically based on some version of the nexus principles discussed earlier. Implementing these principles increases administrative costs, particularly where contributions systems are characterised by:

- *complexity* — requires complex system of standard setting and compliance evaluation
- *negotiation* — negotiation can be difficult and lengthy where the linkage between contributions and the benefit is ill-defined
- *disputation* — both in Australia and overseas, development contributions systems have been characterised by disputation and protracted legal processes.

Uncertainty, complexity and disputation also impose transaction costs on developers.

Other considerations

Development contributions systems are aimed at far more than raising funds and supplying finance when it is needed. One objective is to achieve an efficient

²⁷ Some jurisdictions in the United States allow the cost of previous infrastructure investments to be recovered through impact fees. However, the initial investment would need to have been financed from another source.

allocation of public and private resources to development that provides the greatest benefit. A second objective can be to improve the equity of the distribution of costs.

Economic efficiency

Contributions potentially provide important price signals about the costs of development. This is particularly important where failure to recognise geographic and development sequencing variations in infrastructure costs can lead to inefficient development decisions (Neutze 1997). The Allen Consulting Group provided three examples of how contribution price signals can lead to more efficient development decisions:

- Charges increase the investment that developers make when providing lots into the market. The response has been to increase the scale of developments. They also encourage developers not to hold on to land (ie. speculate).
- Developers install infrastructure services in advance of building, which costs less than subsequent installation.
- Charges discourage development in locations where service provision would be expensive by making the developers responsible for those costs. Developers have a strong incentive to focus upon lower cost areas. (ACG 2003, p. 63)

The economic efficiency benefits of price signals break down when contributions are not based on actual costs. Contributions set at a price higher than the underlying cost potentially deter development. Alternatively, if the contributions are too low, the developer will not take into account the full cost of infrastructure when making development decisions. Any shortfall in cost recovery will have to be met from other sources. Neutze (1997) cited the use of fixed-rate levies for headworks as one example where contributions would not reflect the cost differences between providing infrastructure to easy and more difficult to service areas *within* a catchment.²⁸

As discussed above, there is also divergence in the incentive between developers and planning authorities. Developers have an incentive to provide assets with minimal acceptable durability, while planning authorities have an incentive to ‘gold plate’ — that is, require infrastructure with higher engineering standards than necessary.

A further source of distortion can be introduced by constraints on the application of contributions to developments that only occur in new subdivisions. The result could

²⁸ It should be noted, however, that serious cost differences could be readily addressed by zoning. Furthermore, provided aggregate headworks charges are accurately calculated, they can convey cost signals *between* catchments.

be a preference among planning authorities for greenfield developments over urban consolidation and infill.

Equity — benefit verses ability to pay

The reasonableness and apportionment nexus principles are consistent with the ‘benefit principle’ — those who benefit from a public project should bear the cost in direct proportion to the benefit received (Kitchen and Slack 2003). The converse to this is the ‘culpability principle’ — those responsible for negative externalities (adverse impacts on the community at large) should bear the costs of mitigating the impact (Cox 1991).²⁹ Impacts fees in the United States explicitly address the negative externalities of development (Mullen 2007b).

The main criticisms of the equity of development contributions usually relate to the ‘ability to pay’ principle of public finance. Some commentators have argued that development contributions are inherently regressive because they do not take into account the financial position of individuals. For example, fixed rate contributions are applied in Victoria regardless of whether a \$100 000 or \$1 million house is built on the site. A common view is that the purchaser of the \$1 million house has a greater ability to pay. However, this argument fails to recognise that the purchaser of the more expensive home does not necessarily receive a greater service or benefit.

Key characteristics of development contributions as a source of finance

This chapter has focused on the adequacy of development contributions as a source of funding for public infrastructure. However, funding is not the same as financing.

Where the contributions are provided in-kind, the developer finances the infrastructure projects rather than the government. Like all the other costs to the developer, these costs of financing will be included in the development costs and reflected in the price of the developed land. Where in-kind contributions require further infrastructure before they can provide services (for example, where land for public parks is provided), the government faces the task of financing the required infrastructure investments. Where contributions are provided as cash, the financing task depends on the timing of these cash contributions (and any funding gap). In these situations governments have the option of financing through existing reserves or borrowing as discussed in chapters 2 and 4.

²⁹ There is also a link between benefit and culpability principle characteristics of development contributions and economic efficiency in so much as this reflects the cost of development.

The three assessment categories are still relevant in considering development contributions as a source of funding as well as finance.

Risk management — There is limited scope for using development contributions to improve the management of project risk. As discussed, developers are not responsible for the operation and hence do not have an incentive to take this into account either in the level of funding, or if they undertake construction, in this latter phase of the project's life.

Transaction costs — Negotiating development contributions can be costly as discussed above. On the positive side for governments, the availability of cash reduces the need to organise financing with consequent lower transactions costs. For the developer, the financing of the development contribution component is likely to be a small share of the total financing requirement with little if any additional transaction costs associated with financing.

Market and other disciplines — Perhaps the main advantage of development contributions is the inclusion of the infrastructure costs into the price of land, whether passed backward to the seller or forward to the buyer. This price signal improves allocative efficiency, all else equal, encouraging the development of land that is relatively lower cost to develop.