FORUM: PUBLIC SECTOR

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Land Under Roads – A Financial Bonanza or Fool's Gold?

This paper critically reviews and rejects the requirement that councils value the land under their roads and include it in their financial statements. Land under roads is a public good which does not satisfy the requirements for recognition as an asset. Moreover, it does not need to be valued financially for purposes of road management. Councils are correct in opposing the requirement of AAS 27. The inclusion of land under roads as a council asset distorts the representation of their financial position.

AAS 27 *Financial Reporting by Local Governments* (1995) states that land under roads (LUR) is an asset of local governments which should be recognised and included in their financial statements. It is claimed that land valuation information is needed to assist in decision-making about the use of such land and its efficient management, and for accountability reporting to ratepayers. The proposal has proved to be controversial, with most councils opposing it. Few councils have complied with the requirement, and the deadline for compliance has been postponed from June 1996 until June 2000.

Where councils have complied, the value assigned to LUR dominates their assets. For example, one council reported LUR of $800 million out of total assets of $1,000 million (Rowles *et al* 1998, p. 6). Inclusion of such a large new asset in the statement of financial position of councils, at no cost to them, should be a financial bonanza if their new financial statements are to be believed. There is a paradox here: why are councils not keen to take advantage of this asset bonanza which AAS 27 prescribes; or are the AAS 27 requirements unsound?

This article examines the issues underlying the paradox. First, the legal position of LUR is explained, as it has important implications for the accounting practices to be applied. The question of whether LUR is an asset of local government for which financial information is required to facilitate its efficient management is discussed against the environment in which the land is allocated. AAS 27 has encountered widespread scepticism and difficulty because it ignores a fundamental attribute of LUR: that LUR is a public good because of its externalities. The article shows why, as a consequence of the externalities and the law, LUR should not be treated as an asset of local government, why any financial values placed on LUR for use in general purpose financial reports are entirely arbitrary, and why they are not required for the existing stock of such land. A statement of financial position prepared under AAS 27 is therefore misleading as an indication of the financial condition of a council. Nevertheless it is important that councils account for the roads themselves as part of their financial operations. However this can be done without valuing LUR, though the definition of an asset needs to be modified to include the roads.

THE LAW RELATING TO LAND UNDER ROADS

The legal position with respect to roads and the land under them is governed by common law and by legislation. It is complex and varies among states. In law, a highway (or road) is a way over which every member of the public has a right to pass or repass at all times (Halsbury 1993, para. 225-1). The significant point in the definition is the public's unfettered right to use the road as a way at all times. Councils are established by legislation to exercise functions, *inter alia*, in relation to roads within a limited local area. These powers include construction, care and maintenance of public roads. Other statutory road authorities may be established with similar responsibilities over designated state highways.

As a general rule, the ownership of public roads and the land under them is vested by legislation in the Crown, in local councils or in statutory roads authorities (Halsbury 1993, para. 225-535). For example, in Victoria, the absolute property in land reserved for highways remains with the Crown; in New South Wales it is vested in councils; and in the Northern Territory the minister may vest ownership to a council on application. However, it is important to note that the vesting of roads and LUR to councils does not confer normal private property rights to them. Rather, it confers "only such functions, powers, rights and duties as specified in the empowering legislation and those incidents of ownership must be exercised for the purpose of the land's use as a public road" (Halsbury 1993, para. 225-540 and 225-545). A council holds the land for the purposes of its use as a public road. It is not a private landowner with respect to that land and it does not have the powers and rights of a private landowner to use or trade in the land. Effectively vesting relates only to using the surface of the land as a public way.

A public road can normally only be extinguished by legislation. Once a public highway is dedicated, it is done in perpetuity. At common law, the rule is: "Once a highway, always a highway" (Halsbury 1993, para. 225-1250). On closure, the ownership of LUR normally remains vested in the Crown; however, there are provisions in some states for it to remain vested in councils in some circumstances. The land cannot be sold unless this is authorised by legislation, and councils are entitled to the proceeds only if so authorised by legislation (Halsbury 1993, para. 225-1265 and notes 4-7). The conditions under which councils can benefit financially from the sale of land under former roads are therefore very restrictive.

A COUNCIL HOLDS THE LAND FOR THE PURPOSES OF ITS USE AS A PUBLIC ROAD. IT IS NOT A PRIVATE LANDOWNER WITH RESPECT TO THAT LAND

LAND UNDER ROADS AS A PUBLIC GOOD

AAS 27, along with all the accounting standards applied to the public sector, has ignored the "public good" attribute of LUR (SAC 2 1990, SAC 4 1992, AAS 29 1996, AAS 31 1996). Public goods are those provided by government to the public at large because of the existence of externalities (Stiglitz 1998, ch. 1, 3, 5). Where externalities are important, private markets cannot operate efficiently, so the government chooses to provide the goods from the public purse. Externalities occur where consumption benefits are shared by users or where economic activity results in added social costs and benefits which are not paid for by the producer or consumer who causes them.

Roads and the land under them readily qualify under this concept of externalities and therefore public goods. For example, use of a public road by one person does not deny use of the road to other persons. It is a facility available for use by all the public and the consumption benefits made available by the road are shared by all users. The benefits are not confined to the local residents and businesses primarily serviced by the roads. Where use of the road by vehicles creates environmental pollution, the costs incurred by local residents because of the pollution or the costs of remedying it may not be borne by the motorist. Likewise, when congestion occurs on the roads, the congestion costs will not all be borne by the motorists who cause them.

In the first case of externalities where consumption benefits can be shared by users, there is a fundamental difference between private-goods markets and public-goods markets. Private markets are based on the "exclusion principle"; that is, A's purchase of a good denies others use of it. A obtains exclusive title or property rights to the good and he can use and dispose of it how he chooses (subject to the laws of the nation). He obtains all the benefits from owning the good. However, for public goods, it is inefficient to exclude any one consumer from partaking in its benefits since his consumption does not reduce consumption by others. Benefits from the goods are not vested in the property rights of individuals and consumption is non-rival. The same benefits are open to all and without mutual interference except when congestion occurs.

Further, in many instances the benefits from public goods do not flow to the owner (the government), but either to designated members of the public, as with welfare housing, or to the public at large, as with roads. In many cases the government as owner does not have an unfettered right of denying use of the facility to the public or of disposing of the facility. This restriction on the rights of government applies in particular to public roads.

If the aim of government is to promote general economic and social welfare, most roads have to remain under public operation because private markets cannot handle the situation. An efficient use of scarce resources requires that the price charged for use of a road equals the marginal social cost (MSC) caused by the person using it. If the MSC is zero or negligible, then the price charged should be likewise. However road construction is an expensive investment and such a pricing policy cannot result in roads being built and operated by private enterprise. Rather, governments must fund the provision of roads from general taxation revenue or make their provision a requirement for the development of a greenfield site.

Individual roads form part of a network and their use is dependent on other parts of the network. Individual roads cannot be considered in isolation. The only cases where public roads are not government-owned are high-density routes where tolls are feasible. Even in these cases, the investor owns only a lease to the man-made components of the tollway and the route but does not own the LUR.

Externalities provide the fundamental economic reason for governments to provide a wide range of goods and services for the public, largely funded from taxation revenue (Stiglitz 1988, ch. 1). Private markets can handle the provision of goods and services where externalities are not important. The operation of public-goods markets and private-goods markets are thus largely complementary.

Externalities have important implications for some areas of public-sector accounting; accrual accounting principles developed for private markets cannot be transferred to these areas without substantial modification. Rather, they must be modified to take account of the different operating environment and objectives of these special public-sector areas. These special areas are ones noted in the accounting standards as causing problems for accrual accounting: roads, streets and bridges and the land under them; water, sewerage and electricity infrastructure; monuments and historic buildings; parks and gardens; channels and flood mitigation works (AAS 27 1995, para. 112-21).

SPECIAL FEATURES OF LAND UNDER ROADS AS A PUBLIC GOOD

In considering LUR as a public good, it is helpful to distinguish between greenfield sites being subdivided by a developer and established urban areas.

New subdivision of a greenfield site

Consider the case of a developer acquiring a greenfield site for a suburban housing development. He pays $10 million for the land and acquires title to the total property. As a condition of the subdivision the government requires the developer to construct roads through the estate and provide water-supply, sewerage and drainage systems, among other things. Subject to urban planning regulations, the developer designs the physical characteristics of the estate – housing block locations and sizes, commercial blocks, major and minor roads and the areas allocated to them, parklands etc. – to maximise profits on the project. Profit is measured as total expected revenues from the sale of the allotments less the costs of the new land plus all development costs. The provision of public infrastructure enhances the expected selling prices of the allotments.

Clearly, in this planning environment, the land allocated for road space has a financial opportunity cost – the more land allocated to roads, the less is available for sale in allotments. However, a developer would recognise that too mean an allocation for roads may reduce the attractiveness of the total development and thereby allotment prices, while excessive allocations may not enhance allotment values proportionately and thereby reduce expected profit. Similar considerations apply to other public facilities such as parks.

While the public infrastructure facilities enhance the selling value of the estate, they are also a government-imposed condition for the development rights. The developer hopes to recover his land and infrastructure costs from allotment sales. However, neither the developer nor the allotment buyer retains title to the facilities on the land. Buyers do not acquire the LUR, parklands and so on. Rather, the land title normally passes to state governments where it remains as Crown land, though in some states it may then be vested in councils for use as a public way.

Roads are put through the estate for public use. Local residents clearly benefit from them but they are also open for use by the public at large. The benefits flow to the public and not significantly to local councils. The roads are a public good.

It can be seen that LUR normally remains as Crown land whose title normally rests with state governments; that allotment buyers pay for the LUR in the purchase prices for their properties; and that the benefits flow to the road users in general and not to local councils.

Established urban areas

Once an urban area becomes established, there is limited scope for varying the road system, and with it LUR. The system can only be varied at the margin, eg, road widening, and this does not occur frequently because of the costs and the disruption to traffic flows and residents. Roads generally cannot be closed and the land sold, except when permitted by legislation in the case of a major redevelopment of an area. Effectively such redevelopment converts the area into a new greenfield site. LUR in established areas is a sunk resource which must remain dedicated to its public use for road systems. It has no opportunity cost in the existing environment. It differs from land under buildings as there is an ongoing private-goods market for land and buildings – the land has an opportunity cost and a resale value.

The other attributes of roads in a greenfield site apply to established areas. LUR normally remains as Crown land, the benefits from the road system are reflected in property prices and the benefits flow to the road users.

IS LAND UNDER ROADS AN ASSET OF LOCAL GOVERNMENT?

Accounting for LUR has proved to be a very controversial matter for accounting standard-setters. AAS 27 states that LUR is to be recognised as an asset and included in the general purpose financial reports of local government entities. They are supported by some academics who have researched the topic (Rowles *et al* 1997, 1998). But most councils oppose the requirements and have not complied with them. In a survey by Rowles *et al* (1998, p. 47) of all 704 municipalities in Australia, from which 302 responses were received, it was found that few councils had any records of their LUR holdings. Rowles *et al* (1997, p. 8) observed: "[Council] financial managers registered overwhelming dissatisfaction with the need to recognise LUR as an asset – they considered it to be a pointless exercise."

In the few cases (9.5%) where LUR had been valued, it dominated the assets of councils, as in the case already noted where LUR represented $800 million of the total assets of $1,000 million. Thus the matter is a most material one. From the survey, Rowles *et al* (1998 p. 47) concluded: "Recognition of LUR in general purpose financial reports of local authorities has emerged as perhaps the most contentious matter from the adoption by local governments of AAS 27."

Whether LUR should be recognised as an asset depends on it satisfying the requirements of SAC 4 *The Definition And Recognition Of The Elements Of Financial Statements* as well as legal requirements. In SAC 4 (para. 14) assets are defined as "future economic benefits under the control of an entity". Control of an asset is defined as "the capacity of the entity to benefit from the asset ... and to deny or regulate the access of others to that benefit". As well, the recognition criteria require that an asset should be recognised "when and only when ... it possesses a cost or other value that can be reliably measured" (para. 38-45).

These asset recognition requirements show why, from an accounting point of view, LUR should not be treated as an asset of local governments. First, roads and, by association, land under roads provide economic and social benefits to the users, including local residents and businesses, and the public and business at large. They are public goods accessible to all who choose to use them. The benefits flow to the road users and the public at large and not to local councils. This contrasts with the situation for privately-owned assets where the benefits flow to the owners and thereby create an asset of value to them.

Second, the powers of councils are confined by law to the construction, care and maintenance of roads and some regulatory control over their use, for example, speed limits, weight limits and parking restrictions. They do not provide local government with "the capacity ... to benefit from the asset ... and to deny or regulate the access of others to that benefit" (SAC 4 para. 14). Rather, the law ensures the opposite occurs, and this makes the roads into public goods.

The control test replaced the usual ownership test in the accounting standard to accommodate the allocation of government-owned facilities to various government departments for purposes of accrual accounting. For private goods, ownership of the assets is necessary to satisfy the control test. Hence, LUR does not satisfy the control test of an asset as councils cannot direct the benefits to themselves and deny the public use of roads. Neither do councils satisfy the ownership test, as it remains Crown land even in those states where the roads and LUR are vested in councils.

A further power normally associated with ownership and control of assets is the right to dispose of them. Local governments do not have the right to close off roads and dispose of the land under them as is the case for private goods, except in restricted cases permitted by legislation. LUR normally has no disposal value, or value in exchange, to councils.

Third, the valuation of LUR involves insurmountable problems because it is both a public good and one which involves myriad interdependent factors. This makes it impossible to obtain a valid general-purpose valuation of the land. Roads provide undoubted economic and social benefits but these are not readily quantifiable or attributable to particular roads. The benefits are not easily measured in financial terms because they flow to large numbers of users for a vast range of purposes and there are no records of each user's use of the road. On the other hand, the benefits of private goods are normally readily quantifiable in cash because they result in additional revenue or in cost savings, flowing to one owner-entity.

Further, the benefits from a particular road are linked to the rest of the road network. Each road can have external effects reaching beyond the immediate locality (consider traffic bottlenecks). Any cost allocations become arbitrary and cannot be used as a basis for good asset management or performance evaluation. It should be noted that these problems do not preclude making a cost/benefit analysis of road project proposals. This analysis is *ex ante* and does not form the basis for *ex post* valuations of LUR for use in statements of financial position.

A further set of problems in valuing land arise from the fact that it has no cost of production. Land is always valued as the residual quantity in a valuation.

Professional valuers try to assess the price at which the land would be exchanged between willing, knowledgeable buyers and sellers in arm's-length transactions. In arriving at valuations they consider factors including:

- the discounted cashflows accruing to the property from its current use, less the current cost of improvements to the property. This gives a measure of the net present value of the land content of the property;
- market transaction prices of similar properties, adjusted for differences in location and the current cost of improvements.

In active markets, the two assessments of value will tend to coincide and valuations are reliable. In thin markets, a range of values may be possible and valuers will generally indicate the range along with a "best guess" figure.

In this valuation process, it should be noted that land values depend on their current use, that a stream of cashflows can be attributable to the land, that the land value is the residual sum in the calculation and includes all economic rents, and that market transactions are required. In the case of LUR, there is no cost of production, no stream of cashflows attributable to it, and no market transactions. Hence valuers have no valid basis on which they can value LUR. It is an impossible task.

SAC 4 lists four possible bases for the valuation of assets – historical cost, current realisable value, current replacement cost and deprival value. In the case of LUR, historical cost is rarely available, and the other three are essentially the same in the case of land, ie, current market price. In those municipalities where LUR has been valued, it appears that rateable values of adjoining properties have been used. Rateable values are based on the current market values of these properties – a simple process but it is arbitrary and lacks validity. The land in the adjoining properties is used for a purpose different from that of LUR. Second, the values of adjoining properties depend to some extent on the existence of the roads and the property owners have paid for LUR in their property prices. Hence the process is circular: adding the value of LUR as determined above to the value of privately-owned land serviced by the roads results in double-counting of land values in the municipality.

IS LAND UNDER ROADS PART OF THE FINANCIAL POSITION OF LOCAL GOVERNMENT?

A statement of financial position is intended to show "the economic condition of the reporting entity" (SAC 2, para. 5). Economic condition refers to "its control over resources, financial structure, capacity for adaptation and solvency".

Should LUR dedicated to public use form part of the measure of the financial position of local government? It is difficult to agree with this position, given that:

- councils do not own the land as private property or control it in such a way to direct the benefits to themselves;
- the land does not generate cash receipts to councils (except indirectly through its effects on the rateable values of the land serviced by the roads);
- the councils cannot normally sell the land; and
- they normally did not pay anything for the land.

The land does not form an income-generating resource, it is not part of the financial structure of councils and it provides no capacity for (financial) adaptation and means of repaying liabilities (for solvency). Hence, the argument that LUR forms part of the financial position of local governments must be rejected. The commonsense approach of the financial managers in local government who so strongly oppose the application of this part of AAS 27 must be applauded.

THE NEED FOR VALUATION OF LAND UNDER ROADS

The accounting standards are based on the belief that all resources controlled by an entity must be financially valued and included in its financial reports. This information is required to assist users in "making and evaluating decisions about the allocation of scarce resources" (AAS 27 para. 8).

Decision-making always refers to potential future use of the resources or changes in their mode of operation. Land values are important in determining future uses of land, for example in subdivision proposals, road-widening proposals or re-routing of existing roads. However, these are one-off decisions and dedicated valuations are required, based on marginal cost-benefit analysis – for example, what would be the effect of subdividing the land according to proposal A or proposal B? Existing financial statement valuations would not be used, even if the land valuations in them were reliable, because they were prepared for a different purpose.

The accounting standards were prepared for the assets of firms operating in private-goods markets and current valuations of assets are required here because firms have profit-making objectives. In their extension to cover the public sector, the accounting standards have ignored the distinguishing feature of public-goods markets – their externalities. LUR provides economic and social benefits to the public at large and these benefits cannot be captured in *ex post* financial valuations flowing to councils.

IN THEIR EXTENSION TO COVER THE PUBLIC SECTOR, THE ACCOUNTING STANDARDS HAVE IGNORED THE DISTINGUISHING FEATURE OF PUBLIC-GOODS MARKETS – THEIR EXTERNALITIES

The information required for efficient and effective management of the road system must be related to its purposes. Are the roads providing adequate access to the properties they service, is there sufficient capacity to avoid congestion, are there adequate parking facilities, are the roads well designed for safety purposes and for traffic flows, are the surfaces in good condition, are the drainage facilities adequate? Good pavement management systems are required for efficient maintenance of the roads.

Issues related to the valuation of LUR have little relevance to these road management issues, and hence to decision-making about existing roads or performance assessment of councils. LUR does not need to be valued for these purposes, despite the assertions of the accounting standards.

ACCOUNTING FOR ROADS

Councils and other statutory roads bodies have delegated responsibility from government to construct, care for and maintain public roads. Commonsense indicates that the roads ought to be treated as council assets under accrual accounting. They involve councils in substantial investment outlays and maintenance charges which should be reported in an accrual accounting system. They have a historical cost or reproduction cost which can be reliably measured and can therefore satisfy the asset-recognition requirements of SAC 4. However, the SAC 4 asset definition excludes them because they generate benefits to road-users and the public at large rather than councils. Thus they do not satisfy the control requirement.

This is another example of where conventional business asset definitions need to be modified for public goods. The problem could be readily overcome by making a small but important modification to the SAC 4 asset definition for it to read: "Assets are resources under the control of an entity which provide future economic benefits to the entity or the public at large, and which possess a cost or other value that can be reliably measured."

This definition switches the control requirement to the resource itself, away from the benefit stream, and excludes the requirement that the entity can deny or regulate the access of others to that benefit. This last requirement is fundamental to the concept of a public good and to the legal requirement for a public road. The present definition of an asset automatically excludes all public goods from its ambit. Under the proposed definition, LUR would not be an asset as it would not satisfy the financial measurement criterion.

Given that accounting is to be a useful financial information system which assists users in making and evaluating decisions about the use of scarce resources (SAC 2, para. 43, AAS 27, para. 8), then an appropriate method of accounting for roads is that adopted by some roads authorities as pavement management systems. In these systems, roads are designed to meet specified operating requirements and they are cared for and maintained using a systematic life-cycle costing approach.

These systems are largely based on engineering data about road conditions, current prices of resource inputs and the most efficient technology available for roadworks. Road conditions are continually reassessed as part of the management of the road system and the cost of bringing them back to good condition is calculated. The roads are valued at the cost of new construction less the cost of required maintenance to restore them to good condition. Maintenance, restoration and depreciation charges are combined in this approach and it does not require valuation of LUR. The system is explained in Burns (1992-93, pp. 89-104).

CONCLUSIONS

The above analysis indicates that no attempt should be made to place financial valuations on LUR used for public purposes and to include LUR as assets in the financial reports of local government authorities. LUR is not an asset of the municipalities and it cannot form part of their financial condition. The land is Crown land which belongs to the public at large, and is better treated as a trust asset of the nation under the management of local government (Barton 1999). Further, LUR cannot be valued except on arbitrary bases because of its public-goods nature. Finally, it does not need to be valued to ensure good asset management by councils. Roads themselves should be accounted for; however, this requires an amendment to the SAC 4 definition of an asset.

Councils have been correct in opposing the AAS 27 requirements relating to LUR. They have correctly recognised LUR for what it is not and what it is. LUR is not a pot of gold for municipalities – it is fool's gold! The LUR requirements of AAS 27 should be immediately withdrawn. Similar requirements for the other problem areas of public-sector accounting should be withdrawn for the same reason. Accrual accounting standards developed for private-goods markets must be amended to take account of the externalities which underlie public-goods markets for these special types of assets.

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