Determining the Real Cost of Growth and Development and Who Should Pay

By Richard C. Brooks and David B. Pariser

The long-term nature of infrastructure makes interperiod equity an important consideration in determining how projects will be financed and planned.

Many communities throughout the United State have experienced unprecedented growth and development, creating a need for expanding and improving existing infrastructure and acquiring new infrastructure assets to accommodate the needs of current and future residents. When evaluating these projects, public officials need to look at the long-term impact of growth and development. Comprehensive planning requires public officials to embrace a lifecycle costing model that looks not only at the costs associated with a particular asset but also at growth and development costs broadly defined. The infrastructure costs associated with a particular development may extend beyond a given project or development, and those costs have long-term effects.

Recently, some governments have used development impact fees (DIFs) to finance infrastructure associated with a particular development. Given the limitations and barriers associated with traditional methods of financing infrastructure (e.g., general obligation bonds, special assessment bonds, intergovernmental revenues, current taxes, etc.), DIFs represent a useful alternative financing source for infrastructure associated with new development. However, the additional capital and operating costs are not typically factored into the computation of DIFs, either by law, regulation, or omission. Therefore, these costs may ultimately be borne equally by all taxpayers within the government's jurisdiction, not just the people living in the newer developments (i.e., the people who made the additional costs necessary).

TYPES OF FINANCING AND INTERPERIOD EQUITY

The long-term nature of infrastructure makes interperiod equity an important consideration. In determining who will pay for these projects, public officials need to consider who will pay. The financing method affects interperiod equity — that is, whether current taxpayers are paying for something today that will provide a benefit to future taxpayers, or if current taxpayers receiving a benefit today that future taxpayers will pay for.

Traditionally, local governments have financed infrastructure through the use of general obligation bond proceeds, special assessment bond proceeds, intergovernmental revenues, and current revenues such as property taxes. Each of these methods has limitations and barriers that can prevent their use. For example, because taxpayers do not like to pay higher taxes, the amount of intergovernmental revenues (e.g., federal and state grants) available to finance infrastructure at the local government level has decreased significantly.[1] State and local laws limit the issuance of general obligation bonds, and voters must approve them. Finally, issuing special assessment debt typically requires a

special assessment petition signed by a majority of the property owners that will benefit from the proposed project. For these reasons, public officials in some communities have turned to development impact fees to finance infrastructure. A development impact fee is a one-time charge assessed on a developer to pay (in full or in part) for infrastructure necessitated by new development. Development impact fees shift the cost of expanding, upgrading, or constructing new infrastructure assets to those creating the need for the infrastructure.

When choosing a method to finance infrastructure, public officials should consider whether the method chosen promotes or maintains interperiod equity, or if it undermines or impairs interperiod equity.[2] Interperiod equity is maintained when an expenditure such as current period payroll is paid from current period tax revenues, and it is impaired when the current period payroll is paid out of the proceeds from 30-year general obligation bonds. Similarly, interperiod equity is impaired if current-period tax revenues are used to purchase a building that will provide benefits over a 30-year period, and it is maintained if the building is financed by issuing 30-year general obligation bonds.

General Obligation Bonds. All revenue sources of the government, except those specifically earmarked for another purpose, are available to service general obligation debt. Using long-term general obligation debt to finance infrastructure assets is justifiable because of the long-term nature of infrastructure assets. Infrastructure assets will benefit both current and future citizens, so it is reasonable to finance infrastructure by issuing general obligation debt that will be serviced from taxes imposed over the useful life of the infrastructure.

Special Assessment Bonds. Some infrastructure projects benefit only a small group of property owners. Acting on behalf of the property owners who initiated the project, the local government arranges for the issuance of special assessment bonds, constructs or arranges for the construction of the infrastructure assets, oversees the project, and collects assessments from the property owners to make periodic interest and principal payments to the bondholders. While an infrastructure project primarily benefits a small group of properties, it is likely that it also improves the quality of the local community at large; therefore, it is justifiable for the government (i.e., current and future taxpayers) to bear a portion of the cost. Street improvements such as grading, paving and repaving; and the installation of curbs, sidewalks, street lights, storm drains, water lines, and sewage lines are some of the most common infrastructure assets financed by special assessment debt.

The primary advantage of special assessment bonds is that the cost of the infrastructure is borne by those who benefit most, and to the extent that the cost of the infrastructure is recovered via assessments lasting the useful life of the asset, interperiod equity is maintained. The primary disadvantage of this method of financing is that special assessment bonds generally bear a higher rate of interest than general obligation bonds because of the higher risk of default or late payments by the property owners responsible for periodic interest and principal payments. Another disadvantage is that the cost of the project may be allocated to properties based on the length of the property's street frontage instead of the property's value.[3]

Development Impact Fees. A development impact fee is a one-time charge assessed against a developer, typically as a condition to beginning construction. These fees attempt to recover the cost of infrastructure assets necessary to serve a development, and they are often promoted as one way to have the ultimate beneficiaries of the development (i.e., the owners and renters who live there) pay for infrastructure, thereby alleviating the burden that would otherwise fall on existing property owners.[4] Typically, a developer will embed a pro-rata share of the development impact fee into the selling price of each lot or home that is sold. In the future, the initial homeowner will embed the price originally paid for the home (which includes the original pro-rata share of the fee) into the selling price when it is sold to the second owner, and so on. In addition, each homeowner will pay property taxes based on the value of the home. The local government will use these property taxes, in part, to maintain the infrastructure originally financed with development impact fee.

Alternate Financing Method

Voters in California, Colorado, and Florida have set limits on property tax increases, forcing public officials in those states to turn to development impact fees as an alternative method of financing infrastructure.*

* City of Cannon Beach, Oregon, Comprehensive Plan, September 2006, pp. 4-6.

Therefore, to the extent that successive homeowners are able to embed the price they paid for their home (which includes a pro-rata share of the original fee) into the selling price of the home, interperiod equity appears to be maintained. Each successive homeowner benefits from the infrastructure and pays for their pro-rata share of the original installation cost associated with the infrastructure (via purchase price) and for the maintenance of the infrastructure (via current property taxes).

INFRASTRUCTURE PLANNING

The long-term nature and high cost of infrastructure makes it important for public officials to plan for infrastructure needs far in advance. Typically, public officials combine the use of tools including comprehensive land use plans, zoning, capital improvement plans, and lifecycle cost analyses to create a comprehensive long-range planning document that will guide growth and development over a period of 5-20 years.

Comprehensive Land Use Plans and Zoning. A comprehensive land use plan provides guidance regarding the use of land within a government's jurisdiction. Certain areas might be designated commercial while other areas are designated residential, and other areas are designated for airports, bus depots, train depots, etc. These areas can then be zoned in a way that is consistent with the land use plan. Zoning is a method of codifying the spirit of the land use plan into law. Comprehensive land use plans and zoning affect infrastructure planning because the infrastructure needs for an airport will differ from the infrastructure needs for a residential development, for example.

The City of Cannon Beach, Oregon

The Comprehensive Plan of the City of Cannon Beach, Oregon, requires the city to establish a three-year capital improvement program for maintaining and upgrading the water system and the sewer system, both of which must be reviewed annually. The city also reviews the capacity of the sewage treatment system at 5-7 year intervals to determine the remaining capacity and the need for improvements. Subdivisions, planned developments, motels, or other uses can be approved only if sufficient sewage capacity is available. Sewer lines in proposed developments must be adequately sized to meet future development needs, and plans for sewer line extensions and treatment plant improvements must comply with all state and federal regulations.*

* City of Cannon Beach, Oregon, Comprehensive Plan, September 2006, pp. 4-6.

A comprehensive plan allows public officials to anticipate growth and the increased demands growth often places on existing infrastructure. For example, existing water and wastewater treatment plants may need to be upgraded or expanded, or a new plant might need to be constructed. A newly developed area may require new roads, sidewalks, bridges, and tunnels, and existing roads near the area may need to be widened or upgraded to accommodate additional traffic. In addition, development often results in the deforestation of large tracts of land, which typically causes an increase in the amount of storm water runoff; an increase in the volume and velocity of storm water runoff can cause flooding in areas downstream of newly developed areas. A comprehensive plan that indicates the topography of the land allows public officials to anticipate potential flooding problems and proactively pass laws designed to prevent such problems. For example, developers of land that is at a higher elevation than existing homes could be required to install detention ponds and new or upgraded storm water drainage systems to reduce the likelihood of downstream flooding.

Capital Improvement Plans. Governments often use capital improvement plans to identify infrastructure and other capital assets needed to support future growth. A capital improvement plan helps to ensure that projected future costs are fully integrated into the government's overall financial plan. The Government Finance Officers Association (GFOA) recommends that a capital improvement plan include a general time frame for purchase or construction, a summary of the asset's impact on service delivery, an analysis of the life-cycle costs associated with the asset, and a list of alternative methods to finance the purchase or construction of the asset given the community's fiscal capacity.[5]

Life-Cycle Costing and Asset Management. An analysis of the life-cycle costs should be incorporated into the capital improvement plan. The life-cycle cost of a capital asset is defined as acquisition cost, plus the sum of the present values of future costs over the asset's life, less the present value of any residual value at the end of the asset's life. Life-cycle costing acknowledges that infrastructure assets pass through a number of phases over their long life

spans, and that costs are incurred in each phase of the asset's life. These costs include not only acquisition cost but operations, maintenance, and repair costs as well.

The Federal Highway Administration considers asset management to be a systematic process of maintaining, upgrading, and operating capital assets in a cost-effective manner.[6] The primary objective of infrastructure asset management is to minimize the total life-cycle cost while maintaining a desired service level.[7] Effective asset management practices can reduce life-cycle costs of infrastructure, resulting in assets that are better planned, designed and constructed.[8]

GASB Statement No. 34, *Basic Financial Statements — and Management's Discussion and Analysis — for State and Local Governments*, requires state and local governments to capitalize all capital assets, including infrastructure, at historical cost and depreciate those assets over their estimated useful lives. However, governments do not have to depreciate infrastructure assets if they use the "modified" approach, in which case the costs associated with maintaining infrastructure assets at a particular service level are substituted for depreciation expense. Governmental entities choosing the modified approach must implement an asset management system that includes an up-to-date inventory of infrastructure assets, performance condition assessments, and estimates of the condition level of the infrastructure assets. GASB Statement 34 requires governments to perform a condition assessment on infrastructure assets at least every three years, and the results of the three most recent assessments must show that assets are being preserved at or above the condition level established by the government. By focusing on long-range preventative maintenance and continuously assessing the condition of infrastructure assets over their lifecycles, asset management enhances accountability and fiscal stewardship for infrastructure assets.

Calculating the Cost of Growth and Development. Lifecycle costing is useful when trying to determine the total cost of a particular asset. However, growth and development can impose future costs on a community that are incidental but not trivial. For example, growth may eventually require upgrading, expanding or constructing public schools, public libraries, parks and recreation facilities, police stations, and fire stations. Additional fire trucks, police cars, and garbage trucks may also become necessary. Public officials must plan for these infrastructure and capital outlays. Furthermore, these additional infrastructure and capital assets will require additional personnel such as teachers and librarians; fire fighters and police; vehicle maintenance personnel; streets, parks, and recreation personnel; water and sewer workers; etc. Public officials need to take these additional personnel costs into account when preparing their comprehensive plan.

CONCLUSIONS

The infrastructure costs associated with a particular development may actually extend beyond the infrastructure located within that development. That is, public officials must look at the long-term impact of growth and development when evaluating the cost of a particular development. In addition, public officials need to be cognizant of the potential future costs that may be necessitated by growth and development. It is only by thoughtful comprehensive planning that public officials can truly determine how to best maintain interperiod equity when faced with current and future growth and development.

Notes

1. Arthur C. Nelson, "Development Impact Fees: The Next Generation," *The Urban Lawyer* 26, no. 3 (1994): 542.
2. Michael H. Granof, *Government and Not-for-Profit Accounting: Concepts and Practices* (New York: John Wiley & Sons, Inc., 2007), 5-6.
3. Ibid., 231.
4. Wes Clarke and Jennifer Evans, "Development Impact Fees and the Acquisition of Infrastructure," *Journal of Urban Affairs* 21, no. 3 (1999): 281.
5. Joseph P. Casey and Michael J. Mucha, eds., *Capital Project Planning and Evaluation: Expending the Role of the Finance Officer* (Chicago: Government Finance Officers Association, 2007), 41-43.
6. *Asset Management Primer* (Washington: U.S. Department of Transportation, December 1999), 1.
7. *Comprehensive Asset Management Has Potential to Help Utilities Better Identify Needs and Plan Future Investments*, GAO-04-461 (Washington: Government Accountability Office, March 19, 2004), 2.
8. Patrick McNamee, Daniel Dornan, Daniel Bajadek, and Edward Chait, Understanding GASB 34's *Infrastructure Reporting Requirements* (New York: PriceWaterhouseCoopers, October 1999), 2-3; and U.S. Department of Transportation, *Asset Management Primer*, pp. 7-10.

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