

The Columbia Public Interest Policy Institute

The Cost of Growth in Washington State



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Executive Summary

While most local governments can quickly and accurately assess the additional tax revenues resulting from a new development, very few can perform the same assessment of costs. This lack of complete information has often resulted in a distorted analysis of development impacts on a local community. A greater understanding of the capital costs associated with providing basic public facilities to serve new development is clearly needed.

This study estimates the cost of public facilities to serve new residential development in Washington State, based on the incremental demand generated by a typical new single-family house. Data has been collected and reported in a manner so as to be reasonably representative of the state as a whole. It is important to recognize that each city and county has its own set of regulations, service level standards, land costs, and materials and labor costs that will affect infrastructure costs. Because of this, each location is unique and different. The report does not attempt to provide accurate costs for any specific location.

This study uses actual cost data from capital projects that have been completed in Washington within that past two years as the primary data source. Some capital cost data, service standards, and other necessary information are obtained from local and regional government plans and reports, as cited in the report. The data represents a composite of representative costs from around the state. In this sense, the report can be used as a reasonable initial estimate of costs for a given location when there is no local analysis available.

Literature Review

This study includes an extensive literature review that provides a useful context from which to consider the costs analyzed in this study. The review finds a fairly consistent body of literature on the fiscal impacts of growth, going back more than 25 years.

There is growing recognition that sprawling development patterns rarely generate sufficient

revenues from the new tax revenues they produce to pay their ongoing costs of public services. However, even standard urban development patterns that include a mix of commercial development have been found to be a net fiscal drain on local governments. A handful of studies have examined the overall effect of growth in population, jobs and urban development on taxes. These studies show that growth tends to result in higher tax rates, contrary to the conventional wisdom of the past that growth increases the tax base and thereby reduces the overall tax burden.

A number of statistical studies around the country have found a strong correlation between growth and increasing tax rates. One study (Buchanan and Weber, 1982) found that a 1.0 percent increase in population correlated with an increase in the average residential property tax bill of 0.41 percent.

A nationwide study of the 248 largest counties examined per-capita spending to indicate likely impacts of growth rates on local taxes (Ladd, 1994). The study found that capital expenditures increased markedly for all increases in growth rate. The report states: “Clearly, population growth puts significant pressure on capital budgets as communities struggle to increase their investment in roads, water and sewer systems, and public buildings.” The report concludes that, not only does population growth increase per-capita tax burdens, it also tends to have a short-run effect of reducing local service quality.

Oregon’s Governor commissioned a task force in 1998 to review the impacts of growth in that state. The task force’s report, *Growth and Its Impact in Oregon* (January 1999), included a review of fiscal impact literature related to growth. They concluded that the capital costs for off-site public facilities, such as sewer, water, transportation, drainage and schools, total \$30,000 to \$35,000 for a new single-family house.

A number of studies have demonstrated a net savings to local taxpayers resulting from land conservation through easements or public land acquisition, as compared with the development alternative.

Notes on Methodology

There are 15 main categories of public facilities required to serve urban growth, as shown in the figure below. The first 11 categories are typically local government (city or county) or local service district (such as a school or water district). All of these facilities are funded primarily by residents of the local jurisdiction. The final four categories (electric, natural gas, waste disposal and cable/telecom) are typically provided by private utility franchises. These franchises tend to distribute new facility costs across their customer base in a similar manner as local governments use the tax base. This study was limited to an evaluation of the nine categories of infrastructure indicated with a star (*) in the figure. This limitation merely reflects the project’s priorities and funding constraints.

Growth-Related Capital Costs for Public Facilities/Infrastructure

- School Facilities (K-12)*
- Sanitary Sewer System*
- Storm Drainage System*
- Transportation System*
- Water Service Facilities*
- Fire Protection Facilities*
- Parkland, Open Space & Recreation Facilities*
- Library Facilities*
- Police Facilities
- Corrections and Jail Facilities
- General Government Facilities
- Electric Power Generation and Distribution*
- Natural Gas Distribution System
- Solid Waste Disposal Facilities
- Cable and Telecommunications Systems

The environmental and social costs of growth are likely to be significant, but are difficult to quantify in absolute monetary terms. The values associated with environmental quality, natural amenities, livability and quality of life can, in many cases, be measured in economic terms. While additional research in this area would undoubtedly be productive, the fact is that even the most readily-quantifiable economic impacts of growth have yet to be adequately studied.

The method used here is similar to that used to calculate development impact fees. The full capital costs of public facilities are apportioned to various land uses (residential, commercial and industrial) based on the amount of demand created by each. Unlike impact fee calculations, the costs developed in this study may include more than one jurisdiction. While impact fees are typically charged just for the city's or county's costs, these costs include all public sector cost regardless of whether they are paid through the city, county, state or federal government.

The representative house used in this study is assumed to be located within an Urban Growth Area (UGA) with nearby public services. It is assumed that the density in an urban area will be higher than the value in the table below, since this data also includes rural development. Where a density value is required, a fairly typical net density of six units per acre is used. Lower-density sprawling development will usually cost more to serve than the house examined here due to the greater distances required for constructing roads, sewers, water lines, etcetera.

Typical New Single-Family House
Seattle-Everett Metro Area

Characteristic	New Houses*
House Size	
Floor Area (sq.ft.)	2,095
Bedrooms	2.8
Lot Size (sq.ft.)	13,939
Development Density(units/net acre)**	3.1
Occupancy (total persons)	2.4
Floor Area/Occupant (sqft/person)	873
Land Area/Occupant (sqft/person)	5,808

Source: *American Housing Survey*. *Based on the median for new houses constructed from 1993 to 1996. **Excludes land for streets.

The capital costs of providing infrastructure to serve new growth is based primarily on actual cost data from recent capital projects around the state. All capital costs in this report are for June of 2000 unless stated otherwise. Costs for other years are adjusted using the *Engineering News-Record* Construction Cost Index.

It is important to note that all the costs evaluated here are *off-site* costs. A typical new subdivision includes local streets, sidewalks, water and sewer lines to serve each new lot. These are *on-site* costs and are the site development costs typically paid directly by the land developer. By contrast, off-site cost are for the schools, sewage treatment plants, arterial streets, fire stations and other off-site facilities that are need to serve the subdivision.

Results

The total cost to the public sector to provide the nine categories of infrastructure evaluated here is approximately \$83,000 per single-family house, as shown in the table below. Most of these costs are due to the transportation system alone, at \$56,000. Schools rank a distant second in terms of cost, but still represent a significant expense, at \$9,800. Surprisingly large costs are associated with providing both electric power generation and distribution facilities (\$8,100) and parks and recreation facilities (\$6,000).

A small fraction of these costs are paid directly by the development through impact fees. Assuming that average development impact fees total about \$2,500 per new house, the net cost to the local community is still more than \$80,000.

Growth Cost Summary*
New Single-Family House – Washington, 2000

Cost Item	Amount
Transportation Facilities	\$56,000
School Facilities ^A	\$9,815
Electric Power Generation and Distribution Facilities	\$8,127
Parks and Recreation Facilities	\$6,000
Sanitary Sewerage (plant only) ^B	\$1,930
Library Facilities	\$665
Water System Facilities (plant only) ^C	\$348
Fire Protection Facilities	\$331
Stormwater Drainage	NA ^D
Total:	\$83,216

* This is a summary of the capital costs reviewed in this study and is not a complete listing of growth-related costs. A) School facility costs can vary widely depending on local standards and demographics. B) Sewage collection system costs were not available. C) Water distribution system costs were not available. D) These costs are borne by the private sector in Washington.

Conclusions

Based on the evaluation of costs to provide nine categories of public infrastructure in this study, typical residential growth creates a substantial capital cost burden to the local community of approximately \$83,000 per new single-family house. Very little of this cost is paid by the development itself. The total extent of this cost burden is not widely known or reported.

A rough estimate of the total annual statewide infrastructure cost associated with residential development is about \$2.87 billion.¹ This is equivalent to an annual cost of about \$500 per person in the state. As noted in the report, many of these costs are not being paid directly, but are manifesting themselves in declining levels of service.

This report helps explain why urban growth so often has a negative fiscal impact, as the new public facilities required – schools, roads, libraries, sewer mains, etc. – create heavy, multi-million-dollar cost burdens for the local governments. Most of these costs are borne by all residents of the community through broad-based taxes and are not paid by the developer or

¹ This figure is based on a cost of \$80,500 per new single-family house, which includes a reduction in costs by \$2,500 to account for impact fees paid.

new home buyer.

Fiscal impact analysis appears to be gaining recognition as an important tool for evaluating local land use and development policy decisions. A greater use of this analysis tool by local governments in Washington would shed needed light on how urban growth is impacting communities in the state.

The negative fiscal impacts of growth reported in the literature are a result of the system of taxes and policies that acts to subsidize growth at the expense of all taxpayers. Policy-makers, if they wished, could act to remove these subsidies so that growth paid its own way and was not a financial burden on the residents of a community.

Development impact fees are being used by some Washington cities and counties to help fund infrastructure. However, most local governments in the state charge no impact fees at all, and those that do often charge less than the full cost to serve new development. The use of impact fees represents an opportunity to better fund infrastructure needs and to achieve greater equity in revenue collection.

The findings in this report are consistent with most of the literature on the subject. New urban growth creates demands on local governments for both expanded public services and new capital facilities. The high cost of the capital facilities shown here provides a possible explanation for the increasing tax rates and negative fiscal impacts associated with growth. Since rapid growth will dramatically increase demand for public facilities, this may explain findings in the literature showing that areas with the highest growth rates also have the highest tax increases.

The research for this report would have been greatly facilitated had more local governments collected and reported capital costs associated with serving new growth in a useful way. While most local governments carefully distinguish dozens of line items, very few can distinguish growth-related costs from other costs. As citizens are becoming increasingly aware of the fiscal impacts of growth, local governments are beginning to provide better reporting of growth-related costs.

□

Copies of the full report may be obtained from Fodor & Associates for a nominal charge.

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