State of Washington
Legislative Budget Committee

Capital Planning and Budgeting: Study of Leasing Versus Ownership Costs

Performance Audit

Report 95-16

December 14, 1995

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Facts About
The Legislative Budget Committee

Established by Chapter 44.28 RCW, the Legislative Budget Committee (LBC) provides oversight of state funded programs and activities. As a joint, bi-partisan legislative committee, membership consists of eight senators and eight representatives equally divided between the two major political parties.

Under the direction of the Legislative Auditor, committee staff conduct performance audits, program evaluations, sunset reviews, and other types of policy studies. Study reports typically focus on the efficiency and effectiveness of agency operations, impact of state programs, and compliance with legislative intent. As appropriate, recommendations to correct identified problem areas are included.

Reporting directly to the legislature, the LBC generally meets on a monthly basis during the interim between legislative sessions.

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Overview

Decision makers need full information about cost alternatives when making choices on the public's behalf. This study focuses on the economic analysis that the state has used in evaluating leasing and ownership alternatives for government facilities. Such information typically provides a basis for justifying project requests. The study includes an analysis of three previous ownership decisions in Thurston County (the East Campus Plus project), one current long-term lease in Tacoma, and three prospective office space alternatives in Spokane. The study found significant improvements in the analysis of the Spokane collocation project when compared to the analysis done for the other projects; however, the analysis of all projects could have benefited by a thorough economic analysis that identifies all of the costs to the public.

STUDY SCOPE AND APPROACH

Use an economic model to quantify all costs to the public

For purposes of analyzing the projects included in this study, and for the assessment of alternatives in the future, the Legislative Budget Committee (LBC) and its technical consultant created an economic model. It is based on industry standards and benchmarks, and builds upon previous economic modeling done by the LBC in 1987, and by the Arthur Young Company in 1988 for the Senate Ways and Means Committee. The purpose of an economic model is to quantify all the costs to the public of the alternatives being considered. Decision makers can use this information, along with the consideration of other factors, to choose among alternatives. Other factors might include qualitative issues (such as location and possible client service improvements from collocating government offices) or budgetary considerations (such as the difference in cash outlays between one alternative and another.)

This report shows the results of applying the economic model for each project and set of alternatives. It includes sensitivity analyses that demonstrate how these results might change, given the uncertainty of some assumptions (e.g., lease rate escalation and building occupancy rates). The report also provides examples of how the state's cash outlays on some projects would differ from the total costs to the public.

GENERAL FINDINGS AND CONCLUSIONS

This study reaffirms the conclusion of previous studies that, *given similar facilities, development and operational costs*, government ownership can result in significant savings. The main advantage to the state is that its debt financing rates are lower than for private enterprise. However, the study also reaffirms the value of the advice offered in a 1987 LBC review of leasing versus ownership: *Economic comparisons must be made between specific alternatives, using all the facts available about each.* If the alternatives being compared do not have similar facilities, development and operational costs, the conventional wisdom that government ownership is less costly might fail.

Areas that should be strengthened

The review of the projects in this study points out the benefits of conducting full economic analyses. The findings below indicate areas for strengthening the current process.

Quality and Completeness of Data

In order to know if a project is cost-effective, all the potential costs and savings for the alternatives need to be taken into account. For example, when looking at the current cost of leasing, if an agency pays expenses associated with leasing but not part of a lease agreement (e.g., some operational and maintenance costs, and tenant improvements), the costs should be quantified and included in the analysis. The projects we have reviewed have not included complete cost data. In some instances, the data has been available, but it has not been reliable.

Comparability of Data

Comparisons of alternatives should be based on the same units, such as cost-per-rentable square foot or building efficiency.

Furthermore, the units need to be defined and counted the same way. We found that square footage was frequently not counted the same way in the various lease agreements when the comparative analyses relied on rentable square feet estimates.

Consideration of All Economic Costs

We found that economic analyses did not contain all the quantifiable costs to the state and to the public. Examples include the cost of self-insuring against hazards, foregone property tax revenue or tax shifts, and the alternative use value of state-owned land. In addition to identifying costs to the public, a full economic analysis is important because it can help explain how alternatives are more or less cost-effective. This can lead to cost savings in two ways: (1) by identifying the most cost-effective alternative; and (2) by identifying savings within the selected alternative (for example, ensuring that the space efficiency and developments costs of a state-developed project will be competitive with a privately developed project).

Relation of Economic Costs to Other Considerations

After a comparative cost analysis has been made, which takes into account all the costs to the public, other considerations, such as cash flow, are important and need to be addressed. For instance, in the case of the Natural Resources Building, using state-owned land for a building may have been considered the highest possible alternative use of the land; and, from a cash flow perspective, building on state land could be attractive because there are no additional out-of-pocket costs for land purchase.

Qualitative considerations, such as improved public access, the desirability of monumental structures, and employee working conditions, should also be taken into account.

Sensitivity Analysis

Sensitivity analysis is a process by which one can measure how changes to assumptions will effect the outcome of the analysis. It is also a process for estimating a reasonable range for a cost element (e.g., lease escalation), recognizing that there is some uncertainty about assumptions. We have seen no evidence of sensitivity analyses on projects as reported to the legislature.

Benchmarks

Currently the state does not have benchmarks for determining reasonable ranges for all costs and assumptions. This has resulted in a situation where from one analysis to the next, different cost elements may be included and different assumptions about costs may be employed.

An improvement to the current process would be to ensure that all economic costs be considered, and that reasonable ranges, or benchmarks, be established for those costs. These benchmarks should reflect the results of empirical analysis (e.g., the relationship between lease escalation and general inflation) and legislative policy (e.g., the choice of an appropriate discount rate).

Discount Rate

The discount rate is the factor used to translate into a present value (current dollars) the expected costs and benefits of projects that occur in future years. Typically the state has used its tax-subsidized rate of borrowing for purposes of discounting, and this usually results in a real discount rate (i.e., after inflation) of about 2.5 percent. A typical market rate for these types of projects, where risk is minimized by using conservative assumptions, would be a 5 percent real discount rate.

This study shows that there have been high risks in projects because of uncertainties about assumptions and, particularly, a reliance on speculative operational savings as justification for proposals. Using the state's borrowing rate as the nominal discount rate (before inflation) can result in understating the value of current investments and overstating speculative future benefits, and result in recommending the selection of marginal or uneconomic projects. For some projects, the results of an analysis can be reversed based on the choice of a discount rate.

Utilization of Vacant Space

There is no process in place to ensure that vacant state-owned space will be occupied in lieu of leasing space. This is particularly evident in the case of the Ecology Building which presently has space for 266 (or 22 percent) additional FTEs.

Reserves for Major Systems Periodic Repair and Replacement

Lack of funds for repair and replacement is a recurring criticism of the state's management of its existing owned properties. Presently the state does not fund reserves for repair and replacement. Our review indicates that there is an annual amount that should be included for repair and replacement for all owned space. The alternatives to establishing reserves would be to continue to fund repairs out of savings in the operating budgets; to periodically issue bonds; to make sizable cash capital appropriations; or to defer necessary repairs, thereby compromising the economic life of state assets or impairing the operations of programs housed in state-owned space.

Capturing Savings

Currently there is no process in place for ensuring that operational savings used to justify projects will be planned for by the relevant agencies, and then tracked, reported, and achieved.

RECOMMENDATIONS

This report contains seven recommendations for providing greater accountability and quality control in the project proposal process, and better information for policy makers in choosing among alternatives.

AGENCY RESPONSES AND AUDITOR'S COMMENTS

Although this is an audit of a process that involves many state agencies, we asked for responses from the two key agencies involved: the Department of General Administration and the Office of Financial Management. Their responses, together with our comments, are included in Appendix 2.

General Administration and OFM either concur or partially concur with the first six recommendations, and have committed to work towards their implementation. Both agencies do not concur with

Recommendation 7 because it is inconsistent with current OFM budget guidelines. Subsequent discussion between OFM and LBC staff indicates that OFM is interested in pursuing the issue of how to adequately fund major maintenance costs for state-owned buildings. OFM has stated that this is a system-wide problem that merits further study before any particular solution is adopted.

Many jurisdictions have set up reserve funds for major maintenance, as suggested in Recommendation 7. There are best practices that the state of Washington could consider in adopting a reasonable process. One possible solution to the problem mentioned by OFM would be for the legislature to appropriate funds into and out of the reserve account. The amounts that are put in reserve could be funded by rents to the agencies occupying the space. We recognize that OFM should be involved in setting up a reasonable process for managing a reserve fund.

ACKNOWLEDGMENTS

We wish to thank the members of this study's technical review panel, and all of the state agencies who generously contributed their time, information, and insights to our effort. Their involvement and contribution to this study does not signify agreement or endorsement of any part of this report or of the analysis that underlies our findings, conclusions, and recommendations.

The individuals and organizations who participated on the technical review panel are listed in Appendix 3.

We particularly wish to express our appreciation to the management and staff of the Department of General Administration who, in addition to contributing to the work of the technical review panel, provided a considerable amount of data and logistical support.

This study was conducted by Bob Thomas and Kathy Gookin of the LBC staff, with technical assistance from the project consultant, Robert M. Williams. Cheryle Broom was the project supervisor.

Cheryle A. Broom, Legislative Auditor

On December 14, 1995, this report was approved by the Legislative Budget Committee and its distribution authorized.

Senator Al Bauer, Chair

RECOMMENDATIONS

Summary

Recommendation 1

The legislature should require that life cycle cost analyses address all of the relevant cost considerations to state government, as well as to the taxpaying public.

Legislation Required:	Yes
Fiscal Impact:	A potential for the selection of more cost-effective alternatives.
Completion Date:	By 1997-99 Biennium

Recommendation 2

The legislature should establish benchmarks for the major assumptions in life cycle cost analyses.

Legislation Required:	Yes
Fiscal Impact:	A potential for the selection of more cost-effective alternatives.
Completion Date:	By 1997-99 Biennium

Recommendation 3

The legislature should require that for each project requiring a life cycle cost analysis, the Director of the Office of Financial Management shall review the analysis and attest to its accuracy and completeness. This review should include a sensitivity analysis and should take place prior to submission of the project to the legislature for approval; or in the case of long-term leases, prior to the Department of General Administration entering into the lease.

Legislation Required:	Yes
Fiscal Impact:	A potential for the selection of more cost-effective alternatives.
Completion Date:	By 1997-99 Biennium

Recommendation 4

The legislature should require that for any life cycle cost analysis that uses an assumption that is different from an established benchmark, an explanation for that use be included as part of the analysis.

Legislation Required:	Yes
Fiscal Impact:	A potential for the selection of more cost-effective alternatives.
Completion Date:	By 1997-99 Biennium

Recommendation 5

The legislature should require that for project proposals in which estimates of operational savings are included, the agency or agencies that would be responsible for achieving the savings submit plans, as part of the proposals, for reducing agency spending commensurate with the estimated savings.

Legislation Required:	Yes
Fiscal Impact:	A potential for capturing more of the savings identified and used to justify project.
Completion Date:	By 1997-99 Biennium

Recommendation 6

The legislature should require that the Director of the Office of Financial Management establish a process for tracking and reporting operational savings identified in the agency plans that are included in legislatively approved projects and long-term leases.

Legislation Required:	Yes
Fiscal Impact:	A potential for capturing more of the savings identified and used to justify project.
Completion Date:	By 1997-99 Biennium

Recommendation 7

The legislature should authorize the establishment of reserve funds that would be adequate for major systems periodic repair and replacement.

Legislation Required:	Yes
Fiscal Impact:	None
Completion Date:	By 1997-99 Biennium

INTRODUCTION

Chapter One

In January 1987, the Legislative Budget Committee (LBC) published a program and fiscal review of the state capital planning and budgeting process. Included within that review was an economic analysis of leasing versus owning facilities occupied by state agencies.

Focus on leasing vs owning

At the time of the review, the Office of Financial Management (OFM) and the Department of General Administration (GA) assumed that ownership of buildings would generally be more cost-effective than leasing, primarily because the state can issue bonds at lower interest rates than developers can borrow. The LBC found no evidence, however, that thorough analysis of the leasing versus owning alternatives had been performed.

The LBC review concluded that there is no generic answer to the question of whether it is more cost-effective to lease or buy facilities. It further emphasized that economic comparisons must be made between specific alternatives using all the facts available about each.

Analysis of past projects: East Campus Plus

Shortly after the publication of the LBC report, three major construction projects in Thurston County, known as East Campus Plus, were proposed. They included the Natural Resources and Labor and Industries buildings, approved by the legislature in 1989, and the Ecology Building, approved in 1991. These buildings were promoted as being cost-effective alternatives to continuing to lease space.

All three buildings have been built and are now occupied, but there continue to be questions about their economic justification and

cost. The LBC was interested in determining whether the lessons learned from its 1987 report were applied in the examples of the East Campus Plus buildings.[1]

Analysis of contemporary projects:

Spokane collocation and . . .

While developing the scope of work for the present study, the authors became aware of a debate before the House Capital Budget Committee between proponents and opponents of a proposed state office collocation project in Spokane. This project was an alternative to continuing to lease a number of separate office spaces. GA estimated that the project would result in a net 25 year present value equivalent savings of $4.2 million (and almost $7 million over 50 years) whereas opponents estimated that there would be a net cost to the state greater than the savings amount cited by GA.

Competing assertions about this and other projects created enough interest in the general subject of lease versus own that the committee chair proposed the creation of an informal subcommittee to look further into the matter.

In order to be of assistance to this subcommittee, we initially planned to include within this study not only a retrospective analysis of the East Campus Plus projects but also of three prospective projects as well, including the controversial Spokane project. Because of time limitations due to the complexity of the analyses, we focused most of our attention on the three East Campus Plus projects and the proposal for Spokane.

. . . Tacoma long-term lease

In the course of gathering information relevant to all projects, we were also able to include in our analysis a project recently constructed for the state on a 20-year lease — the Centennial II Building for the Department of Social and Health Services (DSHS) in Tacoma. This building was suggested by the owner as an example of a well constructed and cost-efficient project constructed under private ownership. This project also allowed for an economic analysis of a long-term lease.

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[1] The LBC made a recommendation that the legislature require OFM to conduct life cycle cost analyses of owning and leasing alternatives, and to submit them to the legislature. Both OFM and GA agreed to this recommendation, but it never became a statutory requirement. Currently GA has responsibilities for conducting analyses, but there is no reporting requirement.

STUDY APPROACH

Study benefited from assistance of a technical review panel

Over the past several months, with the aid of discussions and information offered by building owners and developers, GA, OFM, and legislative members and staff, we have discussed and reviewed the various elements comprising the significant relevant costs to consider in lease versus own alternatives. These relevant costs are discussed in Appendix 4. One of our goals was to create an economic model that, with necessary adjustments to suit particular conditions, could be used to evaluate projects.

In order to facilitate the airing of all points of view, we held five technical review panel meetings where all of the participants were brought together. Our approach was to identify and to test the differing assumptions that participants had about costs.

In most cases, it is difficult to say with certainty what the specific value of a particular assumption should be (e.g., the escalation of lease rates over a 25-year period). However, there is a reasonable range for most assumptions.[2] In the case of the Spokane project, for example, we wanted to know whether the assumptions used by the proponents and opponents of this project fell within a reasonable range. Throughout this process we shared all information and analysis with the panel.

Technical review panel members represented various interests (often competing), and their observations and information have been very important in developing our economic analyses. Nevertheless, the individual models we have created, together with the findings, conclusions, and recommendations in this report, are the sole responsibility of LBC staff and its consultant. They are not intended to represent agreement by or endorsement of any of the study participants who generously contributed their time and information. A listing of panel participants is included in Appendix 3.

We learned from the discussions at the review panel meetings that there can easily be confusion about the difference between economic analysis and cash flow considerations. It is important to clarify how these approaches differ.

[2] A discussion of our choice of values for assumptions is included in Appendix 9.

Distinction between economic analysis . . .

The approach used in this report reflects accepted industry standards and provides a rigorous economic analysis that considers all of the costs to the public.[3] For example, the cost of self-insuring against hazards, foregone property tax revenue or tax shifts, and the alternative use value of state-owned land are all costs that should be taken into account when comparing the cost-effectiveness of alternatives. This approach also recognizes that there is uncertainty in estimating costs (lease escalation rates being a good example), and therefore, the economic model allows for sensitivity analysis to measure the impact of varying assumptions about costs.

OTHER ADVANTAGES AND DISADVANTAGES OF ALTERNATIVES

. . . and cash flow considerations

Other considerations, such as cash flow, are also important and need to be addressed. For instance, in the case of the Natural Resources Building, which is discussed in Chapter 3, using state-owned land for a building may have been considered the highest possible alternative use of the land. From a cash flow perspective, building on state land could be attractive because there are no additional out-of-pocket costs for land purchase. These kinds of issues should be taken into account, but they should supplement, not supplant, the economic analysis.

Throughout the course of this study, we have heard conflicting opinions about the advantages and disadvantages of government operations being decentralized in lease space as opposed to being centralized (or consolidated or collocated) in owned space. The 1987 LBC review listed some of the factors that decision makers might consider specific to leasing versus construction and ownership. We have included the LBC exhibits which describe these factors in Appendix 5.

Qualitative issues should also be addressed

From the outset of our work with the technical review panel, we acknowledged that there could be compelling reasons, mostly qualitative in nature, that could argue in favor of one alternative over another. The perspective offered by this study is that all relevant costs should be quantified and compared. Policy makers should be provided with a complete analysis so they can determine the advantages and disadvantages of project options.

[3] See, for example, Eugene Grant et al, *Principles of Engineering Economy*, 8th Edition, 1990.

FINANCIAL INCENTIVES FOR STATE OWNERSHIP

Chapter Two

An analogy often used in thinking about government's leasing-versus-owning decisions is that of the personal decision to buy a home instead of continuing to rent. Home ownership can have the advantage of building up equity in a property at the same time that the owner enjoys an income tax deduction on interest payments. These are important factors to be considered in such decisions.

Financial incentives for state ownership

This analogy does have some applicability to state lease-versus-ownership decisions. Previous studies conducted for the state, including the 1987 LBC review and a study by Arthur Young in 1988,[1] have mentioned the competitive advantages of state ownership:

- *There is no private owner profit to be paid.*
- *The state has equity in its buildings.*
- *Debt financing rates are lower than the rates for private enterprise.* The rates are lower because interest payments are exempt from taxes and because the risk of nonpayment by the state is lower than a private entity. This cost advantage of financing is the most important cost factor favoring state ownership.
- *The state does not pay property taxes.* Although this is often mentioned as an advantage, property that is not taxed can also mean lost revenue for the state and local jurisdictions that would benefit from the tax. From one perspective, the

Conventional wisdom:

Ownership is less costly than leasing

[1] This study was commissioned by the Senate Ways and Means Committee.

> "state" might be viewed as the gainer, at the expense of a local taxing district. This is because the state benefits from not paying any of the property tax, but loses only about 26 percent of the revenue, with the local district losing the remaining 74 percent. In its comparison of publicly-owned to privately-developed lease space, the Arthur Young study did not include property tax as a cost for either alternative. Another approach that would have had an equivalent result, is to estimate a tax on the private space and impute a tax for the publicly-owned space. (In this study we imputed taxes on state-owned buildings when comparing owning to leasing, since lease rates already reflect the property tax costs to the landlord.)

The homeownership analogy, together with generic studies that have compared leasing costs to ownership costs in hypothetical buildings, have contributed to the conventional wisdom that state ownership is less expensive than leasing.

WHY THE CONVENTIONAL WISDOM MIGHT FAIL

The 1988 Arthur Young study reached the following conclusion:

> Given similar facilities and assumptions, it is in the state's interest to own rather than to lease the new [hypothetical] facility.

The key to this conclusion are the words "similar facilities and assumptions." A different conclusion might be reached if the alternatives being considered have:

- Different amounts of space
- Different costs of developing and maintaining the space
- Different quality of space

As stated in the 1987 LBC review: *Economic comparisons must be made between specific alternatives, using all the facts available about each.* If the alternatives being compared are different for any of the above reasons, the conventional wisdom might fail. The

analysis presented in this report supports the earlier LBC finding that *generic* leasing-versus-owning studies do not provide justification for any *particular* project.

In the next two chapters, examples of specific projects and alternatives show, in some cases, that leasing could have been advantageous from a cost perspective, and in other cases, that ownership could be advantageous.

EAST CAMPUS PLUS COST ANALYSIS

Chapter Three

Overview

Some public testimony and published documents describing the East Campus Plus projects indicated that benefits of collocation or consolidation, which could be achieved through ownership, would be obtained at no additional cost. In several instances, agencies indicated there would be substantial savings. We were asked to review these projects since questions were raised about their cost-effectiveness, including why construction costs appeared to be in excess of industry standards.

When conducting an economic analysis that includes current investments intended to generate future benefits (e.g., buy a building to avoid future rent payments), the accepted professional practice is to include a present value life cycle cost analysis. Costs and benefits in the future are compared to current outlays by "discounting" future costs and benefits by the opportunity cost of investing those dollars in other choices (e.g., spending on other state programs or reducing taxes for private investment).

> *A present value, life cycle cost analysis, or LCC analysis, looks at costs of alternatives over time and, since the same dollars to be spent in the future have less value than they would if spent today, uses present value calculations to compare all costs on a current cost basis.*

This was the approach recommended in the 1987 LBC review, which received concurrence from the Office of Financial Management and the Department of General Administration.

Complete life cycle analyses were apparently not done for any of the East Campus Plus buildings. Of the analyses we have seen,

Project costs were understated

important cost elements had been left out, or were over- or underestimated, and inappropriate elements had been included. Sometimes assumptions were not within verifiable or reasonable ranges. This resulted in the portrayal of project costs to the legislature that understated the costs to the public and state government.

Below we focus on the results of our life cycle cost analyses. The models used, and the detailed analyses that support them, have been shared with this study's technical review panel and the relevant state agencies. Our detailed comments concerning the analyses that were used to justify the East Campus Plus buildings are included in Appendix 6.

LIFE CYCLE COST ANALYSIS

Results of East Campus analysis

Our life cycle cost analysis of the East Campus Plus projects uses all of the available actual cost data, and includes all economic costs. Where appropriate, we made allowances to ensure that lease costs would not be underestimated. For instance, for agencies that were occupying cramped space, we assumed that if leasing had continued, they would have occupied more space (up to GA's standard of 200 rentable square feet per FTE). Also, rather than count the low amounts that agencies were paying to be in subsidized space (e.g., the GA and Cherberg buildings), we used a market lease rate to reflect the true cost to the state.

Cost Comparison — Space Only

Exhibit 1 displays the results of using our life cycle cost analysis. All of the values shown in this table are in 1995 dollars. For each building, we show the 25-year life cycle costs (the term of the debt on the buildings), as well as the 50-year costs (the useful life of the buildings). *The figures in this exhibit relate only to the costs of occupying the space. They do not include any operational savings due to collocation.*

In the case of each building, the analysis shows an ownership cost, on the basis of rentable square feet (RSF), that is higher than leasing costs.

Exhibit 1 also provides a breakdown of the owning cost elements, and provides statistics that help to explain the differences between owning and leasing costs. We will use the Ecology Building as an example for explaining the difference.

Over the 50-year useful life of the Ecology Building, we estimate that the present value of the total costs of ownership will be 101 percent higher than the costs of continuing to lease.[1] On a cost-per-RSF basis, the building is 41 percent more expensive; and on the basis of rentable square feet per FTE, the ownership cost is 43 percent higher.

Sensitivity Analysis

Sensitivity analysis is a process by which one can measure how changes to assumptions, based on uncertainties about costs, will effect the outcome of the analysis. It is also a process for estimating a reasonable range for a cost estimate, recognizing that there is some uncertainty about assumptions.

Different assumptions still show these projects to have significant additional costs

Our estimate of reasonable ranges for the annual costs associated with the three East Campus Plus ownership alternatives are given in Exhibit 2. We established these ranges by assuming that lease escalation could be 20 percent higher or lower than the general inflation rate; and that the buildings could be fully occupied (instead of the present situation of significant vacancies in the Ecology and L&I buildings). These two variables are appropriate for sensitivity analysis because of the uncertainty in estimating their values.

Overall, the remaining assumptions in the life cycle cost analysis tend to favor ownership, including the use of a real discount rate of 5 percent. For the purposes of analysis, we have recognized the significant advantage to the public owner of tax exempt, "state-risk" borrowing not available to a private owner. This is translated into a financing cost of 5.9 percent, approximately 70 percent of the rate for equivalent taxable borrowing with repayment risk assigned to the project. Our review of past and current state analytical practice indicates that historically the state has used this low borrowing cost as the discount rate (opportunity cost) in valuing future benefits and costs rather than using the higher, unsubsidized rate that reflects the risks associated with the investments in the projects. Use of this lower discount rate has the impact of undervaluing the true value of public moneys invested in these long-term decisions and can result in recommending the selection of economically marginal or unattractive capital expenditures.

[1] (141% x 143%)-1 = 101%.

Exhibit 1

East Campus Plus
Life Cycle Cost Analysis
Comparison for Space

	L&I		Ecology		NRB	
	Own 25	Own 50	Own 25	Own 50	Own 25	Own 50
Cost/RSF-Higher or (lower)	44%	45%	43%	41%	93%	94%
RSF/FTE-Higher or (lower)	4%	3%	43%	43%	17%	17%
Total Owning Space Cost Higher or (Lower)	***49%***	***50%***	***104%***	***101%***	***125%***	***126%***
	25 yrs	50 Yrs	25 yrs	50 Yrs	25 yrs	50 Yrs
Leasing/RSF	$ 12.88	$ 12.62	$ 13.94	$ 13.66	$ 12.08	$ 11.80
Owning/RSF	$ 18.56	$ 18.29	$ 19.89	$ 19.25	$ 23.33	$ 22.87
Annual Own Difference in 1995$ -higher (lower)	**$ 2,388,340**	**$ 2,363,675**	**$ 3,098,340**	**$ 2,965,558**	**$ 4,347,664**	**$ 4,273,105**
"Owning" Cost Elements-$/RSF (1995$)	***Own 25***	***Own 50***	***Own 25***	***Own 50***	***Own 25***	***Own 50***
Other Costs (savings)	$ -	$ -	$ 0.05	$ 0.04	$ -	$ -
One-Time Costs	$ 0.00	$ 0.00	$ 0.02	$ 0.02	$ 0.76	$ 0.58
O&M	$ 5.89	$ 5.87	$ 4.66	$ 4.66	$ 6.05	$ 6.02
Repair and Replacement	$ 1.39	$ 1.60	$ 1.38	$ 1.59	$ 1.38	$ 1.60
Property Tax	$ 1.74	$ 1.73	$ 1.65	$ 1.65	$ 2.47	$ 2.46
Building Debt Service	$ 12.04	$ 9.21	$ 14.17	$ 10.84	$ 16.14	$ 12.34
Equipment/Debt Service	$ -	$ -	$ 0.80	$ 0.61	$ -	$ -
Residual	$ (2.50)	$ (0.12)	$ (2.85)	$ (0.16)	$ (3.47)	$ (0.13)
Total	***$ 18.56***	***$ 18.29***	***$ 19.89***	***$ 19.25***	***$ 23.33***	***$ 22.87***

Source LBC LCCA Model

Our baseline alternative uses the a rate of 8.5 percent, reflecting the unsubsidized rate of return. While this rate (5 percent above the 3.5 percent general inflation) is higher than the rate currently used, it is less than some studies that suggest that the market rate of return on these types of investments is as high as 10 percent above general inflation (or 13.5 percent).

Importance of discount rate

Although we conclude that a discount rate of 8.5 percent is an appropriate, conservative rate for use in the analyses of the particular projects in this study,[2] it is important to note how sensitive the outcome of the analyses are to the choice of this rate. For instance, had we used either a 5.9 percent or a 13.5 percent discount rate as our baseline assumption for the Natural Resources building, the resulting annual additional owning costs would have been shown as $3.3 and $5.8 million, respectively,[3] compared to our baseline of $4.3 million.

There are reasonable ranges of values for most assumptions

Other estimates based on changing other assumptions are possible. In our work with this project's technical review panel, we did not reach consensus on all assumptions, nor was this our intent. It remains clear that different interests will argue for different assumptions that would benefit one alternative over another. The life cycle cost model that we developed for this study treats all of the major assumptions as variables, so that their influence on outcomes can be measured. However, as discussed in this report's findings and recommendations, there are reasonable ranges of values for most assumptions. Decision makers need to know if the assumptions used fall within those ranges, or the rationale if they do not.

It is also important to note that while the value of an individual cost component can be changed for the purpose of sensitivity analysis, it would be inappropriate to delete a cost from consideration. Unless all cost components are included, a fair comparison of alternatives cannot be made, and important knowledge of why one alternative is more or less cost-effective than another can be lost.

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[2] In the 1994 LBC study of Department of Corrections Capacity Planning and Implementation, the LBC used a higher discount rate of 10 percent to reflect the risk in the assumptions about operational savings.

[3] The 5.9 and 13.5 percent figures for L&I would be $1.6 million and $3.5 million, respectively; and for Ecology they would be $2.2 million and $3.9 million, respectively.

Exhibit 2

East Campus Plus
Results of Sensitivity Analysis
Annual Additional Cost (Savings) of Owning vx Leasing
(1995$)

	L&I		ECOLOGY		NRB	
	25 years	50 years	25 years	50 years	25 years	50 years
Lower limits	$ 1,729,863	$ 1,441,573	$ 2,039,970	$ 1,690,959	$ 3,818,565	$ 3,466,018
Base-line assumptions	$ 2,388,340	$ 2,363,675	$ 3,098,340	$ 2,965,558	$ 4,347,664	$ 4,273,105
Upper limits	$ 2,842,824	$ 3,087,304	$ 3,593,370	$ 3,660,402	$ 4,873,198	$ 5,088,810

Lower limits: Lease escalation at 120% of general inflation and no vacancies in buildings.
Upper limits: Lease escalation at 80% of general inflation and current level of vacancies.

Cash Flow Comparison

After a comparative analysis has been made, which takes into account all the costs to the public, other considerations, such as cash flow, are important and need to be addressed. For instance, in the case of the Natural Resources Building, using state-owned land for a building may have been considered the highest possible alternative use of the land; and, from a cash flow perspective, building on state land could be attractive because there are no additional out-of-pocket costs for land purchase. These are the kinds of issues that should be taken into account once a full economic analysis has been completed.

Cash flow considerations are also important

In order to show the effect that such cash flow considerations can have, we have made a comparison of the cash impacts on state government's budget versus our estimate of the total economic impact on the public. Exhibit 3 shows the annualized effects (over 50 years) of omitting the value of land and an imputed hazard insurance cost for the Natural Resources building; residual values for all three projects; and omitting local taxing districts' lost revenue from property taxes.

Other Savings that Might Offset Ownership Costs

Some savings are possible from economies of scale and collocation that are not a function of being in the particular space that is now occupied. Any savings that are specifically related to the particular space are included in the cost estimates of Exhibits 1 and 2.

Our review of estimated cost savings from the three East Campus Plus projects is explained in detail in Appendices 7 and 8. Generally, we credited an agency with savings only when there were actual reductions to an agency's budget, and the reductions were taken in the specific budget areas where savings were claimed.

Based on these criteria, we identified no savings related to the Natural Resources Building; possibly as much as $116,336 annually for the L&I Building; and $222,327 annually for the Ecology Building.

Exhibit 3

"Cash" vs Economic Analysis

Cash Includes Only the Budgeted Costs of Ownership
(50 year analysis)

	L&I		Ecology		NRB	
	Economic	Cash	Economic	Cash	Economic	Cash
Annual Own Difference in 1995$ -higher (lower)	**$2,363,675**	**$1,912,151**	**$2,965,558**	**$2,640,952**	**$4,273,105**	**$3,475,888**
"Owning" Cost Elements-$/RSF (1995$)	Economic	Cash	Economic	Cash	Economic	Cash
Other Costs (savings)	$0.00	$0.00	$0.04	$0.04	$0.00	$0.00
One-Time Costs	$0.00	$0.00	$0.02	$0.02	$0.58	$0.00
O&M	$5.87	$5.87	$4.66	$4.66	$6.02	$5.91
Repair and Replacement	$1.60	$1.60	$1.59	$1.59	$1.60	$1.60
Property Tax	$1.73	$0.45	$1.65	$0.43	$2.46	$0.64
Building Debt Service	$9.21	$9.21	$10.84	$10.84	$12.34	$12.34
Equipment/Debt Service	$0.00	$0.00	$0.61	$0.61	$0.00	$0.00
Residual	($0.12)	$0.00	($0.16)	$0.00	($0.13)	$0.00
Total	***$18.29***	***$17.13***	***$19.25***	***$18.19***	***$22.87***	***$20.49***

Explanation of the "cash" examples:

The figures for state government cash outlays omit the land value of the Natural Resources Building and the imputed cost of hazard insurance since the state is self-insured.

The costs for all three cash examples exclude residual value after 50 years and property tax losses to local government from state ownership.

RESULTS OF THE ECONOMIC ANALYSIS

The results of the LCC analysis show that there were significant additional costs to the public associated with ownership of these three buildings. This conclusion remains the same even after giving ownership the benefit of the doubt within the range of reasonable assumptions. Operational savings, well in excess of those that have been demonstrated, would be needed to validate these buildings from a cost perspective.

Why East Campus project resulted in additional costs

The general explanation for the higher cost of the ownership alternative *for these particular buildings* is:

- The agencies occupied more space per employee in the new buildings compared to the leased space.
- They went from various kinds of low cost space into Class A space. Some of the leases vacated consisted of inexpensive warehouse space. Much of the office space vacated was low cost Class B, C, and D. See Appendix 8 for a description of these building classifications.
- The space in the new buildings was relatively expensive for the kinds of functional space provided. The average cost for the space, in all three buildings, is higher than the cost on a rentable square foot basis than the other Class A space we reviewed for this study (examples are included in Chapter 4).

This combination of factors was more than enough to outweigh the financial advantages of state ownership. It is possible that a closer scrutiny of these cost factors would have identified opportunities for reducing projects costs.

Other Project Considerations

Qualitative considerations

Considerations other than cost, such as employee morale, service to the public, more efficient use of staff time, and the desirability of a monumental structure, are additional and important factors that could argue in favor of ownership alternatives. In the case of East Campus Plus, it is clear that many people felt there were significant advantages to be gained by proceeding with these

projects.[4] This report makes no attempt to weigh the unquantifiable advantages and disadvantages of consolidation and collocation, or other factors, such as cash flow considerations, that may have favored the ownership alternatives. Thus we cannot say what decisions would have been made if decision makers had had the benefit of full life cycle cost analyses.
value of exercising that negotiated option.

[4] An example of the case made for these projects is the Testimony of the Commissioner of Public Lands to the Senate Ways and Means Committee in February 1989. This testimony mentions several quantifiable and unquantifiable advantages.

MORE RECENT EXAMPLES OF LEASING VERSUS OWNERSHIP COST ANALYSIS

Chapter Four

Overview

This part of our study includes a review of two more recent projects and analyses of alternatives. One analysis resulted in a long-term leasing decision for office space in Tacoma that our analysis does not find to be cost-effective. The other involves a proposed state office collocation project in Spokane. We found that the analysis on this project was an improvement over previous analyses on the other projects reviewed here, but that it could have benefited from a thorough economic analysis and identification of costs. Our analysis suggests that consideration should be given to the purchase of existing buildings in Spokane.

SELECTION OF THE SPOKANE AND TACOMA PROJECTS

Debate over Spokane Project

During the last legislative session, proponents and opponents of a proposed state office collocation project in Spokane debated its merits before the House Capital Budget Committee. This project was an alternative to continuing to lease a number of separate office spaces. GA estimated that the project would result in a net 25-year equivalent savings of $4.2 million (and almost $7 million over 50 years), whereas opponents estimated that there would be a net cost to the state greater than the savings amount cited by GA. The approach that GA took in comparing the alternative was an improvement over the analysis we reviewed for the East Campus Plus projects, particularly by the inclusion of ownership costs related to major repair and replacement.

The proposed collocation project, referred to as the Metropolitan Project, had been selected by GA from among responses to a request for proposals. One of the other proposers had offered an existing

office building, Rockpointe, as an alternative to new construction. We have included an economic analysis of the Rockpointe facility in our sample projects.

Unsuccessful proposers and organizations representing leasing agents took exception to the analysis conducted by GA in support of Metropolitan. They questioned:

- The estimated space efficiency of the new construction, which was 14 percent higher than the space leased by candidate agencies for collocation;
- Projected rental increases for the continuing-to-lease alternative that are higher than the rate of general inflation;
- GA's estimated ownership costs of operations and maintenance of the proposed new building, and major repair and replacement;
- The useful life assumed for an owned office building; and
- Lack of adequate parking at the proposed site.

Tacoma Project an example of a long-term lease

In addition to the proposed Spokane collocation project, two additional projects had been considered for review: projects in Tacoma and Port Angeles. Due to the lack of available information and interest in these projects, we supplemented our study with a project which would offer a different type of comparison. The project selected was an office building that had been recently developed in Tacoma for DSHS on a 20-year lease. This project, Centennial II, offered another good benchmark for comparing the relative costs of ownership vs. leasing for a specific project.

CHARACTERISTICS OF THE SELECTED PROJECTS

Metropolitan offered a viable alternative method of owning space (contract for design and construction) in lieu of leasing.

Rockpointe provided a good alternative comparison to development: purchase of a relatively new existing Class A office building.

These two projects can be compared to each other as well as to leasing.

Finally, Centennial II offered a very straightforward financing and ownership type of analysis: For a given building, was it preferable to own or to lease on a long-term basis (e.g., 20 years)? Further, since a lease with an option to purchase had been negotiated, it provided the opportunity to consider the adequacy and economic value of exercising that negotiated option.

SPECIFICS OF SELECTED PROJECTS

Metropolitan (Spokane)

This proposal was selected by the state as the best proposal resulting from the state's request for a total of 250,000 square feet of space. It would also provide for private development and state ownership of a 125,000 GSF (gross square foot) facility in downtown Spokane, with the option for the state to acquire a second similar building in the future. This project would provide for the collocation of a variety of agencies currently occupying leased space. GA's analysis of the project suggested that rent savings from agencies moving into the space would be sufficient to pay the cost of debt repayment, maintenance costs, and major repair and replacement costs.

Implicit in this analysis were assumptions that:

- Rents would increase faster than general inflation;
- The building would be almost 15 percent more efficient in accommodating state programs;
- The state would pay no property taxes; and
- Parking would be adequate and would be a new revenue producer.

These assumptions were disputed by interests representing leasing agents. The opponents indicated that the proposed project was more expensive than necessary; that the projected rental rates, which would be "saved" and applied toward ownership, were seriously overstated; that the space efficiency was not likely; that maintenance costs were understated; and that parking was inadequate and inappropriately counted as a "new" revenue.

Results of Metropolitan analysis

Our economic analysis suggests that the building, as proposed, would be substantially more expensive to own than to continue to lease; we estimate that the annual additional costs would total approximately $244,000. This result is summarized in Exhibit 4. However, the resulting owned space would be, on average, of a higher quality than the leased space to which it is being compared.

Our sensitivity analysis suggests that owning this building would be approximately the same cost as leasing existing space if one assumed that future rents in Spokane increased at a rate of 120 percent of general inflation, and if new space were 5 percent more efficient than currently leased space. Conversely, if, as project opponents argue, rents were to increase at rates of 80 percent of inflation and space were 5 percent less efficient, then owning would be approximately $500,000 more expensive, about double our baseline estimate (see Exhibit 5).

It should also be noted that the total investment costs identified by the state were very cost competitive with other state owned project examples. (See Exhibit 8, Appendix 4, Comparison of Initial Costs 1995$.)

Rockpointe (Spokane)

This 162,000 GSF building was one of four existing buildings offered as a package to the state for ownership in response to the state's request for proposals for 250,000 square feet in Spokane. We reviewed this project using our life-cycle cost model, with the same baseline assumptions applied to our review of the Metropolitan project. Since this was an existing building, it was necessary to reflect higher repair and replacement reserves and a shorter economic life (45 years vs. 50 years for Metropolitan).

Results of Rockpointe analysis

Our economic analysis concludes that ownership would be slightly less expensive than continuing to lease, while at the same time providing, on average, higher quality space. We estimate annual ownership savings ranging from $52,000 for the first 25 years to $4,000 for the full 50-year period. These savings would be substantially greater using the assumptions of higher future rents and higher owned space efficiency; conversely, ownership would be almost $250,000 more costly per year if space were less efficient and Spokane rents increased at only 80 percent of inflation (see Exhibit 4).

Exhibit 4

Spokane Project Candidates
Life Cycle Cost Analysis Comparison for Space

	Metropolitan (selected) Turnkey Dev./Ownership		**Rockpointe (alternative)** Purchase Existing Bldg.	
	Own 25	Own 50	Own 25	Own 50
Cost/RSF-Higher or (lower)	16%	17%	-3%	0%
RSF/FTE-Higher or (lower)	0%	0%	0%	0%
Total Owning Space Cost Higher or (Lower)	***16%***	***17%***	***-3%***	***0%***
	25 yrs	50 Yrs	25 yrs	50 Yrs
Leasing/RSF	$ 12.98	$ 12.69	$ 12.99	$ 12.71
Owning/RSF	$ 15.10	$ 14.82	$ 12.65	$ 12.68
Annual Own Difference in 1995$ -higher (lower)	**$ 244,062**	**$ 244,824**	**$ (51,624)**	**$ (3,583)**

"Owning" Cost Elements-$/RSF (1995$)	***Own 25***	***Own 50***	***Own 25***	***Own 50***
Leasing	$ -	$ -	$ -	$ 0.39
One-Time Costs	$ 1.25	$ 0.96	$ 1.25	$ 0.96
O&M	$ 4.41	$ 4.41	$ 4.41	$ 4.26
Repair and Replacement	$ 1.42	$ 1.64	$ 2.20	$ 2.08
Property Tax	$ 1.78	$ 1.78	$ 1.17	$ 1.13
Building Debt Service	$ 8.26	$ 6.31	$ 5.51	$ 4.22
Residual	$ (2.02)	$ (0.28)	$ (1.90)	$ (0.35)
Total	***$ 15.10***	***$ 14.82***	***$ 12.65***	***$ 12.68***

Source. LBC LCCA Model

Exhibit 5

Spokane Alternatives

Results of Sensitivity Analysis

Annual Additional Cost (Savings) of Owning vs Leasing

(1995$'s)

	Metropolitan		Rockpointe	
	25 yrs	50 Yrs	25 yrs	50 Yrs
Lower Limits	$ 40,142	$ (18,769)	$ (248,267)	$ (245,776)
Baseline Assumptions	$ 244,062	$ 244,824	$ (51,624)	$ (3,583)
Upper Limits	$ 447,358	$ 510,898	$ 146,691	$ 246,380

Lower Limits: Lease escalation at 120% of general inflation; owned space 5% more efficient than leased.

Upper Limits: Lease escalation at 80% of general inflation; owned space 5% less efficient than leased.

Source: LBC LCCA Model

Centennial II (Tacoma)

This 86,000 GSF facility was constructed in Tacoma for DSHS in 1993, by a developer under a 20-year state lease commitment. We compared this lease for 20 and 50 year periods to the following two alternatives:

- Purchasing the facility at the owner's final development cost plus 15 percent profit; and
- Exercising the existing lease's purchase option in 1996, three years into the existing 20-year lease. This purchase would result in an owner profit of 39 percent, and would require the state's payment of approximately $2 million for prepayment of the developer's project loan.

Results of Centennial analysis

Using the same life cycle model developed for the other five example projects, we found that:

- Ownership under an initial purchase with a 15 percent profit is significantly less costly. Annual savings would range from $419,000 to $555,600
- Exercising the existing option, despite a profit in excess of standard market profit, and the substantial prepayment penalty, would result in annual savings of $179,000 to $200,000.

These results are summarized in Exhibit 6.

The above savings would depend on the assumption of market lease rates after the 20th year of the fixed lease. Even if base rents did not increase during the last 30 years, estimated savings from original ownership would have been $324,000. Savings from exercising the negotiated purchase option would be approximately $84,000 annually (see Exhibit 7).

Exhibit 6

Centennial II Alternatives
Life Cycle Cost Analysis Comparison for Space

	Centennial II Purchase		Centennial II Lease/Own	
	Own 20	Own 50	Lease/Own 20	Lease/Own 50
Cost/RSF-Higher or (lower)	-33%	-27%	-12%	-11%
RSF/FTE-Higher or (lower)	0%	0%	0%	0%
Total Owning Space Cost Higher or (Lower)	***-33%***	***-27%***	***-12%***	***-11%***
	20 yrs	50 Yrs	20 yrs	50 Yrs
Leasing/RSF	$ 21.05	$ 19.60	$ 21.05	$ 19.60
Owning/RSF	$ 14.07	$ 14.34	$ 18.53	$ 17.35
Annual Own Difference in 1995$ -higher (lower)	**$ (555,597)**	**$ (418,576)**	**$ (200,197)**	**$ (178,851)**

"Owning" Cost Elements-$/RSF (1995$)	*Own 20*	*Own 50*	Lease/Own 20	Lease/Own 50
Leasing	$ -	$ -	$ 4.50	$ 3.04
Other Lease Costs	$ -	$ -	$ 1.44	$ 0.97
One-Time Costs	$ 1.42	$ 0.96	$ -	$ -
O&M	$ 3.16	$ 3.16	$ 2.47	$ 2.70
Repair and Replacement	$ 1.42	$ 1.64	$ 1.42	$ 1.64
Property Tax	$ 2.41	$ 2.41	$ 1.89	$ 2.06
Building Debt Service	$ 9.62	$ 6.49	$ 10.76	$ 7.26
Residual	$ (3.96)	$ (0.31)	$ (3.96)	$ (0.31)
Total	***$ 14.07***	***$ 14.34***	***$ 18.53***	***$ 17.35***

Source: LBC LCCA Model

Exhibit 7

Centennial II Alternatives
Results of Sensitivity Analysis
Annual Additional Cost (Savings) of Owning vs. Leasing

(1995$'s)

	Centennial II-Purchase		Centennial II-Lease/Purchase	
	20 years	50 years	20 years	50 years
Lower Limits	$ (555,597)	$ (489,194)	$ (200,197)	$ (249,469)
Baseline Assumptions	$ (555,597)	$ (418,576)	$ (200,197)	$ (178,851)
Upper Limits	$ (555,597)	$ (324,209)	$ (200,197)	$ (84,483)

Lower Limits: Lease escalation at 120% of general inflation after year 20 of current lease.

Upper Limits: Lease rate with no increase in years 21-50.

LIFE CYCLE COST ANALYSIS

Our life cycle cost analysis of these three projects used all of the available actual cost data, and included all economic costs. Where appropriate, we made allowances to ensure a fair comparison. For instance, in evaluating the leasing vs. ownership analysis for Centennial II, we used the historical pattern of increases for 5-year lease increments rather than our baseline assumed increases consistent with inflation. Similarly, baseline assumptions for space efficiency are assumed to be neutral, although historical experience with the three owned East Campus Plus projects shows varying levels of space inefficiency.

As previously noted, we conducted sensitivity analyses relative to the base assumptions on space efficiency and future rents: higher/lower rents and increased/decreased space efficiency on owned space for Metropolitan and Rockpointe; higher/lower rents for Centennial II since space efficiency is not relevant in comparing the same project.

OBSERVATIONS FROM THE ECONOMIC ANALYSIS

Our analysis of these projects show that they would have benefited from a thorough economic analysis.

From a cost perspective, the results of our analysis also suggest that consideration should be given to the purchase of existing buildings in Spokane.

Comparison of development costs

We note that the current process of requests for development proposals for state purchase, based on the cost data provided by state agencies, provides a significantly less costly method for acquiring owned office space (see Exhibit 8). The total development costs for the Centennial II building and the development equivalent costs for Metropolitan in Spokane are substantially less costly than the 1995 equivalent costs for off-campus L&I and Ecology projects and the on-campus NRB building. The relatively low purchase equivalent cost for Rockpointe is further explained by purchasing an existing building (e.g., discount for a building that has consumed about 5 years of useful life).

The lower costs for the privately developed projects appear to be primarily attributable to the development of projects that are financially viable in private markets. That is, total life-cycle building costs (i.e., initial cost, operating costs, and periodic replacement and repair costs during the buildings economic life) were all considered in developing a financially viable project (i.e., supportable by clients paying market rents).

Further, our analysis of the method of acquiring the use of a specific facility supports the conclusion that purchasing of that asset, with proper budgeting, and with implementation of maintenance and repair and replacement cycles, will result in significant savings. This is reaffirmed by the analysis for Centennial II.

It is unlikely that the state had the advantage of the full analysis of the true costs necessary to develop the Centennial II office space in Tacoma. Nor does it appear that alternatives were given sufficient consideration. Even with the more costly negotiated option-to-purchase, ownership appears to have a substantial financial advantage.

Exhibit 8

Comparison of Initial Costs 95$
Includes Financing Impacts

	L&I	*Ecology*	*NRB*	*Metropolitan*	*Rockpointe*	*Centennial II*
Cash and/or Private Financed Equivalent						
Cost Per RSF	$201.44	$256.14	$281.18	$167.69	$117.74	$160.89
State Financed Equivalent						
Cost Per RSF	$166.77	$207.37	$234.00	$131.65	$93.67	$134.81
Financing Savings/RSF	*$34.68*	*$48.76*	*$47.18*	*$36.04*	*$24.07*	*$26.08*
% of Initial Cost	*17%*	*19%*	*17%*	*21%*	*20%*	*16%*
Total annual owning and operating cost/RSF in 95$'s	$18.29	$19.25	$22.87	$14.82	$12.68	$14.34

Initial costs include land; development, financing, construction; and equipment and move-in costs.
Differences between financed and cash represent the savings due to tax-exempt borrowing using the state's credit rating.

FINDINGS AND RECOMMENDATIONS

Chapter Five

Conclusion

We did not find a thorough economic analysis of any of the projects reviewed for this study. Unless decision-makers are provided a thorough economic analysis, they cannot identify the most cost-effective alternatives; nor are they in the best position to identify opportunities for improving the cost-effectiveness of selected alternatives We did find, however, significant improvements in the analysis of the Spokane collocation project when compared to the analysis done (and the information provided) concerning the East Campus Plus projects. The findings and recommendations below indicate areas for further strengthening the current process.

Areas where improvements should be made

Quality of and Completeness Data

In order to know if a project is cost-effective, all the potential costs and savings for the alternatives need to be taken into account. For example, when looking at the current cost of leasing, if there are leasing costs that are paid for by an agency, but are not part of a lease agreement (e.g., some operational and maintenance costs, and tenant improvements), they should be quantified and included in the analysis. The projects we have reviewed have not included complete cost data. In some instances, the data that was included was not reliable.

Comparability of Data

Comparisons of alternatives need to be based on the same units, such as cost-per-rentable square foot or building efficiency, and the units need to be defined and counted the same way. We found that square footage was frequently not counted the same way in the

lease agreements used in comparative analyses that relied on rentable square feet estimates. We shared with GA and other members of the technical review panel a way of unambiguously establishing comparable rentable square feet measures.

Consideration of All Economic Costs

Why analyses of projects should include all economic costs

We found that economic analyses did not contain all the quantifiable costs to the state and to the public. Hazard insurance is an example. The amount that building owners pay for hazard insurance, which is included in a lease rate, reflects one of the costs of the risk of ownership. Even in cases where state-owned buildings do not carry hazard insurance, the cost of hazard risk still exists and should be accounted for in an ownership alternative.

Another example pertains to property tax on ownership alternatives. The state does not pay property tax on state-owned buildings. At the same time, the state thereby does not collect its portion of revenues from the tax, were it imposed. Nor do the local taxing districts collect their portions, which are about three-quarters of the total. Potentially, omitting an imputed property tax on the ownership side can lead to a recommendation to own that would be justified only because the tax consequences of ownership are shifted from one set of taxpayers to another.

Our final example is land value. The Arthur Young study explained how state-owned land has a real value for alternative uses, and that to omit this opportunity cost will result in misleading economic comparisons. Imputing a cost for land already owned is a standard professional practice in economic analysis.

In addition to identifying costs to the public, a full economic analysis is important because it can help to explain the ways in which alternatives are more or less cost-effective. This can lead to cost savings in two ways: (1) by identifying the most cost-effective alternative; and (2) by identifying savings within the selected alternative (for example, ensuring that the space efficiency and development costs of a state-developed project will be competitive with a privately-developed project).

Relationship of Economic Costs to Other Considerations

After a comparative analysis has been made, which takes into account all the costs to the public, other considerations, such as cash flow, are important and need to be addressed. For instance, in the case of the Natural Resources Building, using state-owned land for a building may have been considered the highest possible alternative use of the land. From a cash flow perspective, building on state land could be attractive because there are no additional out-of-pocket costs for land purchase.

Importance of cash flow

Qualitative considerations, such as improved public access, the desirability of monumental structures and employees working conditions, should also be taken into account.

Sensitivity Analysis

We found no evidence of sensitivity analyses on these projects as reported to the legislature. Given the uncertainties about future lease and owning costs, and of estimates of operational savings attributed to decisions, almost any single estimate of cost differences between alternatives is bound to be incorrect to some degree.

Uncertainty in assumptions

There is, however, a reasonable range of values for most assumptions. Decision makers need to know about where in the range the assumptions fall in order to understand the reasonableness of the assumptions and the risks involved in the decision.

Benchmarks

We observed in the course of this study that from one analysis to the next, and from one year to another, the cost elements that are included in analyses may be different, and the values assigned to those elements may vary. These differences are a concern because they have not been due to changed circumstances that would call for alternative assumptions, but rather to the approach of individual analysts and the degree to which their analyses are complete.

Need to establish reasonable ranges for assumptions

An improvement to the current process would be to ensure that all economic costs be considered, and that reasonable ranges, or benchmarks, be established for those costs. These benchmarks

should reflect the results of empirical analysis (e.g., the relationship between lease escalation and general inflation) and legislative policy (e.g., the choice of an appropriate discount rate).

Discount Rate

Concerns over state's use of a low discount rate:

Lower than private rate and . . .

The discount rate is the factor used to translate expected costs and benefits in any specific future year into its present value. Typically, the state has used its tax-subsidized rate of borrowing for purposes of discounting, and this usually results in a real discount rate (i.e., after inflation) of about 2.5 percent.

In contrast, the federal Office of Management and Budget has a policy of using a real (i.e., after inflation) discount rate as high as 10 percent, depending on the nature of the investment being analyzed. This represents an estimate of the average rate of return on private investment before taxes and after inflation.

Numerous economists have argued for different rates based on economic theory. The federal cost of long-term borrowing and the OMB real rate of 10 percent are approximately the low and high end of the range. The state's customary rate, which is tax-subsidized, falls below this range. For the LBC's 1987 review, the expert consultant who advised the LBC recommended a real discount rate of 10 percent for the reason that the highest alternative use for state funds may have an intrinsic value that exceeds the current bond rate.

does not address risk

Choice of a discount rate may depend in part on perspective. Government investments are made with taxpayers' money. What rate of return should taxpayers expect on the use of their money? An answer to this question should address the issue of risk. If an investment is risk-free, then a lower discount rate can be justified. The converse is also true.

This study shows that there have been high risks in projects because of uncertainties about assumptions, and particularly a reliance on speculative operational savings as justification for proposals. Using the state's very low borrowing rate as the nominal discount rate (before inflation) can result in ignoring significant risks. In some projects, the relative costs of alternatives can turn on the choice of a discount rate.

As a default value in our analyses (i.e., before sensitivity analysis), we used a real discount rate of 5 percent (nominal of 8.5 percent). This rate assumes that there is little risk in making the investments in projects of the kind reviewed in this report. It is noteworthy that we have coupled this low risk, taxpayer equivalent rate with moderate (e.g., unaggressive) assumptions relative to lease escalation and space efficiency.

Had we used the more optimistic (i.e., aggressive) assumptions to favor ownership, a commensurate increase in the discount rate to account for this increased risk in attaining these projections would be merited. Conversely, had we assumed forecasts which we know would have been reached *with almost absolute certainty* (e.g., rents will increase at rates less than inflation), then a taxable, but certain, rate such as a 20-year Treasury Bill rate (of say 6.75 to 7 percent), could be justified (e.g., real rate of 3.25 to 3.5 percent rather than 5 percent).[1]

Utilization of Vacant Space

There is no process in place to ensure that vacant state-owned space will be occupied in lieu of leasing space. This is particularly evident in the case of the Ecology Building which presently has space for 266 additional FTEs.

Reserves for Major Systems Periodic Repair and Replacement

We found that historical analyses, with the exception of the Arthur Young study, omitted provision for periodic replacement and repair costs. We also noted that the lack of funds for repair and replacement is a recurring criticism of the state's management of its existing owned properties. We did find, however, that GA's analysis of the Spokane Metropolitan project made provision for repair and replacement. This is a noteworthy improvement over prior state analysis.

Our review indicates that there is an annual amount that should be included for repair and replacement for all owned space of

[1] See Chapter 3 for an example of the impact of varying the discount rate for an East Campus Plus project.

Problems with current funding of repair and replacement

approximately $1.50 per square foot. For those existing projects that have not been maintained (because reserves have not been established), larger amounts would be necessary. The alternative would be to continue to fund repairs out of savings in the operating budgets; to periodically issue bonds; to make sizable cash capital appropriations; or to defer necessary repairs, thereby compromising the economic life of state assets or impairing the operations of programs housed in state-owned space.

Further, we note that the absence of a periodic repair and replacement allowance for owned space will understate the actual cost of that space and can result in under-recovery of appropriate rents to programs utilizing that space. In addition to the resulting distortion of true program costs, this can result in less than full recovery of eligible grant monies when grants may fund facility costs.

Capturing Savings

Currently there is no process in place for ensuring that proposed operational savings, used to justify projects, will be planned for by the relevant agencies, and then tracked, reported and achieved.

RECOMMENDATIONS

The following recommendations are made to provide greater accountability and quality control in the project proposal process, and better information for policy makers in choosing among alternatives.

Recommendation 1

The legislature should require that life cycle cost analyses address all of the relevant cost considerations to state government, as well as to the taxpaying public.

Recommendation 2

The legislature should establish benchmarks for the major assumptions in life cycle cost analyses.

Recommendation 3

The legislature should require that for each project requiring a life cycle cost analysis, the Director of the Office of Financial Management shall review the analysis and attest to its accuracy and completeness. This review should include a sensitivity analysis and should take place prior to submission of the project to the legislature for approval; or in the case of long-term leases, prior to the Department of General Administration entering into the lease.

Recommendation 4

The legislature should require that for any life cycle cost analysis that uses an assumption that is different from an established benchmark, an explanation for that use be included as part of the analysis.

Recommendation 5

The legislature should require that for project proposals in which estimates of operational savings are included, the agency or agencies that would be responsible for achieving the savings submit plans, as part of the proposals, for reducing agency spending commensurate with the estimated savings.

Recommendation 6

The legislature should require that the Director of the Office of Financial Management establish a process for tracking and reporting operational savings identified in the agency plans that are included in legislatively approved projects and long-term leases.

Recommendation 7

The legislature should consider authorizing the establishment of reserve funds that would be adequate for major systems periodic repair and replacement.

SCOPE AND OBJECTIVES

Appendix 1

SCOPE

This study will examine the process by which the state selects and funds projects to meet its needs for office space and other kinds of buildings.

The initial focus of this study will be on decisions concerning leasing versus ownership.

OBJECTIVES

1. Review the general and project specific economic analyses that have been used to support selected projects.

2. Determine whether these analyses are adequate for deciding among alternatives.

3. Determine whether sufficient numbers and kinds of alternatives were considered.

4. Identify the key factors that determine the outcome of the economic analyses.

5. Evaluate the cost-effectiveness of selected projects — i.e., the extent to which they meet a need in an economical, effective, and efficient manner.

AGENCY RESPONSE

Appendix 2

- Office of Financial Management
- Department of General Administration

STATE OF WASHINGTON

OFFICE OF FINANCIAL MANAGEMENT

Insurance Building, PO Box 43113 • Olympia, Washington 98504-3113 • (360) 753-5459

November 21, 1995

Senator Albert Bauer, Chair
Legislative Budget Committee
406 Legislative Building
Olympia, Washington 98504-0482

Dear Senator Bauer:

The Office of Financial Management (OFM) has completed its review of the Legislative Budget Committee's (LBC) report on Capital Planning and Budgeting: Study of Leasing Versus Ownership Costs. OFM is very supportive of LBC's goal of improving the decision-making process regarding ownership options for state facilities, and has agreed to develop a model for assessing alternatives proposed in future capital budgets. OFM does, however, have concerns about some technical issues raised by the report and has expressed those concerns throughout the study process. This letter reiterates OFM's commitment to develop a model for assessing future capital budget requests that addresses both the LBC's recommendations and OFM technical concerns.

I. IMPLEMENTATION OF STUDY RECOMMENDATIONS

As explained at the November 8 meeting of the LBC, OFM will develop a model over the next few months for assessing capital budget requests, based on recommendations contained in the LBC report. OFM will share with the staff of the legislative budget committees a draft of the model and draft capital budget instructions before they are put into use. The assessment model will be designed to accomplish the following goals:

- Aid in the budget development process by allowing fair and reasonable comparison berween alternative ownership options for selected state facilities. This emphasis will address recommendations 1, 2, 3 and 4 in the LBC report.

- Present an economic analysis of various ownership options in terms relevant to the state's budgetary process. This analysis will require agencies to identify potential future savings and costs under various options to ensure that all parties have a clear understanding of the impact on agency capital and operating budgets of each approach. This emphasis will address recommendations 5 and 6 of the LBC report.

- Identify and explain non-economic justification for a proposed project. Examples of non-economic issues (or those in which assigning a dollar value is very difficult) include the quality and appropriateness of occupied space, the value of having an entire state agency in one location, the problem of housing state employees in substandard space that inhibits their ability to function effectively, the location of a facility as it relates to ease of client service, and the flexibility of occupied space.

II. TECHNICAL ISSUES/CONCERNS

The table below shows OFM's position on specific recommendations contained in the study, followed by an explanation of our concerns with certain aspects of some of those recommendations.

RECOMMENDATION	OFM POSITION	COMMENTS
1.	Partially Concur	See technical discussion below
2.	Partially Concur	In cooperation with agencies and OFM
3.	Partially Concur	OFM will use budget process to accomplish
4.	Concur	Consistency is important
5.	Partially Concur	OFM will use budget process to accomplish
6.	Concur	OFM will use budget process to accomplish
7.	Do Not Concur	Inconsistent with current budgetary practice

Cash Versus Imputed Costs

OFM's model will be designed for simplicity and ease of use, focusing on the budgetary implications of alternative approaches. For this reason, OFM's model will call for a clear distinction between actual and "imputed" costs, such as the value of land the state already owns or property taxes that the state would not be required to pay. While it may be useful to identify imputed costs from a macroeconomic view, OFM believes that blurring the distinction between these considerations and actual costs would only confuse future decision making. (This point is also made in the attached letter of October 26 from OFM to the LBC Executive Committee.) For example, an analysis that blurs the distinction between actual and imputed costs could lead decision makers to conclude that a selected option would save money — even though agency budgets would have to increase to accomplish those savings. As pointed out in recommendations 5 and 6, OFM believes that it would be more useful to look at direct costs to the state budget — costs that can be clearly measured and monitored into the future —and, hence, will identify those costs separately in its model.

Residual Value

OFM also believes that careful attention must be paid to calculating the residual value of a property at the end of the analytical term. The LBC study assumed that structures depreciate in a

straight-line over 50 years, an approach consistent with federal tax guidelines and private accounting standards. However, one need only look at the capital campus to see that this approach may not be as useful in analyzing alternative *state government* options. It is not uncommon for government facilities to have a much higher value and to continue in active use for much longer periods of time than in the private sector. This is particularly true of "monumental" buildings that receive adequate care and maintenance. Clearly, the use of government buildings is often not consistent with how the private sector treats its facilities. Federal tax benefits, the profit motive, and other factors make it much easier for private business to abandon used-up facilities. For this reason, OFM's model will require a more precise calculation of the residual value of a property than recommended by the LBC.

Identifying All the Costs of Leasing

The LBC study addresses the importance of including all relevant costs in any model that compares alternative ownership options. However, although the LBC study made a concerted effort to identify and include all ownership costs, it is not clear that all costs were included in the leasing alternative. The report's conclusion that leasing would have been a cheaper alternative than construction of the East Campus Plus projects could change substantially given a slightly different (and equally reasonable) approach to identifying costs and assumptions.

It is important to recognize that the state's current budgetary structure — along with delegated leasing authority and different management styles of the various agencies — allow for the use of operating funds to make improvements and repairs to leased facilities without central reporting of these expenditures. On the other hand, these costs are fully included in the ownership option and may skew the results of comparisons making leasing appear to be less expensive than it really is. The Department of General Administration echoed this concern in a letter commenting on the study. In addition, the LBC study does not appear to consider the cost involved in moving out of space that simply fails to perform because of age, location, or configuration. Moreover, the leasing option must always assume that replacement space is available at a reasonable rate when it is needed — an assumption that may not always prove accurate.

Establishment of Reserve Funds

Recommendation 7 suggests the establishment of reserve funds for building repair and replacement. It is not clear how this recommendation could be implemented, raising a number of questions. This approach could lead to the creation of non-appropriated accounts and significant expenditures of public funds without legislative approval. It could also blur the distinction between the capital and operating budgets. The House Capital Budget Committee is now working on ways to improve facility maintenance, and further discussion of this proposal could be integrated with that effort.

III. CONCLUSION

In conclusion, I would like to reiterate that OFM is very supportive of the LBC's efforts to improve the decision-making process regarding the various ownership options for state facilities. OFM will continue to work on this matter and work with legislative budget and LBC staff to make changes to future capital budget processes to accomplish this goal. While OFM disagrees with LBC's approach to some technical issues contained in the recommendations, we believe we can develop an assessment model for evaluating future facility ownership proposals that meets all of our concerns.

Sincerely,

Ruta Fanning

Ruta Fanning
Director

RF:JF:dh
Attachment
cc: Cheryle Broom, LBC

STATE OF WASHINGTON
OFFICE OF FINANCIAL MANAGEMENT
Insurance Building, PO Box 43113 • Olympia, Washington 98504-3113 • (360) 753-5459

October 26, 1995

Senator Albert Bauer, Chair
Legislative Budget Committee
406 Legislative Building
Olympia, Washington 98504-0482

Dear Senator Bauer:

Cheryle Broom has shared the draft report titled "Capital Planning and Budgeting: Study of Leasing versus Ownership" with my office. I appreciate the opportunity to review the study documents, and applaud the thorough and detailed approach employed by the LBC study team. My staff has worked closely with the LBC staff and project consultant throughout this study and will be involved in the implementation of study recommendations.

I feel it is important to offer some comments regarding the contents and recommendations offered in the study. The following comments have been offered by my staff at meetings throughout the study process, and many are consistent with comments offered by the Department of General Administration dated August 17, 1995.

Generally, the technical analysis used in the study of completed projects in the Olympia area include some approaches that could reasonably be viewed in different ways and lead to different conclusions:

1. The use of imputed values in the analysis may appear to make sense from a macroeconomic view, but does not necessarily lead to clear or improved decision making. For example, adding costs to an analysis such as property taxes that the state does not pay, or the cost of land the state already owns may confuse the issue. Relying on these imputed costs could result in an analysis that concludes the selected approach will save money — even though agency budgets would have to increase to accomplish those savings. It seems more useful to look carefully at direct costs to the state budget — costs that can be clearly measured and monitored into the future.

2. While the study team has worked diligently to include all the costs in making its cost comparisons, there are factors that simply are not readily quantified. The quality and appropriateness of occupied space, for example, are not taken into account. The value of having an entire state agency in one location is apparent to agency management, but cannot easily be assigned a monetary value. Nor is the problem of housing state employees in substandard space that inhibits their ability to function effectively. Other similar considerations include the location of a facility, the length of the lease-term and conditions of occupancy, the ease of client service, and the flexibility of the occupied space.

3. Capturing all the costs that can be quantified is not always an easy task either, although the study team has made a concerted effort to identify all space costs possible. Agencies often do not report all costs in leased space to maintain, manage or improve the space, but these costs are easily identified in the ownership option. It is common practice for agencies to pay for small improvements in leased facilities in a variety of ways, and these expenses are not always reported or included in these kinds of analyses. The Department of General Administration echoes this concern in a letter commenting on the study.

4. The question of facility life is important when considering the life cycle cost of options, but is also difficult to quantify. The leasing option does not always recognize the cost to move out of space that simply fails to perform because of age, location, or configuration or the disruption that such a move generates. Further, the leasing option must always assume that replacement space is available at a reasonable rate when it is needed — an assumption that may not always prove accurate.

5. The method employed and assumptions used in the report for calculating the residual value of the asset at the end of the analytical term could also be debated. It is not uncommon for government facilities to have a much higher value and to continue in active use for very long periods of time. This is particularly true of "monumental" buildings that receive adequate care and maintenance. Similarly, reasonable treatment of depreciation of government buildings may not be consistent with how the private sector treats its facilities. Federal tax benefits, the profit motive, and other factors make it much easier for private business to abandon used-up facilities.

6. Unique one-time costs related to the financing approach selected for the Ecology Building may make it appear more expensive. The amount borrowed includes funds to create a sizable reserve account and pay interest during construction. This results in a larger annual cost to pay debt service. However, this reserve account will yield significant future value. Recent experience with COP purchase of a building in Redmond for the State Board of Community and Technical Colleges did not include similar additional financing costs.

There are also some points you may want to consider regarding the recommendations:

1. Recommendation 2 suggests that the Legislature set benchmarks for assumptions in any life-cycle cost analysis. It is not clear what process would occur to have the Legislature set such details as the discount rate to be applied, the rate of lease escalation, the cost of borrowing for various options, etc. Which organization within the Legislature would be responsible for setting and updating these benchmarks, especially since they could be different for various sections of the state and will be constantly changing? An alternative approach could be for the proposing agency to use benchmarks in a standard format within broad parameters set by OFM and reviewed by the Legislature. In this way, assumptions are clearly set out and could be easily reviewed for reasonableness.

2. Recommendation 7 suggests the establishment of reserve funds for building repair and replacement. This is a quantum change in operating and capital budgeting approach and philosophy that bears significant consideration. This suggestion could lead to non-appropriated accounts and significant expenditures of public funds without Legislative approval. This also blurs the distinction between the capital and operating budgets. The House Capital Budget Committee is now working on ways to improve facility maintenance, and this recommendation should be integrated with that effort.

CONCLUSION:

Notwithstanding all of the comments listed above, OFM believes that the work of the study team has proven very useful and will be a helpful step in continuing to develop better approaches to reviewing agency requests for new leased or owned space. The current capital budget review process is more intensive than in the past, and projects being requested today face a thorough analysis before they are approved.

The comments on technical issues above, in their entirety, simply point out that we are attempting to analyze and compare economic decisions that are quite complicated and have many variables that are not readily measured. It is important to recognize that reasonable analyses of the same proposal could yield somewhat different conclusions. However, we can develop a consistent approach that is straightforward and simple to understand, which would tell us what happens to the state budget under any space acquisition option proposed.

As a means of recognizing these legitimate alternative sets of assumptions, I would suggest that the financial analysis of past projects presented in the report be framed as ranges of comparison rather than specific conclusions. I think we could all agree that using different assumptions in the model offered by the study team, and concentrating on the direct costs of past decisions, could yield conclusions that are different than those shown in the report. Presenting these conclusions in terms of ranges would help to recognize this variability.

Finally, I think it is important to view this study effort in terms of how we can work together to improve decision-making in the future, and not to dwell on analyzing past actions that were made with different information in a different environment. OFM stands ready to work with the Legislature to refine the analysis of lease versus ownership proposals so that future decisions are based on the most complete and accurate information available.

Sincerely,

Ruta Fanning

Ruta Fanning
Director

RF:JF:dh
cc: Cheryle Broom, LBC

AUDITOR'S COMMENTS TO THE RESPONSE FROM THE OFFICE OF FINANCIAL MANAGEMENT

The Office of Financial Management's partial or full concurrence with Recommendations 1 through 6 demonstrates a commitment to developing an analytical model that addresses the LBC's recommendations. While we agree cash flow considerations are important, in our view, a full economic analysis, which contains cash flow considerations, is paramount.

Our views on other statements in OFM's response are:

From page 3 of the response:

> *The report's conclusion that leasing would have been a cheaper alternative than construction of the East Campus Plus projects could change substantially given a slightly different (and equally reasonable) approach to identifying costs and assumptions.*

Auditor's comment:

We did not see any documentation from OFM to support this statement, and are unaware of any reasonable set of assumptions that would substantially change the report's conclusion. If OFM is referring to use of the LBC model by General Administration, we found their approach to have factual and technical problems. See the Auditor's comments to the response from General Administration.

From page 3 of the response:

> *It is important to recognize that the state's current budgetary structure -- along with delegated leasing authority and different management styles of the various agencies -- allow for the use of operating funds to make improvements and repairs to leased facilities without central reporting of these expenditures. On the other hand, these costs are fully included in the ownership option and may skew the results of comparison making leasing appear to be less expensive than it really is.*

Auditor's comment:

Our analyses included major maintenance costs for both leasing and owning, but did not include discretionary, minor improvements costs under either scenario (therefore, there is not necessarily any skewing of the results in either direction). If there is a difference in how much discretionary spending

agencies do, based on whether they are in leased or owned space, we are unaware of information that would quantify this difference. If OFM seeks to quantify potential differences, we would caution them to be sure to measure differences that are strictly related to leasing versus owning. For example, if an agency finds it more difficult to spend money on space improvements in owned space (as OFM suggests), does this mean that these discretionary moneys will not be spent for other purposes? If the moneys will be spent in any case, then these expenditures are not related to a leasing vs. ownership decision.

From page 3 of the response:

> *[T]he LBC study does not appear to consider the cost involved in moving out of space that simply fails to perform because of age location or configuration....*

Auditor's comment:

At OFM's earlier suggestion, we included additional moving costs in the leasing options. We assumed that ***all*** leased space turns over every ten years.

From page 3 of the response:

> *[T]he leasing option must always assume that replacement space is available at a reasonable rate when it is needed -- an assumption that may not always prove accurate.*

Auditor's comment:

We recognize that replacement space is not always available at a reasonable rate when it is needed. Accordingly we used actual rates paid by agencies (and market rates when these were unknown) that reflect the higher rates that agencies sometimes must pay.

From page three of the response:

OFM did not concur with Recommendation 7 and offered the following explanation.

> *Recommendation 7 suggests the establishment of reserve funds for building repair and replacement. It is not clear how this recommendation could be implemented, raising a number of questions. This approach could lead to the creation of non-appropriated accounts and significant expenditures of public funds without legislative approval.*

It could also blur the distinction between the capital and operating budgets.

Auditor's comment:

Discussions with OFM that have occurred after the submission of their response indicate that they have an interest in the issue of how major systems periodic repair and replacement should be adequately funded, but they feel that it is a complex subject that deserves further study before embarking on a particular solution.

Many jurisdictions have set up reserve funds for the purpose mentioned. There are best practices that the state of Washington could consider in adopting a reasonable process. One possible solution to the problem mentioned by OFM would be for the legislature to appropriate funds into and out of the reserve account. The amounts that are put in reserve could be funded by rents to the agencies occupying the space. We recognize that OFM should be involved in setting up a reasonable process for managing a reserve fund.

STATE OF WASHINGTON
DEPARTMENT OF GENERAL ADMINISTRATION
218 General Administration Building, P.O. Box 41000 • Olympia, Washington 98504-1000

November 22, 1995

Cheryle A. Broom, Legislative Auditor
Legislative Budget Committee
Post Office Box 40910
Olympia, Washington 98504-0910

Dear Ms. Broom:

Thank you for this opportunity to respond to the Legislative Budget Committee's preliminary report on Capital Planning and Budgeting: Study of Leasing Versus Ownership Costs. We fully agree with and endorse the comments made by the Office of Financial Management on the preliminary report. The Department of General Administration has commented twice upon the work done by the LBC[1], and the purpose of this letter is to respond specifically to the report's recommendations as requested by LBC.

General Administration strongly supports use of clear and consistent analysis for project decision-making, and we feel that the work done by LBC furthers the state's ability to use a common vocabulary and analytical approach. The report is a strong first step, and General Administration will work closely with the Office of Financial Management to incorporate the study's principles into the state's capital budgeting processes. We have already begun this work and are in the early phases of developing a more comprehensive project analysis model based upon many of the ideas in the LBC report.

SUMMARY OF COMMENTS

Following is a summary of our key comments on the LBC report and model methodology:

- **Macroeconomic analysis**

Use of a macroeconomic model for evaluation of whether a particular project should be developed provides only a partial answer for state decision-makers. Such a model does not provide important information, such as impact on agency budgets, that is relevant and

[1] Letters of comment dated August 17, 1995, and October 27, 1995, were sent to LBC by GA.

necessary for public policy decisions. We believe that cash flow and budget impact analyses are key elements in a successful model so that the state can evaluate which of its alternatives *it can afford.*

We also agree that economic analysis is important and that the model should include the ability to look at life cycle costs. Our concern, however, with the LBC life cycle approach is that in its "macro" approach, the model imputes costs that the state does not incur.

We have consistently commented, as has OFM, that there are important policy, or "noneconomic", reasons for developing projects. It is important that we remember that it is precisely these policy and program initiatives that are often the primary reasons for projects. OFM cites a number of these in their letter, including quality of space, consolidation of agency functions, appropriately located offices and flexibility to support change and new technology. We believe that the first analysis of a project's feasibility should examine and evaluate these policy factors, before proceeding to develop cash flow and life cycle data.

- **Model methodology and assumptions**

As we stated in our October 27 letter, the model as developed is cumbersome and difficult to use. We are already working on a spreadsheet model that is more streamlined and that allows both a life cycle and cash flow analysis. We anticipate that the model will be refined in conjunction with OFM's preparation of capital budget instructions.

We have previously commented extensively about our concerns with model methodology. These include calculation of residual values, imputed property tax, and imputed hazard insurance. We have also previously expressed concern with certain model assumptions, including base lease costs, utilities and maintenance costs, inclusion of all agency leasing costs, and inflation and discount rates. As Ruta Fanning states in her comments to you, a slightly different and equally reasonable set of assumptions can substantially change the analysis conclusions. This is illustrated in the following table, which was developed by running the LBC model with different assumptions (for details, refer to GA's August 17, 1995 letter to LBC):

	Cost/RSF*	RSF/FTE*	Total Cost*	Leasing/RSF	Owning/RSF
NRB:					
LBC	94%	17%	126%	$11.80	$22.87
GA	14%	18%	35%	$13.95	$15.92
L&I:					
LBC	45%	3%	50%	$12.62	$18.29
GA	(4%)	(2%)	(6%)	$14.04	$13.49
ECOLOGY:					
LBC	41%	43%	101%	$13.66	$19.25
GA	(1%)	18%	16%	$14.22	$14.03

*Higher or (lower) than continuing to lease speculative office space.

- **Space Utilization**

The LBC study raises questions about space utilization and points out that there is vacant space in the Ecology Building. The Natural Resources and Labor & Industries buildings are fully occupied, and we are committed to working with OFM and the Department of Ecology to fill empty space.

- **Retrospective Analysis**

We believe that it is not valid to apply current policies, practices and analysis to decisions made as long as seven years ago. We are concerned that such retrospective analysis can produce misleading results because it is not possible to fully re-capture all of the factors that went into past decisions.

RESPONSE TO RECOMMENDATIONS

Our response to the specific LBC study recommendations is as follows:

RECOMMENDATION	GA POSITION	COMMENTS
1.	Partially concur	See comments above.
2.	Partially concur	In cooperation with agencies and OFM
3.	Partially concur	Work with OFM to implement
4.	Concur	Work with OFM to implement
5.	Partially concur	Work with OFM to implement
6.	Concur	Work with OFM to implement
7.	Do Not Concur	Inconsistent with OFM budget guidelines

SUMMARY

GA strongly supports the LBC's desire to improve the decision-making process for state facilities acquisition. We believe that the work done by the committee on this report has significantly aided in the discussion of consistent approaches and assumptions. We look forward to working with OFM and fiscal committee staffs in the implementation phase to further develop and refine a clear, sound approach for project analysis.

Sincerely,

John Franklin
Director

JF:mag

cc: Ruta Fanning, Director, OFM

AUDITOR'S COMMENTS TO THE RESPONSE FROM THE DEPARTMENT OF GENERAL ADMINISTRATION

The Department of General Administration has indicated its willingness to work with OFM, where appropriate, and its intent to develop a more comprehensive project analysis model based upon many of the ideas in this report.

From page one of the response:

> *Use of a macroeconomic model for evaluation of whether a particular project should be developed provides only a partial answer for state decision-makers. Such a model does not provide important information, such as impact on agency budgets, that is relevant and necessary for public policy decisions. We believe that cash flow and budget impact analyses are key elements in a successful model so that the state can evaluate which of its alternatives* ***it can afford.***

Auditor's comment:

In response to some of GA's criticisms of this report, we offer the following. The model as presented in this report allows for consideration of all economic costs, including cash flow considerations. Cash flow considerations are explicitly discussed on pages iii, 4, 15, 32, and 33, and cash flow elements are identified and quantified in Exhibits 1, 3, 4, and 6.

The perspective offered by the report is that decision-makers should be provided with all the relevant cost information. It is then their prerogative to decide how to apply the information along with other considerations that may be more qualitative in nature. Analyses done by General Administration and presented to the legislature typically have not identified all costs to the public as well as to state government. Recommendations 1 through 4 are designed to ensure that this is done in the future.

The table contained on page three of General Administration's response exemplifies the problems that Recommendations 1 through 4 are intended to address. Specifically:

- It is not a full economic analysis because it omits costs to the public, such as property tax impacts and the risk cost of not carrying hazard insurance.

- It is not a cash flow analysis because it includes a residual value for buildings and omits the state's portion of lost property tax revenue.

- It assumes a 1991 beginning lease rate that is 23 percent higher than what historical lease data indicate.

Implementation of Recommendations 1 through 4 would ensure that information that is presented is reviewed for accuracy, that all economic costs are identified, and that assumptions fall within reasonable ranges.

From page 3 of the response:

> *We believe that it is not valid to apply current policies, practices and analysis to decisions [regarding East Campus Plus] made as long as seven years ago. We are concerned that such retrospective analysis can produce misleading results because it is not possible to fully re-capture all of the factors that went into past decisions.*

Auditor's comment:

The economic analysis employed by the Legislative Budget Committee is based on industry standards that were established long before the East Campus Plus decisions were made. It provides cost information that was not included in the original analyses (such as the costs of major systems periodic replacement and repair). This information would have been beneficial to decision makers prior to the decisions being made on East Campus.

The decision to review East Campus Plus was made by the Legislative Budget Committee in response to ongoing questions about the cost-effectiveness of these projects. All seven recommendations for providing greater accountability and quality control in the project proposal process (particularly Recommendations 5 and 6) built upon the lessons learned from the review of East Campus Plus.

We note that General Administration published its own "retrospective analysis" of East Campus Plus in 1993. This analysis concluded that "the total value of the collocation savings (projected by the agencies) will be realized."[1] We are concerned that this kind of retrospective analysis can be misleading because its conclusion was erroneous. See Appendices 6 and 7 for the LBC analysis of collocation savings. A retrospective analysis, such as a performance audit, can be beneficial by adding to an understanding of government processes and suggesting ways to improve them and to promote accountability.

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[1] *Review of Cost Savings Projections of the East Campus Plus Project,* Washington State Department of General Administration, March 1993, p. 6.

Appendix 3

TECHNICAL REVIEW PANEL ATTENDEES

Listed below are those who have attended the Technical Review Panel meetings once or more.

Last Name	First Name	Representing
Bell	Ray	University of Puget Sound
Benson	Roger	Turner Construction Company
Chandler	Gary	American Institute of Architects (AIA) WA Council
Costa	Representative Jeri	House Capital Budget Committee
Dannenmiller	Jim	Department of Ecology
Donald	Craig	Department of General Administration
Drebick	John	Government Building Owner's and Lessor's Association
Figel	Jim	Building Owners and Management Association
Foster	Marvin	Turner Construction
Fredricks	Grant	Department of General Administration
Fricke	John	Office of Financial Management
Gjurasic	Mark	Government Building Owner's and Lessor's Association
Grobins	Mary Alice	Department of General Administration
Groesch	Mike	Senate Ways and Means Committee
Henderson	Tom	Office of Financial Management
Herzog	Karl	House Capital Budget Committee
Hix	Tom	Citizens for Cost Effective Government
Honeyford	Representative Jim	House Capital Budget Committee
Johnson	Mark	Department of Agriculture
Kildow	Rob	Hodges Commercial
Kirkpatrick	Terry	Department of Natural Resources
Kirschbaum	James L.	Source Capital Corporation

Last Name	First Name	Representing
Long	Keith	Office of Financial Management
McCaslin	Kate	Citizens for Cost Effective Government
McKinley	J. Brent	Government Building Owner's and Lessor's Association
Miller	Lenore	Department of General Administration
Morris	Steve	Department of Labor and Industries
Needham	Jack	Department of Fish and Wildlife
Power	Tom	Citizens for Cost Effective Government
Price	William	No affiliation given
Ratassepp	Lembit	Department of Fish and Wildlife
Robinson	Bill	House Capital Budget Committee
Schaub	G. S. "Duke"	Associated General Contractors of WA
Sterk	Representative Mark	Representative from the 4th District
Suryan	John	Norman Company
Terry	Gina	Office of Financial Management
Victor	David	The Seneca Real Estate Group, Inc.
Wells	Glenn	Architect
Wheeler	William	Department of Ecology
Woolf	Bob	Government Building Owner's and Lessor's Association
Worthy	Walt	Citizens for Cost Effective Government

Appendix 4

LIFE CYCLE COST MODEL COMPONENTS

Owning Costs

Initial Costs

These costs include the cost of site acquisition; the planning, development, permitting, design, and construction or acquisition of site infrastructure and building structure; equipment; and move-in and other transition costs including financing the project to occupancy of the tenant. Some or all these total costs may be financed or paid on a cash outlay. Due to the state's tax-exempt borrowing status, long-term financing is the least expensive method for repayment. The initial cost is then translatable into the present-value equivalent of the stream of debt service payments necessary to repay this financing. Certain costs such as move-in and equipment might be funded on a cash basis; equipment, if financed, would reasonably be matched with debt of a maturity no greater than its conservative useful life.

Exhibit 8 in Chapter 4 summarizes these initial costs for each of the six example projects on a cost per rentable square foot on a cash and a state financed equivalent. These costs are shown in 1995 dollars and represent the present value of the stream of payments for all the relevant initial costs.

- The cash equivalent is derived by using a discount rate of cash flows of 5.9 percent, the assumed state borrowing rate. This has the affect of bringing the cash flows to a value that is identical to a cash outlay. That is, no matter what timing of repayment, the present value is identical to a cash outlay without financing.

- The state-financed equivalent represents the present value of that same payment stream, but discounted at a market rate of 8.5 percent. This lower present value represents the effective cost to the state. The difference between the two present values, represents the "competitive benefit" to the state from the tax-exempt, state credit backed financing.

For example, the economic savings for the L&I project is represented by the difference between the cash present value of $78.4 million, and the state financed equivalent of $64.9 million, a savings of $13.5 million (17 percent). Cost per rentable square foot is $201.44 on a cash basis; $166.77 on a state financed basis.

Other One-Time Costs

Evaluation of the space acquisition might include other one-time costs. Examples of one-time costs on the East Campus Plus projects were the rental of some transitional warehouse space. Other one-time costs could include double rent payments or financing pre-payment penalty clauses such as the lease-purchase option for the Centennial II property.

Operating and Maintenance Costs

These costs include janitorial, utilities, supplies, routine maintenance, and property management. Periodic repair and replacement costs (e.g., painting, carpet, mechanical systems) are not included.

Property Tax

The state is not subject to the payment of property tax for state-owned property used for public purpose. Nevertheless, an imputed property tax is included in the economic costs since the nonpayment of taxes for public property results in reduced revenues, for public purposes, which would have otherwise been available with a private ownership, or results in a redistribution of taxes to Washington citizens (tax shift). This cost is included to ensure that an alternative does not give the appearance of being more economically attractive by omitting cost comparability to private ownership.

Periodic Replacement and Repair Costs

These costs are periodic costs which we can expect to incur with building ownership. They can include short-cycle (every eight years), medium-cycle (every fifteen years) and long-cycle (every 25 years) building system elements. Proper budgeting of building repair would include accumulating sufficient sums (through annual payments) to accumulate funds necessary to finance these repairs.

Examples:

- Short-term cycle expenditures include recarpeting, repainting, light fixture replacement.
- Medium-term replacement expenditures include replacement of HVAC or electrical systems, repair or replacement of walls and doors, restriping and repaving of parking areas.
- Long-cycle refurbishments include re-roofing.

We have not included allowances for tenant furniture and equipment since these are costs that are owner furnished in leased or owned space.

Exhibit 9, Repair and Replacement Example, summarizes these allowances as calculated for the Centennial II project in Tacoma. Allowances are calculated on a nominal and present value basis. Over the 50-year projected facility life, the present value per GSF of building totals approximately $26.

Project Residuals

A new or fully renovated structure is assumed to have a 50-year useful economic life. Periodic replacement and repair expenditures ensure that this 50-year life can be attained. For the purposes of evaluating ownership over this 50-year life, depreciation in value is assumed to occur on a straight line basis of 2 percent per year. Land does not depreciate. It is recognized that while the building does depreciate, the remaining value of the building appreciates with escalation. Land is assumed to escalate at a rate slightly above inflation (inflation plus 1.5 percent). This is the same assumption that was used in the 1987 LBC study, and is also the standard used in the federal Office of Management and Budget, OMB Circular A-104, June 1, 1986.

Inclusion of project residuals allows for a more complete analysis of the project at intervals during the full economic life. This is particularly important in comparing costs when the repayment period of initial cost financing does not match economic life (e.g., 25 year debt not 50-year debt). By consideration of residual value, we recognize that at the time of initial cost repayment, that cost is offset by the then current residual or project equity.

Exhibit 10, Residual Calculation Example, summarizes the residual calculations for land and building on a nominal basis for each year of building ownership. Present values are calculated at the end of years 10, 20, 25, 30, 40, and 50 for land and structure.

Programmatic Tenant Improvements

Programmatic tenant improvements are not included in the cost analyses except to the extent they are included in initial cost. We recognize that periodic tenant improvements will occur. These are somewhat discretionary, and with lease or purchase would be similar and fundable from operating budgets or specific requests. Similar to allowances for replacement and repair of moveable equipment, they are omitted from the costs of both leasing and owning.

Exhibit 9

Repair and Replacement Example

Centennial II

GSF 86,549

Assumptions:

Escalation 3.50%
Discount Rate 3.50%
Year 1 Denomination 1993

Year	$/GSF	Total Outlay	PV $/GSF	PV Outlay
1	$ -	$ -	$ -	$ -
2	$ -	$ -	$ -	$ -
3	$ -	$ -	$ -	$ -
4	$ -	$ -	$ -	$ -
5	$ -	$ -	$ -	$ -
6	$ -	$ -	$ -	$ -
7	$ -	$ -	$ -	$ -
8	$ 8.16	$ 706,599	$ 6.20	$ 536,600
9	$ -	$ -	$ -	$ -
10	$ -	$ -	$ -	$ -
11	$ -	$ -	$ -	$ -
12	$ -	$ -	$ -	$ -
13	$ -	$ -	$ -	$ -
14	$ -	$ -	$ -	$ -
15	$ 26.19	$ 2,266,770	$ 15.63	$ 1,353,014
16	$ 10.75	$ 930,456	$ 6.20	$ 536,600
17	$ -	$ -	$ -	$ -
18	$ -	$ -	$ -	$ -
19	$ -	$ -	$ -	$ -
20	$ -	$ -	$ -	$ -
21	$ -	$ -	$ -	$ -
22	$ -	$ -	$ -	$ -
23	$ -	$ -	$ -	$ -
24	$ 14.16	$ 1,225,233	$ 6.20	$ 536,600
25	$ 0.29	$ 24,945	$ 0.12	$ 10,555
26	$ -	$ -	$ -	$ -
27	$ -	$ -	$ -	$ -
28	$ -	$ -	$ -	$ -
29	$ -	$ -	$ -	$ -
30	$ 43.88	$ 3,797,631	$ 15.63	$ 1,353,014
31	$ -	$ -	$ -	$ -
32	$ 18.64	$ 1,613,398	$ 6.20	$ 536,600
33	$ -	$ -	$ -	$ -
34	$ -	$ -	$ -	$ -
35	$ -	$ -	$ -	$ -
36	$ -	$ -	$ -	$ -
37	$ -	$ -	$ -	$ -
38	$ -	$ -	$ -	$ -
39	$ -	$ -	$ -	$ -
40	$ 24.55	$ 2,124,537	$ 6.20	$ 536,600
41	$ -	$ -	$ -	$ -
42	$ -	$ -	$ -	$ -
43	$ -	$ -	$ -	$ -
44	$ -	$ -	$ -	$ -
45	$ 73.51	$ 6,362,356	$ 15.63	$ 1,353,014
46	$ -	$ -	$ -	$ -
47	$ -	$ -	$ -	$ -
48	$ 32.32	$ 2,797,609	$ 6.20	$ 536,600
49	$ -	$ -	$ -	$ -
50	$ 0.68	$ 58,951	$ 0.12	$ 10,555
Total Nominal	$ 253.13	$21,908,485		
50 Year PV	$ 84.34	$7,299,749	$ 84.34	$ 7,299,749
20 Year PV	$ 28.03	$2,426,213	$ 28.03	$ 2,426,213

Exhibit 10
Residual Calculation Example

Centennial II

RSF	79,625	
Land Initial	1,819,180	17.0%
Structure Initial	8,854,378	83.0%
Land Escalation above Gen. Esc	1.5%	
Structure Escalation	3.5%	
Structure Life	50	
Discount Rate	8.5%	
Total	10,673,558	

Assumptions:	Adj Base
Escalation	3.50%
Discount Rate	8.50%
Year 1 Denomination	1993

Future Values:	Year	*Structure*	*Land*	*Total*
	1	$ 8,980,996	$ 1,910,139	$ 10,891,135
	2	$ 9,105,630	$ 2,005,646	$ 11,111,276
	3	$ 9,227,987	$ 2,105,928	$ 11,333,915
	4	$ 9,347,754	$ 2,211,225	$ 11,558,979
	5	$ 9,464,601	$ 2,321,786	$ 11,786,387
	6	$ 9,578,177	$ 2,437,875	$ 12,016,052
	7	$ 9,688,108	$ 2,559,769	$ 12,247,877
	8	$ 9,794,001	$ 2,687,757	$ 12,481,759
	9	$ 9,895,439	$ 2,822,145	$ 12,717,584
	10	$ 9,991,980	$ 2,963,253	$ 12,955,233
	11	$ 10,083,157	$ 3,111,415	$ 13,194,572
	12	$ 10,168,476	$ 3,266,986	$ 13,435,462
	13	$ 10,247,415	$ 3,430,335	$ 13,677,751
	14	$ 10,319,424	$ 3,601,852	$ 13,921,276
	15	$ 10,383,920	$ 3,781,945	$ 14,165,865
	16	$ 10,440,290	$ 3,971,042	$ 14,411,332
	17	$ 10,487,886	$ 4,169,594	$ 14,657,480
	18	$ 10,526,024	$ 4,378,074	$ 14,904,097
	19	$ 10,553,983	$ 4,596,977	$ 15,150,961
	20	$ 10,571,006	$ 4,826,826	$ 15,397,832
	21	$ 10,576,291	$ 5,068,168	$ 15,644,459
	22	$ 10,568,997	$ 5,321,576	$ 15,890,573
	23	$ 10,548,237	$ 5,587,655	$ 16,135,892
	24	$ 10,513,076	$ 5,867,038	$ 16,380,114
	25	$ 10,462,532	$ 6,160,389	$ 16,622,922
	26	$ 10,395,572	$ 6,468,409	$ 16,863,981
	27	$ 10,311,108	$ 6,791,829	$ 17,102,937
	28	$ 10,207,997	$ 7,131,421	$ 17,339,418
	29	$ 10,085,037	$ 7,487,992	$ 17,573,029
	30	$ 9,940,965	$ 7,862,391	$ 17,803,357
	31	$ 9,774,454	$ 8,255,511	$ 18,029,965
	32	$ 9,584,109	$ 8,668,287	$ 18,252,396
	33	$ 9,368,467	$ 9,101,701	$ 18,470,168
	34	$ 9,125,989	$ 9,556,786	$ 18,682,775
	35	$ 8,855,061	$ 10,034,625	$ 18,889,686
	36	$ 8,553,989	$ 10,536,356	$ 19,090,346
	37	$ 8,220,995	$ 11,063,174	$ 19,284,169
	38	$ 7,854,212	$ 11,616,333	$ 19,470,545
	39	$ 7,451,683	$ 12,197,150	$ 19,648,833
	40	$ 7,011,357	$ 12,807,007	$ 19,818,364
	41	$ 6,531,079	$ 13,447,357	$ 19,978,436
	42	$ 6,008,592	$ 14,119,725	$ 20,128,318
	43	$ 5,441,531	$ 14,825,712	$ 20,267,243
	44	$ 4,827,416	$ 15,566,997	$ 20,394,413
	45	$ 4,163,646	$ 16,345,347	$ 20,508,993
	46	$ 3,447,499	$ 17,162,614	$ 20,610,113
	47	$ 2,676,121	$ 18,020,745	$ 20,696,866
	48	$ 1,846,524	$ 18,921,782	$ 20,768,306
	49	$ 955,576	$ 19,867,872	$ 20,823,447
	50	$ -	$ 20,861,265	$ 20,861,265

		Structure	Land	Total
PV Year	10	$ 4,419,307	$ 1,310,603	$ 5,729,910
PV Year	20	$ 2,067,862	$ 944,206	$ 3,012,068
PV Year	25	$ 1,361,110	$ 801,428	$ 2,162,539
PV Year	30	$ 860,075	$ 680,241	$ 1,540,316
PV Year	40	$ 268,295	$ 490,070	$ 758,365
PV Year	50	$ -	$ 353,064	$ 353,064

Leasing Costs

Leasing Payments

These costs include full payment for the cost of the facility, payment for the land, and a continuously well maintained structure. It includes all owner ongoing maintenance, property management, utilities, supplies, periodic equipment repair and replacement, and applicable taxes and fees. This payment is not intended to cover the cost of leasee requested programmatic tenant improvements. These have been excluded from both owning and leasing costs.

Other Ongoing Lease Impacts and Lease Equivalent Costs

These costs would include GA property management charges which are assumed to be a function of the amount of space leased. Also included in this cost is an allowance for periodic moving costs in excess of those in owned space, an initial equipment allowance to compensate for equipment allowances in ownership which will extend equipment replacement costs otherwise funded out of operating budgets in both leasing and owning alternatives, and a one-time programmatic tenant improvement allowance to provide comparability to the one-time move with programmatic tenant improvements into owned space.

Exhibit 11, Leasing Allowances for Moving, Equipment, and Initial Programmatic TI's (Tenant Improvements), summarizes the nominal and present value equivalents for each of these costs, based on baseline assumptions. The 50-year present value equivalent per RSF totals approximately $23.

Exhibit 11

Leasing Allowances for Moving, Equipment, and Initial Programmatic TI's

Total Lease Cost Adjustments

50 yr PV/RSF=	*$ 23.45*
Per year/25 yr	*$ 1.58*
Per year/50yr	*$ 1.30*

% of New	100%
% of New	50%
$/RSF	$ 10.00

Moving

50 yr PV/RSF=	*$ 9.32*
Per year/25 yr	*$ 0.56*
Per year/50yr	*$ 0.51*
Fraction of New	*100%*
Cost of Move per RSF	*$ 4.90 in 1995 $'s*
Frequency of Moves (Cycle)	10 years
Inflation	3.5%
Discount Rate	8.5%

Equipment & Furnishings

50 yr PV/RSF=	*$ 6.23*
Per year/25 yr	*$ 0.45*
Per year/50yr	*$ 0.34*
Fraction of New	*50%*
Equipment & Furnishings	*$ 7.89 in 1995 $'s*
Inflation	3.5%
Discount Rate	8.5%

Initial Additional Programmatic TI's

50 yr PV/RSF=	*$ 7.90*
Per year/25 yr	*$ 0.57*
Per year/50yr	*$ 0.44*
Initial Programmatic	*$ 10.00 in 1995 $'s*
Inflation	3.5%
Discount Rate	8.5%

		Moving		Equipment & Furnishings		Initial Additional Programmatic TI's	
1995	1	$ -		$ -		$ -	
1996	2	$ -		$ -		$ -	
1997	3	$ -		$ -		$ -	
1998	4	$ -		$ -		$ -	
1999	5	$ 5.82	$ 3.87	$ 9.37	$ 6.23	$ 11.88	$ 7.90
2000	6	$ -					
2001	7	$ -					
2002	8	$ -					
2003	9	$ -					
2004	10	$ -					
2005	11	$ -					
2006	12	$ -					
2007	13	$ -					
2008	14	$ -					
2009	15	$ 8.21	$ 2.42		$ -		$ -
2010	16	$ -					
2011	17	$ -					
2012	18	$ -					
2013	19	$ -					
2014	20	$ -					
2015	21	$ -					
2016	22	$ -					
2017	23	$ -					
2018	24	$ -					
2019	25	$ 11.58	$ 1.51		$ -		$ -
2020	26	$ -					
2021	27	$ -					
2022	28	$ -					
2023	29	$ -					
2024	30	$ -					
2025	31	$ -					
2026	32	$ -					
2027	33	$ -					
2028	34	$ -					
2029	35	$ 16.34	$ 0.94		$ -		$ -
2030	36	$ -					
2031	37	$ -					
2032	38	$ -					
2033	39	$ -					
2034	40	$ -					
2035	41	$ -					
2036	42	$ -					
2037	43	$ -					
2038	44	$ -					
2039	45	$ 23.05	$ 0.59		$ -		$ -
2040	46	$ -					
2041	47	$ -					
2042	48	$ -					
2043	49	$ -					
2044	50	$ -					
NPV		$9.32	$ 9.32	NPV	$ 6.23 $ 6.23	NPV	$ 7.90 $ 7.90
		$7.79	$ 7.79	25 yrs	$6.23 $ 6.23	25 yrs	$7.90 $ 7.90
		$9.32	$ 9.32	50 yrs	$6.23 $ 6.23	50 yrs	$7.90 $ 7.90

Appendix 5

ADVANTAGES AND DISADVANTAGES OF LEASING AND OWNING

from

Program and Fiscal Review of State Capital Planning and Budgeting Process

Legislative Budget Committee
January 23, 1987

Advantages and Disadvantages of Leasing

Advantages

- Local government would continue to receive property tax revenues from owners of property leased to the state.
- The state could adjust more easily to changes in programs, location or amount of space needed, as well as provide space for small agencies in rural areas.
- Leased space is readily available and adaptable to fill an immediate need.
- Space leasing provides a contribution to the economy to offset in part the tax free status of state land and facilities.

Disadvantages

- The state does not build equity in the property.
- Rental costs probably will continue to rise, making long-term lease costs more expensive.
- Lack of permanent location restricts public access to state facilities.
- When a single agency is dispersed in various locations in one city, transportation costs increase and employee productivity may decline.

Advantages and Disadvantages of State Ownership

Advantages	Disadvantages
• The state builds equity in the property.	• Local governments lose property tax revenue.
• Building complexes to house more than one agency provides better coordination among agencies and better accessibility to the public.	• Building locks the state into a particular location and makes it more difficult to respond to changes in government programs and services.
• Consolidation of government functions into energy-efficient, space-saving buildings saves excessive future leasing costs, energy costs in old buildings, travel time and communication costs.	• The state has to spend large amounts of money to finance or purchase.
• Centralizing a department's operations provides greater effectiveness and efficiency.	• The state would lose the income tax paid by the lessor on property leased to the state.
• Governments do not pay taxes on property or building materials and their borrowing costs generally are low in comparison to private owners.	

SOURCE: J. Callahan *"The Lease versus Purchase Decision in the Public Sector"*. National Tax Journal, June 1981.

Appendix 6

SPECIFIC ANALYSES USED TO JUSTIFY EAST CAMPUS PLUS

We asked the agencies that occupy the East Campus Plus buildings for any analyses they had conducted comparing owning versus leasing related to their buildings. We also asked GA and OFM for any such analyses they might be able to provide, including their own.

The responses we received comprise a range of analyses that can generally be described as follows:

- No apparent analysis in the case of some agencies.

- Some analysis that compared a few cost elements such as lease costs versus lease-equivalent ownership costs, and consideration of operational savings from consolidation, if applicable. These analyses all had technical problems, such as understating debt service costs, not inflating lease costs over time, and overestimating projected budget reductions from operational savings.

- Spreadsheets that included some elements of a full life-cycle cost analysis, but which had a variety of problems, such as: overestimating lease rates and lease space needs; underestimating ownership costs such as debt service (one example), or no major systems periodic repair and replacement (all examples); and no sensitivity analysis.

Below, for each of the East Campus Plus buildings, we describe the analyses that were provided.

Natural Resources Building

This building was constructed and occupied at a cost of $78.4 million (denominated in 1995 dollars), which was financed by General Obligation Bonds. At the time of occupancy in late 1992, four agencies vacated lease space (or state-owned space) for the move: the Department of Natural Resources, the Department of Agriculture, the Department of Fisheries (to become the Department of Fish and Wildlife), and the InterAgency Committee for Outdoor Recreation.

Department of Natural Resources

Testimony from this agency mentioned that there would be savings, but its published cost analysis indicated budget neutrality. Natural Resources compared estimated lease costs against the debt service and operating costs in the new building, and estimated that there would be additional costs of $495,000 per year. These additional costs would be offset by $495,000 in operational savings due to consolidation.

Some of the problems with this analysis are as follows:

- The majority of the debt service that would be paid for out of the Timber Fund was not counted, thereby underestimating the cost of ownership in the comparison.

- Some of the estimated $495,000 in savings were a double-counting of potential savings that would already have been accounted for in the comparison of lease costs to debt service and operating costs (e.g., space efficiencies).

- Other savings did not materialize or were different than expected. In any event, there were no reductions to the agency's budget specifically tied to productivity improvements or efficiencies due to collocation. If there were any, the savings were never captured, and the money was spent on something else.

Department of Agriculture

This department did not project any savings. It is unclear whether any cost analysis was conducted. If there were some savings they were never captured, and the money was spent on something else.

Department of Fisheries

This agency underestimated debt service and operating costs in the same manner as the Department of Natural Resources. However, the agency still estimated that, after considering savings resulting from consolidation, there would be an annual cost of $151,532.

As with Natural Resources, no reductions to the agency's budget were ever made that were specifically tied to productivity improvements or efficiencies due to collocation. If there were any, the savings were never captured, and the money was spent on something else.

InterAgency Committee for Outdoor Recreation

The decision for the IAC to move into the Natural Resources Building was not made until after construction of the building. Their leased space was not being properly maintained by the owner and had clearly become sub-standard. The new agency director explored options for different office space with GA. The decision to move into the NRB was made knowing the cost per square foot would be higher and that savings would be largely intangible. The agency was able to consolidate receptionists, but reduced costs were not captured in the form of savings.

Labor and Industries Building

This building was constructed and occupied at a cost of $64.9 million (denominated in 1995 dollars). The department moved into the building in late 1992. A published document itemized annual building efficiency savings estimated to be $1,288,965 in 1993 dollars. The agency's FY 1995 budget was reduced by $1,512,000, which is the efficiency savings estimate inflated for two years.

Our review of this savings estimate found instances of:

- Double counting ($248,000 in 1995$). Space, maintenance and utility savings (if any) would already be reflected in debt service and operations and maintenance costs that were estimated for the new building.

- Operational changes that were greater than were eventually realized ($169,000 in 1995$)

- Other areas related to staff savings, due to eliminating inefficient use of time ($729,000 in 1995$). For these to be counted as real savings, there would have to be a reduction in FTEs specifically related to being in the collocated facility. No specific reductions related to the $729,000 estimate have been documented.

Documented savings, not already accounted for in the general assumptions used in the LCC analysis, total $116,336 for L&I.

Although the agency sustained a cut to its budget, reductions related to estimates of savings that are not related to ownership should not count as benefits of ownership. They resemble, and function the same as, across-the-board percentage cuts that can be imposed on an agency regardless of whether they are leasing space or own it.

It should be noted that there was also one mention of a $17 million per year savings that could result from reduced worker benefit expenses. The department could find no backup for this estimate, and does not claim a savings in this area.

A document prepared by GA in 1989, entitled *Washington State Capitol Office Program: East Campus Plus*, contained a spreadsheet comparing leasing versus ownership costs for the Labor and Industries building. This document concluded that owning would be no more costly than renting. However, the analysis:

- Omitted any periodic and repair costs
- Included parking revenue in owned but not leased space
- Assumed high future rental rates, the equivalent of approximately $17 per rentable square foot in 1995$
- Omitted any property tax equivalent
- Assumed ownership O&M expenses of only $2.75 in 1995$

Ecology Building

This building is a lease-purchase project funded by Certificates of Participation. The cost of this building was $63.5 million (denominated in 1995 dollars), and was occupied in late 1993.

Ecology provided us with an analysis that included some of the elements of a life-cycle analysis. The purpose of this analysis was to determine if funds that would normally go towards paying for leased space would be sufficient to cover the debt service and operating costs of being in the new building.

This analysis concluded that funds would be sufficient. The analysis underestimated debt service costs, inappropriately included revenue from parking, and overestimated lease costs, staff growth, and space needs due to staff growth. No allowance was given for major systems repair and replacement.

Although operational savings from consolidation did not enter into the above analysis, we asked Ecology to estimate whether actual savings have occurred. The department has provided documentation of savings totaling $222,327 per year in 1995$.

Appendix 7

POTENTIAL EAST CAMPUS PLUS OPERATIONAL SAVINGS

Series of Events

In order to determine what savings, if any, occurred as a result of consolidation and collocation, a comparison was made of the savings projected versus savings achieved. First, we conducted a review of the documents of public testimony to the House Capital Facilities & Finance Committee and the Senate Ways & Means Committee. (The Department of Ecology was not part of the planning process at the time.) In April 1995, we interviewed agency staff for the purpose of estimating what they thought the actual savings have been. These estimates were then reviewed with staff of the Office of Financial Management to determine actual reductions to the agency budgets. Finally, the budget objects were matched with staff estimates. This last step was a source of frustration for all of the agencies, because they have never been asked to identify new building efficiencies in their operating budgets.

It became apparent that there is no established process in state government for determining consolidation/collocation savings and capturing them. There were many instances of agency staff being able to show reduced use of equipment, supplies, materials, and staffing, but these reductions either did not result in budget cuts (which means that the savings were spent on something else), or if there were budget reductions, they were not linked by object to the estimated items.

Savings Categories That are Reasonable to Assume

There are some areas of efficiency from consolidation and collocation that are reasonable to assume. They include moving costs, equipment replacement, and some tenant improvements that are likely higher, over time, when agencies lease space. We included allowance for these additional costs in the LCC model, and therefore excluded them from agencies' specific calculations of operational savings.

Any savings related to reduced space and lower maintenance and utility costs are reflected in our LCC model by including debt service (which covers the cost of building and financing the space), and including actual maintenance and utility costs or charges for each building. Therefore, we did not count these again when evaluating operational savings.

Complicating Factors in Discerning Cost Reductions

Simultaneous to the East Campus Plus project were innovations in technology experienced by other state offices, making it difficult to determine whether or not lower costs for the agencies in question were the result of consolidation or collocation, or if more efficient operations could have occurred under the old leases. This includes increased use of fax machines, electronic mail, word processing by managers (versus dictation), voice mail in lieu of receptionists, and a new printing system being implemented by the State Printer.

There were also changes in top management at the three largest agencies, yielding changes in how vehicles are distributed, recycling programs, use of recycled paper, staffing, and use of space. For instance, the Commissioner of Lands does not have a private office, consistent with the notion of workstations for all employees. In another example, there was a lot of reorganization when L&I had a change of directors. One area in particular was vehicles. Many vehicles that were assigned to individual staff were brought into a pool, creating a need for less vehicles. It has not been possible for us to discern in all cases which changes were a result of collocation opportunities and which ones would have occurred under the old leases with new management.

In addition to advances in technology and changes in management, was the unpredictability of downsizing of the Department of Ecology. The recent trend had been growth of about four percent, but by the time the building was ready for occupancy, the size of the agency began declining. Again, it became very difficult to separate which budget items were a function of operational savings versus downsizing.

An example that demonstrates these complicating factors well is printing at the DOE. They have verified expenditure reductions in printing of $317,388 per year. But these savings are likely a result of advanced printing machines, electronic transmissions of documents over a local area network, fewer employees overall, a push by a new agency director to minimize paper use, and consolidation. It has not been possible to estimate what portion of the reduction might be due specifically to consolidation.

Agency-Specific Savings

As mentioned above, it was difficult to discern what savings were actually related to consolidation/collocation, and what estimates of savings may have really materialized, but were never captured. In cases where agencies sustained budget reductions as a result of new building efficiencies that were consistent with the documentation provided by agency staff, we credited them

with the savings. In cases where the agency provided an estimate, but did not receive a budget reduction, the savings were not credited.

Even though the DOE probably had the most complicating factors of all, they did the best job of estimating savings and received a cut to their budget specifically for new building efficiencies. Following consolidation, DOE was able avoid replacing 54 vehicles, 38 of which we attributed to collocation. They were credited with the purchase price, maintenance, and operations. They were also credited for the reduction of one courier and some landfill fees, for a total yearly savings of $222,327 in 1995 dollars.

In 1989, the Department of Labor & Industries projected the highest yearly savings, anticipating more efficient processing of injured worker benefit claims, at a savings of $17 million per year. This was an estimate for which there is no backup documentation, and which the agency does not now claim. There was also a more recent projection of savings of $1,288,965 in 1993 dollars related to operating efficiencies, however agency records are insufficient to track their budget reduction to specific objects within the budget. As discussed in Appendix 6, captured savings tied to being located in the new building, exclusive of savings we have assumed, total $116,336 in 1995 dollars. These savings are due to fewer receptionists and mailroom staff.

None of the NRB agencies had actual budget reductions from new building efficiencies, even though DNR had projected $495,000 in savings in 1988, that would be used to pay higher building rent. When we interviewed staff in April 1995, estimates were more realistic at $63,827 yearly. First year savings are offset by start-up costs of $32,000 for a library that is shared by all of the NRB agencies. Of the other agencies in the building, the Department of Fisheries had an identical process to DNR, the Department of Agriculture never claimed they would save money, and the InterAgency Committee for Outdoor Recreation was not an anticipated tenant prior to building construction. Fisheries had estimated operational savings of $373,951 yearly to offset increased rent costs, but much of that was in travel time and did not materialized into fewer staff and dollars. It is important to note that, although NRB tenants were able to identify what they thought were lower costs, we did not credit them for savings because they were not captured in any budget documentation.

Suggested Process for the Future

Without an established process for identifying and capturing savings, it is difficult to report, with any certainty, the total actual savings for East Campus Plus projects. We are left with a combination of both underestimated and overestimated savings.

For future projects, accurate estimates of operational savings should be considered and included as part of the LCC analyses. Following occupation of the new location, the state budgeting process should include a method for reviewing and capturing savings. The savings should be tied to individual sub and sub-sub objects within operating budgets, so that they can be directly linked to new building efficiencies.

Appendix 8

BUILDING CLASSIFICATIONS

Class A

Buildings have fireproofed structural steel frames with reinforced concrete or masonry floors and roofs. Structural steel columns and beams, fireproofed with masonry, concrete, plaster, or other noncombustible material. Floor of concrete or concrete on steel deck, fireproofed. The roof is formed concrete, precast slabs, concrete or gypsum on steel deck, fireproofed. The walls are nonbearing curtain walls, masonry, concrete metal and glass panels, stone, steel studs and masonry, tile or stucco. Normally a prestige building has more ornamentation, special design, and top quality materials and systems, including quality heating, ventilation and air conditioning (HVAC) system. Amenities will include interior woodwork, quality door hardware, high quality flooring (e.g., marble flooring, quality carpeting), quality lighting systems. Bathroom hardware and finishes are high quality.

Class B

Buildings have reinforced concrete frames and concrete or masonry floors and roofs. Reinforced concrete columns and beams. Fire-resistant construction. The floor is concrete or concrete on steel deck, fireproofed. The roof is formed concrete, precasts slabs, concrete or gypsum on steel deck. It is fireproofed. The walls are nonbearing curtain walls, masonry, concrete, metal and glass panels, stone, steel studs and masonry, tile or stucco. These buildings are designed for good appearance, comfort and convenience, as well as an element of prestige. Ornamental treatment is usually of higher quality than Class C and interiors are designed for upper-class rentals. However, the amenities of better lighting and mechanical work are primary items in the costs and not the ornamental treatments (e.g., door hardware). Quality HVAC system. May have air conditioning.

Class C

Buildings have masonry or concrete exterior walls, and wood or steel roof and floor structures, except for concrete slab on grade. Masonry or concrete load-bearing walls with or without pilasters. Masonry, concrete or curtain walls with full or partial open steel, wood, or concrete frame. The floors are wood or concrete plank on wood or steel floor joists, or concrete slab on grade. The roof is wood or steel joists with wood or steel deck; or concrete plank. The walls are brick, concrete block, or tile masonry, tilt-up formed concrete, nonbearing

curtain walls. These are buildings designed for maximum economic potential without some of the pride of ownership or prestige amenities of higher-quality construction. They are of good standard code construction with simple ornamentation and finishes. HVAC systems are often without air conditioning.

Class D

Buildings generally have wood frame, floor and roof structure. Wood or steel studs in bearing walls, full or partial open wood or steel frame. Floors are wood or steel floor joists or concrete slab on grade. The roof is wood or steel joists with wood or steel deck. The walls are of almost any material except bearing or curtain walls of solid masonry or concrete. Buildings in this category are generally constructed to minimum code requirements often with little regard for architectural appearance or other amenities. They are built with minimum investment in mind. Little ornamentation is used and interior partitioning and finish is minimal and/or of low quality.

Source: Department of General Administration.

Appendix 9

TREATMENT OF ASSUMPTIONS IN LIFE CYCLE COST ANALYSIS

Each model includes a series of assumptions for key cost items. Key assumptions include relative efficiency of space-owned vs. leased; future lease escalation rates; valuation of the state's monetary investment or opportunity cost, the discount rate; residual values for land and structure, assuming an estimated building life; and inclusion or exclusion of noncash items such as property taxes or owned assets such as land. In addition, further minor assumptions are incorporated into the respective analyses. Below is a discussion of key assumptions and their treatment in our baseline analysis.

- **Relative Space Efficiency**

  Our analysis of the three retrospective projects indicates that ownership resulted in higher rentable square footage for comparable functions. Further, it has been asserted by some members of this study's technical review panel that the type of larger office buildings that the state considers for ownership has a higher requirement for common and circulation space than typical single purpose leases, thereby increasing required space per FTE.

  Alternatively, ownership where collocation is planned is asserted to result in increased space efficiency due to the sharing of common types of space that would otherwise be duplicated. This is the rationale for the increased efficiency assumed by GA for the Metropolitan project. **Our baseline alternative assumes actual experience for retrospective projects and no space efficiency difference for prospective projects.**

- **Lease Rate Escalation**

  Lease rate escalation is a central assumption to comparative economics. Proponents of ownership assert that lease rates will escalate at rates above general inflation; leasing proponents assert that experience suggests that rates increase at rates less than general inflation. After review of available data and differing escalation methodologies used by various interested parties, we have concluded that statewide GA data indicates escalation slightly less than general inflation, and that Spokane specific data, central to the Spokane project's analysis, shows even lower increases. **Our baseline alternative assumes lease escalation at the rate of general inflation.** While this is slightly above what available data might indicate,

we believe that over the 25 to 50 year time period that the development and redevelopment of leasing alternatives will be subject to the costs of general inflation, just like other expenses. These expenses over the extended period will be translated into leasing rates.

- **Property Taxes**

  State and local property taxes are not paid by the state for owned buildings used for public purposes. Nevertheless, these taxes foregone, due to public rather than private ownership, have real consequences to state and local government and taxpayers. The noncollection of state taxes results in an equivalent loss of state revenues; noncollection of local taxes results either in lost revenues or the transfer of that tax burden to other taxpayers. **Our baseline alternative includes the payment of state and local taxes on the estimated assessment of the owned improvement.** Not only does this recognize the economic cost, but it allows for a direct comparison of public and private ownership.

- **Discount Rate**

  For the purposes of analysis, we have recognized the significant advantage to the public owner of tax exempt, "state-risk" borrowing not available to a private owner. This is translated into a financing cost of 5.9 percent, approximately 70 percent of the rate for equivalent taxable borrowing with repayment risk assigned to the project. Our review of past and current state analytical practice indicates that historically the state has used this low borrowing cost as the discount rate (opportunity cost) in valuing future benefits and costs rather than using the higher rate that reflects a nonsubsidized, project risk level of value. Use of this lower rate has the impact of undervaluing the true value of public moneys invested in these long-term decisions and can result in the selection of economically marginal or unattractive capital expenditures.

  Our baseline alternative uses the a rate of 8.5 percent, reflecting the unsubsidized rate of return. While this rate (5 percent above the 3.5 percent general inflation) is higher than the rate currently used, it is less than some studies that suggest that the market rate of return on these types of investments is as high as 10 percent above general inflation.

- **Repair and Replacement**

  Provision for adequate reserves for building repair and replacement, both in budgeting capital projects and analyzing the true cost of ownership, are a major concern. This allowance is intended to adequately maintain the owned building for the period assumed for its economic life, 50 years. We

reviewed a variety of suggested methodologies for identifying this expense, including past state studies, the allowances assumed by GA for the Metropolitan project, a higher education study provided by GA, and estimates done by a private developer on four buildings in Spokane. **Our baseline alternative uses the Arthur Young study methodology and cost factors, amended to exclude the costs of equipment replacement cycles which are a cost equivalent to both owning and leasing alternatives.**

- **Building Life**

  Building and land residual values are significant to the cost of owning. **Our baseline alternative assumes a 50-year building economic life, provided that repair and replacement expenditures are budgeted and executed. Land is assumed to escalate at a rate of 1.5 percent above inflation.**

- **Allowance for Leasing Moving, Equipment, and Programmatic Tenant Improvements**

  Costs of ownership for historical and future projects include the cost of moving tenants from leased to owned space as well as allowances for system furniture. These allowances range from approximately $17 to $20 per rentable square foot. To ensure equivalent analysis, we have included allowances for periodic moves; an equipment allowance to reflect the fact that ownership will result in newer equipment than will result in lessened future equipment replacement costs; and a one-time programmatic tenant improvement allowance for leased space. **Our baseline alternative includes allowances for moves every 10 years; an equipment allowance of 50 percent of new systems furniture space; and a $10 per RSF TI allowance.**

- **Other Items**

  Other assumptions including property development charges are included in each of the models. Assumptions for each of these factors are identified in the respective models.