

February 27, 2006

Clayton Schenck
Legislative Fiscal Analyst
Legislative Fiscal Division

Dear Mr. Schenck

Per the request of the Legislative Finance Committee, the Department of Justice has prepared this analysis of whether to purchase the Forensic Science Laboratory Building in Missoula or to continue to lease this facility. Hopefully this analysis will be a useful tool for the future legislatures to use in making decisions regarding best uses of limited state funds.

We wish to thank members of the Department of Administration, Board of Investments, Legislative Audit Division and the staff of the Legislative Fiscal Analyst for their assistance and cooperation in preparing this analysis.

Respectfully submitted,

Robert M. Culver, Administrator
Centralized Services Division
Montana Department of Justice

Montana Department of Justice

Purchase vs. Lease Options
Forensics Science Building
Missoula, Montana

Report to the Legislative Finance Committee
March, 2006

Introduction

The Legislative Finance Committee requested that the Department of Justice (DoJ) conduct an analysis of continuing to lease the Forensics Science Building in Missoula or instead to purchase the building.

Analysis

In performing this analysis, the department staff used a present value life cycle costs analysis methodology. This process looks at the costs of alternatives over a specified period of time. Future costs are expressed in current or present dollars.

The value of money changes with time, often referred to as the “time value of money” or the “purchasing power of money”. Because of inflation a present dollar has more value than a dollar in the future. In order to convert future dollars to present dollars, future dollars must be discounted in order for future dollars to reflect present values.

There are two variables in the mathematical equations used in the discount factor to determine the present value of a dollar: 1) the interest rate, and 2) the time period. As either of these two variables increases, the present value decreases. The greater the interest rate and the longer the time period, the less a future sum of money is worth today.

The analysis was conducted using a 30-year period. The payback on borrowed money, using state of Montana general obligation bonds was determined to be 30 years at 5.5 percent. *(This information was provided by the Board of Investments)*

Assumptions

Assumptions are determined prior to analyzing costs associated with leasing and building. These variables are usually expressed as dollars per square foot. Total costs are calculated based on total square footage. Other assumptions include inflation rates and the discount factors to determine present value of the future outlays of money. The assumptions used in this analysis are listed on table 3. The period of 30 years was used for two reasons: 1) the bond period is 30 years and 2) the building is already 6 years old and the normal analysis of buildings is usually 40 years (*Legislative Audit report “Lease vs Build Analysis” February, 1997*). The longer the projection the more favorable it is to purchase, once the loan payments ends. However, as the building ages, maintenance is likely to increase and the likelihood of major renovation costs increases.

Projected Lease Cost

In preparing this analysis the assumption is that when the present lease expires in 2015 that the new negotiated rate will double, followed by 15 percent increase every 5 years thereafter. Taxes shown are those increases the department pays over and above the property tax levels when the original lease was negotiated. The department has agreed to assume all tax increases as additional payments to the lessor.

Projected Purchase Costs

In analyzing the cost of purchasing the department assumed a 5.5 percent interest rate for State of Montana general obligation bonds with a 30-year payback period. The department would assume all maintenance and utilities, which are inflated at 4 percent per year. Property taxes are removed as the State of Montana property is excluded from property taxes.

Table 1 below summarizes the analysis of buy vs lease. It does not take the value of the building at the end of the 30-year period into consideration.

| | |
|-------------------------|-------------------|
| Purchase Cost | \$ 13,443,520 |
| Least Cost (30 years) | <u>14,820,354</u> |
| Savings from purchasing | \$ 1,376,834 |

Retained Value

The above table only considers actual cash flow for both the lease and purchase options. It does not consider the value of the building at the end of the 30-year evaluation period. Under the purchase option, the state would own a building that would have value at the end of the time period. If after the time period, the Department of Justice were to sell the building, the receipts from the sale would provide additional revenue, which would reduce the cost of the purchase option.

If we assume the purchase cost of \$7,750,000, then over 30 years at an annual increase rate of 3.5 percent the Forensics Science Building would have a projected value of \$21,752,651.

If this building were sold at the end of the 30-year period, the sale value would have to be discounted to present dollars in order to consider this value in the analysis. Using the same discount factor as we used for the lease and purchasing costs (5.5%), the present value of this building would be \$4,365,439. This would reduce the cost of the purchase option from \$13,443,520 to \$9,078,081.

| | |
|-------------------------|---------------------|
| Purchase Cost | \$13,443,520 |
| Less: Value of building | (4,365,439) |
| Net Cost of Purchase | \$ 9,078,081 |
| Lease Cost (30 years) | <u>\$14,820,354</u> |
| Saving from purchasing | \$ 5,742,273 |

Other Issues

In addition to the above calculations, non-quantifiable issues need to be considered as well. The local tax base would be reduced if the state were to purchase the building as the state does not pay property taxes.

There are risks involved with owning a building including future costs for renovation and or loss of flexibility. The Forensics Science Building is architecturally more complex building than the average office building – requiring special mechanical consideration for movement of air, as well as, unique plumbing considerations.

On the other hand, leasing comes with obvious risks. With such a specialized building, the owner has definite negotiation advantages when setting future lease costs – because of the specialized requirements for the building, the Forensic Science Building cannot easily relocate to another building.

Summary

The above analysis indicates that the state would save funds by purchasing the building. However, this requires that the state expend \$7,750,000 during the next biennium, whereas the savings from owning the building occur over the next 30 years. A time frame projected over 30 years presents the decision makers with many unforeseen variables.

Table 3
Assumptions

| | | | |
|--------------------------------------|--------|--------------------|--|
| Forensics Building - Missoula | | | |
| Sq Footage | 31,145 | | |
| Value per sq ft | \$265 | \$8,253,425 | |
| | | | |
| Sq footage - Land | 78,069 | | |
| land cost per Sq ft | \$8 | | |
| Value of Land' | | \$624,552 | |
| | | | |
| Land Improvements | | \$175,656 | |
| Owners investment in building | | \$9,053,633 | |

Owner's Selling Price \$7,750,000

| Cost Per Sq Foot (as of 2005) | Per Sq Ft | Sq Ft | Total |
|--|-----------|--------|------------------|
| Utilities | \$2.75 | 31,145 | \$85,649 |
| Common Area Maintenance | \$2.75 | 31,145 | 85,649 |
| Janitorial Services | \$1.50 | 31,145 | 46,718 |
| Water & Sewer | \$0.20 | 31,145 | 6,229 |
| Maintenance Cost | \$0.45 | 31,145 | 14,015 |
| Annual Maintenance & Utility cost | | | \$238,259 |

Inflation Projections

New Lease: Double rate begining in 2016 - plus 15 % every 5 years (Beginning 2016)

Taxes: 3.5 percent Increase per year

Interest rate of borrowed money: 5.5 % - Assuming State of Montana General Obligation Bond

Utilities & Maintenance: 4 % Increase per year

Financing Term: 30 years State General Obligation Bonds

Discount Rate: 5.5 % (Cost of borrowing money)

Analysis Time Period: 30 years

Inflation Rate of Property Value: 3.5 percent

Table 4

Comparison of Annual Lease and Purchase Cost - Forensics Science Building

| | | |
|------------------|-----------------|-------|
| Discount Rate | | 5.50% |
| Financing option | (Years of Loan) | 30 |
| Analysis Period | (Years) | 30 |

| Number | Year | Annual Lease Cost | Present Value | Annual Purchase Cost | Present Value |
|--------------|------|-------------------|-------------------|----------------------|-------------------|
| 1 | 2007 | 564,475 | 535,047 | 775,833 | 735,387 |
| 2 | 2008 | 565,046 | 507,667 | 785,745 | 705,954 |
| 3 | 2009 | 565,638 | 481,705 | 796,053 | 677,930 |
| 4 | 2010 | 566,250 | 457,086 | 806,773 | 651,241 |
| 5 | 2011 | 598,028 | 457,572 | 817,923 | 625,821 |
| 6 | 2012 | 598,684 | 434,193 | 829,518 | 601,604 |
| 7 | 2013 | 599,362 | 412,024 | 841,577 | 578,531 |
| 8 | 2014 | 600,064 | 391,001 | 854,118 | 556,542 |
| 9 | 2015 | 600,791 | 371,066 | 867,161 | 535,584 |
| 10 | 2016 | 1,180,841 | 691,300 | 880,726 | 515,604 |
| 11 | 2017 | 1,181,619 | 655,693 | 894,833 | 496,552 |
| 12 | 2018 | 1,182,425 | 621,934 | 909,505 | 478,383 |
| 13 | 2019 | 1,183,259 | 589,926 | 924,763 | 461,050 |
| 14 | 2020 | 1,184,122 | 559,580 | 940,632 | 444,514 |
| 15 | 2021 | 1,358,805 | 608,654 | 957,135 | 428,732 |
| 16 | 2022 | 1,359,730 | 577,316 | 974,299 | 413,669 |
| 17 | 2023 | 1,360,687 | 547,604 | 992,149 | 399,287 |
| 18 | 2024 | 1,361,678 | 519,434 | 1,010,713 | 385,553 |
| 19 | 2025 | 1,362,703 | 492,725 | 1,030,020 | 372,434 |
| 20 | 2026 | 1,563,622 | 535,898 | 1,050,099 | 359,899 |
| 21 | 2027 | 1,564,720 | 508,317 | 1,070,981 | 347,921 |
| 22 | 2028 | 1,565,857 | 482,167 | 1,092,699 | 336,470 |
| 23 | 2029 | 1,567,033 | 457,374 | 1,115,285 | 325,521 |
| 24 | 2030 | 1,568,251 | 433,867 | 1,138,775 | 315,049 |
| 25 | 2031 | 1,799,347 | 471,850 | 1,163,204 | 305,031 |
| 26 | 2032 | 1,800,652 | 447,575 | 1,188,610 | 295,444 |
| 27 | 2033 | 1,802,002 | 424,560 | 1,215,033 | 286,267 |
| 28 | 2034 | 1,803,399 | 402,738 | 1,242,513 | 277,480 |
| 29 | 2035 | 1,804,846 | 382,049 | 1,271,091 | 269,064 |
| 30 | 2036 | 1,806,343 | 362,432 | 1,300,813 | 261,000 |
| Total | | 36,620,278 | 14,820,354 | 29,738,579 | 13,443,520 |

Table 5

Annual Least Cost to Lease to 2040

Sq Footage Rental Rate

| | Years | Year | Rental Rate | Sq ft | Rental costs | Utilities | Taxes | Total |
|---|-------|------|-------------|--------|-------------------|-----------|----------------|-------------------|
| Continuation of Present Lease | 1 | 2007 | 17.60 | 31,145 | 548,152 | | 16,323 | 564,475 |
| | 2 | 2008 | 17.60 | | 548,152 | | 16,894 | 565,046 |
| | 3 | 2009 | 17.60 | | 548,152 | | 17,486 | 565,638 |
| | 4 | 2010 | 17.60 | | 548,152 | | 18,098 | 566,250 |
| Final 5 years of present lease 5.7 percent increase | 5 | 2011 | 18.60 | 31,145 | 579,297 | | 18,731 | 598,028 |
| | 6 | 2012 | 18.60 | | 579,297 | | 19,387 | 598,684 |
| | 7 | 2013 | 18.60 | | 579,297 | | 20,065 | 599,362 |
| | 8 | 2014 | 18.60 | | 579,297 | | 20,767 | 600,064 |
| | 9 | 2015 | 18.60 | | 579,297 | | 21,494 | 600,791 |
| New Lease Double the rent paid | 10 | 2016 | 37.20 | 31,145 | 1,158,594 | | 22,247 | 1,180,841 |
| | 11 | 2017 | 37.20 | | 1,158,594 | | 23,025 | 1,181,619 |
| | 12 | 2018 | 37.20 | | 1,158,594 | | 23,831 | 1,182,425 |
| | 13 | 2019 | 37.20 | | 1,158,594 | | 24,665 | 1,183,259 |
| | 14 | 2020 | 37.20 | | 1,158,594 | | 25,528 | 1,184,122 |
| 5 year Increase 15 percent | 15 | 2021 | 42.78 | 31,145 | 1,332,383 | | 26,422 | 1,358,805 |
| | 16 | 2022 | 42.78 | | 1,332,383 | | 27,347 | 1,359,730 |
| | 17 | 2023 | 42.78 | | 1,332,383 | | 28,304 | 1,360,687 |
| | 18 | 2024 | 42.78 | | 1,332,383 | | 29,294 | 1,361,678 |
| | 19 | 2025 | 42.78 | | 1,332,383 | | 30,320 | 1,362,703 |
| 5 year Increase 15 percent | 20 | 2026 | 49.20 | 31,145 | 1,532,241 | | 31,381 | 1,563,622 |
| | 21 | 2027 | 49.20 | | 1,532,241 | | 32,479 | 1,564,720 |
| | 22 | 2028 | 49.20 | | 1,532,241 | | 33,616 | 1,565,857 |
| | 23 | 2029 | 49.20 | | 1,532,241 | | 34,793 | 1,567,033 |
| | 24 | 2030 | 49.20 | | 1,532,241 | | 36,010 | 1,568,251 |
| 5 year Increase 15 percent | 25 | 2031 | 56.58 | 31,145 | 1,762,077 | | 37,271 | 1,799,347 |
| | 26 | 2032 | 56.58 | | 1,762,077 | | 38,575 | 1,800,652 |
| | 27 | 2033 | 56.58 | | 1,762,077 | | 39,925 | 1,802,002 |
| | 28 | 2034 | 56.58 | | 1,762,077 | | 41,323 | 1,803,399 |
| | 29 | 2035 | 56.58 | | 1,762,077 | | 42,769 | 1,804,846 |
| | 30 | 2036 | 65.06 | | 1,762,077 | | 44,266 | 1,806,343 |
| Totals | | | | | 35,777,641 | | 842,637 | 36,620,278 |

Table 6

Annual Cost to Purchase Forensics Science Bldg

Purchase Price: 7,750,000
Years to retire debt 30
Interest Rate: 5.50%
Annual Utility & Maintenance Inflation Rate: 4.00%

| | Years | Year | Debt Service | Utilities | Taxes | Total |
|--|-------|------|-------------------|-------------------|-------|-------------------|
| | 1 | 2007 | 528,044 | 247,790 | | 775,833 |
| | 2 | 2008 | 528,044 | 257,701 | | 785,745 |
| | 3 | 2009 | 528,044 | 268,009 | | 796,053 |
| | 4 | 2010 | 528,044 | 278,730 | | 806,773 |
| | 5 | 2011 | 528,044 | 289,879 | | 817,923 |
| | 6 | 2012 | 528,044 | 301,474 | | 829,518 |
| | 7 | 2013 | 528,044 | 313,533 | | 841,577 |
| | 8 | 2014 | 528,044 | 326,074 | | 854,118 |
| | 9 | 2015 | 528,044 | 339,117 | | 867,161 |
| | 10 | 2016 | 528,044 | 352,682 | | 880,726 |
| | 11 | 2017 | 528,044 | 366,789 | | 894,833 |
| | 12 | 2018 | 528,044 | 381,461 | | 909,505 |
| | 13 | 2019 | 528,044 | 396,719 | | 924,763 |
| | 14 | 2020 | 528,044 | 412,588 | | 940,632 |
| | 15 | 2021 | 528,044 | 429,091 | | 957,135 |
| | 16 | 2022 | 528,044 | 446,255 | | 974,299 |
| | 17 | 2023 | 528,044 | 464,105 | | 992,149 |
| | 18 | 2024 | 528,044 | 482,670 | | 1,010,713 |
| | 19 | 2025 | 528,044 | 501,976 | | 1,030,020 |
| | 20 | 2026 | 528,044 | 522,055 | | 1,050,099 |
| | 21 | 2027 | 528,044 | 542,938 | | 1,070,981 |
| | 22 | 2028 | 528,044 | 564,655 | | 1,092,699 |
| | 23 | 2029 | 528,044 | 587,241 | | 1,115,285 |
| | 24 | 2030 | 528,044 | 610,731 | | 1,138,775 |
| | 25 | 2031 | 528,044 | 635,160 | | 1,163,204 |
| | 26 | 2032 | 528,044 | 660,567 | | 1,188,610 |
| | 27 | 2033 | 528,044 | 686,989 | | 1,215,033 |
| | 28 | 2034 | 528,044 | 714,469 | | 1,242,513 |
| | 29 | 2035 | 528,044 | 743,048 | | 1,271,091 |
| | 30 | 2036 | 528,044 | 772,769 | | 1,300,813 |
| | | | 15,841,313 | 13,897,265 | | 29,738,579 |