Life Cycle Cost Model Update Preliminary Report

Joint Legislative Audit & Review Committee

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Study Mandate

2006 Supplemental Capital Budget directs JLARC to:

Update life cycle cost model developed in response to JLARC's 1995 performance audit of capital planning and budgeting

- Review model's economic assumptions
- Enhance model's ability to compare ownership and leasing options, and alternative financing approaches

What is Life Cycle Cost Analysis?

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- Calculation of total costs of asset over its useful life
- For facilities, compares all quantifiable capital and operating costs of facility alternatives over their estimated useful lives on a same-year dollar basis
- Key Terms:
  - *<u>Present Value</u> = value today of an amount to be paid or received in the future*
  - *<u>Discount Rate</u> = rate used to reduce future cash flows to their present values*

Different Financing Approaches Impact Life Cycle Costs

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- State pays for facilities in a number of ways
  - General Obligation (GO) Bonds
  - Certificates of Participation (COPs)
  - 63-20 Financing
- Differences in cash flows and financing transaction costs impact life cycle costs of facilities

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Study Objectives

1. Determine how life cycle cost model has been used since 1995 JLARC audit
2. Identify elements of model that need regular updating
3. Determine what modifications to model are needed to compare different financing approaches and project delivery methods
4. Identify opportunities to improve model's functionality for producing reliable analysis

Agency Use of Life Cycle Cost Model

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- General Administration reports it has used model on behalf of state agencies for 65 projects since 1996
  - Majority for agencies occupying leased space and considering purchasing or building
  - Most projects were 30,000 or more square feet, valued at $10 million or more
- No comprehensive record of the extent to which agencies may be using model on own to conduct life cycle cost analysis

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Limited Requirements for Using Model

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- OFM's biennial capital budget instructions include the only state requirement for using the model
  - Agencies only directed to use model for major projects proposing to use alternative financing
    - ***Does not apply*** to projects financed through sale of general obligation bonds or to agencies leasing space and considering other leasing options
    - ***Agencies not required*** to formally document results from model in budget requests

Minimal State Requirements for Use and Oversight of Life Cycle Cost Analysis

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- Chapter 39.35 RCW expresses intent to consider life cycle costs in capital decisions
  - OFM and GA may establish guidelines
  - Directs OFM to set a discount rate to use in analyses
- OFM's life cycle cost analysis requirements and oversight responsibilities:
  - Do not apply to all major projects (only projects requiring pre-design studies)
  - Do not ensure analyses are technically accurate and include all quantifiable costs
  - Allow agencies to choose among range of discount rates without indicating appropriateness of each rate

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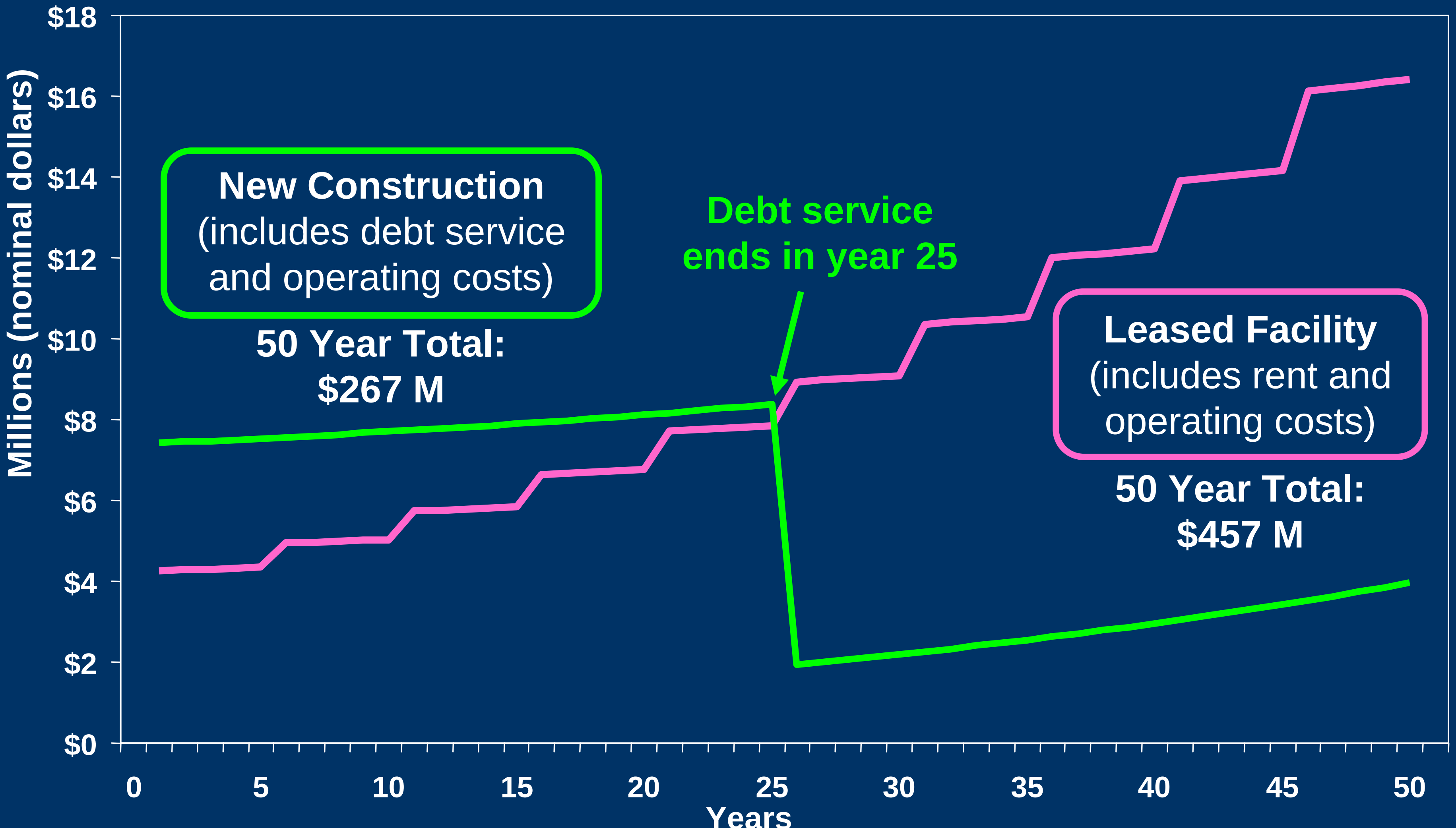
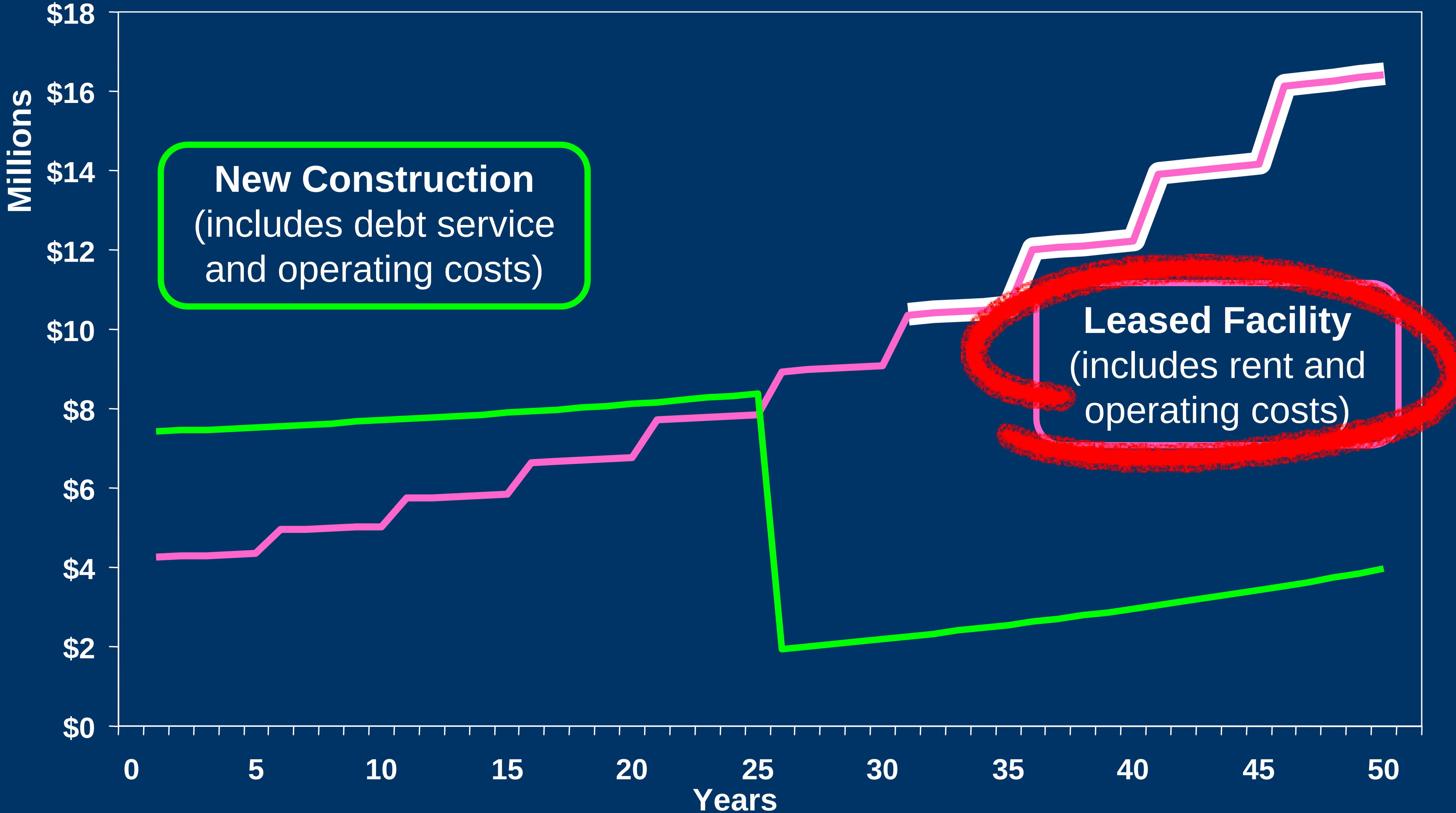
Ownership and Leasing Alternatives Have Different Annual Cash Flows



Lower Discount Rates More Favorable to Projects with Higher Costs in Early Years

Higher Discount Rates More Favorable to Projects with Higher Costs in Later Years



Discount Rate Has Significant Impact on Life Cycle Cost Results

Ownership vs. Leasing Costs Over 50 Years (Each facility = 145,000 rentable square feet)			
Project Type	**Total Costs in Nominal Dollars (not discounted)**	**Present Value using Nominal Discount Rate 4.6%**	**Present Value using Nominal Discount Rate 10.2%**
New State Construction (GO Bond-Funded)	$267 Million	$128 Million	$72 Million
Leased Facility	$457 Million	$143 Million	$60 Million

Findings Related to Use of Life Cycle Cost Analysis

OBJECTIVE 1

Finding 1:

State lacks specific policies and standards on conducting life cycle cost analysis and clear guidance on when and how to use it. Further, there is limited oversight and review of the results of life cycle cost analyses.

Finding 2:

Selection of a discount rate is a key factor in determining which alternative is considered to be most cost-effective. OFM does not provide clear guidance to agencies on which discount rate to use.

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Finding Related to Keeping Model Current

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Finding 3:

Some key cost assumptions in life cycle cost model require regular updates to ensure accurate and comparable cost estimates.

– E.g., utilities, maintenance, insurance, management fees, capital replacements, tenant improvements, interest rates for borrowing.

Model Update is Now Complete

OBJECTIVES 3 & 4

- Received input from key stakeholders and staff
- Model has been updated to more easily compare and review:
  - Multiple ownership and project delivery options
  - Different financing options
  - Key cost and economic assumptions

Recommendations

1. OFM should maintain the updated model and establish clear policies and standards for use of model and life cycle cost analysis.
    - Specify which projects must undergo life cycle cost analysis;
    - Clarify when and if model must be used by agencies;
    - Establish standard discount rate(s) to be used in life cycle cost analyses; and
    - Establish policies related to inflation rates and other key costs and savings.

Recommendations (cont).

2. OFM should review all life cycle cost analyses to ensure that established policies and standards have been followed and that analyses are technically sound and accurate.
3. OFM should regularly update the cost assumptions in the life cycle cost model.

Timeline and Contact Information

Proposed Final Report - February 2007

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