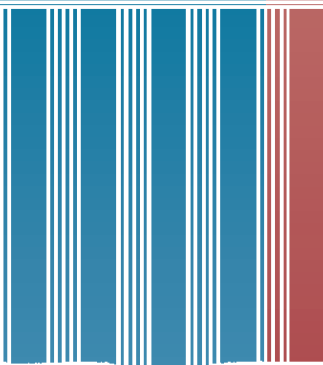


Office of
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*Amor Patriae
Ducit*



U.S. General
Services
Administration

Governmentwide Real Property

Performance Measurement Study



June 1998

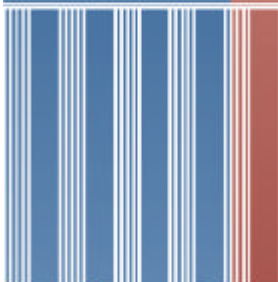


**Office of
Real Property**

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*Amor Patriae
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U.S. General
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Governmentwide Real Property Performance Measurement Study

i



Office of Governmentwide Policy
U.S. General Services Administration

June 1998

FOREWORD

The Office of Governmentwide Policy is pleased to issue the ***Governmentwide Real Property Performance Measurement Study***. The Office of Real Property undertook this study to assess and evaluate the real property performance measurement efforts of Federal agencies. In light of the Government Performance and Results Act (GPRA), I believe that you will find that the study provides valuable insight into performance measurement that can be of use across the Federal government.

I would like to recognize David Bibb whose Office of Real Property undertook this research effort. With the guidance of Marjorie Lomax, from the Evaluation and Innovative Workplaces Division, and under the leadership of team leader Stan Kaczmarczyk, the project team of Chris Coneeny, Brenda Maxson, Rob Obenreder and Ron Whitley researched and wrote the study. A special thanks to those organizations that shared their methodologies, processes and lessons learned from previous performance measurement efforts.

With the publication of the study, the project team will now focus on developing the first ***Governmentwide Real Property Performance Results*** that will be issued in September 1998. This report will provide baseline numbers for each of the core measures. Your participation in this effort is essential for creating truly Governmentwide performance measures. I sincerely hope your agency can contribute data from selected facilities directly to our project team by July 24, 1998.



G. Martin Wagner
Associate Administrator
Office of Governmentwide Policy
U.S. General Services Administration

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EXECUTIVE SUMMARY

The General Services Administration (GSA), Office of Governmentwide Policy, Office of Real Property conducted the *Governmentwide Real Property Performance Measurement Study* to provide Federal agencies with the right measures to assess the performance of real property asset management on a Governmentwide basis. The study also provides the framework for building a performance baseline that will be issued in a separate report on September 30, 1998.

Evaluating real property asset management requires measures that provide useful information. Performance measures will help managers compare their operations to similar organizations in the government and private sectors; identify if and where improvements are necessary; determine if the organization is meeting its goals; and address customer satisfaction issues.

Our project team developed the performance measures in collaboration with 7 Federal agencies that manage or own real property. The project team originally started with 36 potential performance measures. However, after several meetings with our interagency working group, coupled with the results of a cost-benefit analysis, the

36 measures were reduced to 5 measures of Governmentwide real property activity, and 2 broad statistical measures. The recommended performance measures are:

- *Cost per square foot (owned)*
- *Vacancy rate*
- *Cost per square foot (leased)*
- *Cost per person*
- *Customer satisfaction*
- *Employees housed*
- *Total square feet*

Discussions with the 7 Federal agencies and other research efforts confirmed that measuring performance is both expensive and time-consuming. Therefore, it was important to limit our initial effort to the core set of measures to maximize payback.

The project team contacted other organizations to research key performance measures and data collection techniques. Organizations contacted by the team included: state, local and international governments; academia; private sector companies; and professional associations. Their comments clearly reveal that measuring real property

performance is challenging and requires much innovation.

As previously mentioned, there will be another deliverable in September 1998, called the *Governmentwide Real Property Performance Results*. This report will establish a real property performance measurement baseline for future comparison.

Because of the level of detail involved, development of the baseline should ideally be a contractor effort. However, the earliest date that GSA could request funds for such an effort would be fiscal year 2000. Since a baseline is needed before the beginning of fiscal year 1999, we propose an interim strategy to overcome the constraint on our resources.

The Office of Real Property plans to develop the baseline using data collected from the following sources:

- GSA's Public Buildings Service (PBS) inventory
- Analysis of measures performed by the Logistics Management Institute (LMI)
- GSA's delegated building inventory
- Building Owners and Managers Association (BOMA)
- Office of Management and Budget (OMB)
- President's budget
- Worldwide Inventory building data
- Selected non-GSA buildings under custody and control of Federal agencies

Our office will gather, tabulate and analyze the data. The data that we obtain from a representative sample of buildings will attempt to approximate a true Governmentwide estimate of real property asset management performance.

We recognize that the baseline will not reflect all Federal space categories. However, as data collection is refined each year, and with the incorporation of other space types in the sample (warehouse, laboratories, hospitals and other special use space), the scope and accuracy of our performance measurement initiative will be further refined. We hope to provide a valuable resource for real property professionals.

PROJECT DESCRIPTION

Introduction

The Office of Real Property seeks to lead the Federal Government to continually improve its real property operations. One way to accomplish this mission is to assess real property asset management performance on a Governmentwide basis. Although GSA is known as the “Government’s landlord,” it only controls about 39 percent of the Governmentwide *office space* inventory, and only 10 percent of the Governmentwide *total space* inventory.

The purpose of this project is to:

- Determine the critical indicators and begin the process of measuring real property asset management performance.
 - Initially measure office space performance, but develop a system that can be expanded in the future to include other types of space.
 - Select a representative sample of facilities that is truly Governmentwide (more than just GSA buildings).
 - Establish the baseline results by September 30, 1998.
 - Track and expand the measures annually, set goals, benchmark, assess improvements and deficiencies.
- Provide case study summaries from a variety of public and private organizations that have also looked at the area of real property performance measurement.

About This Study

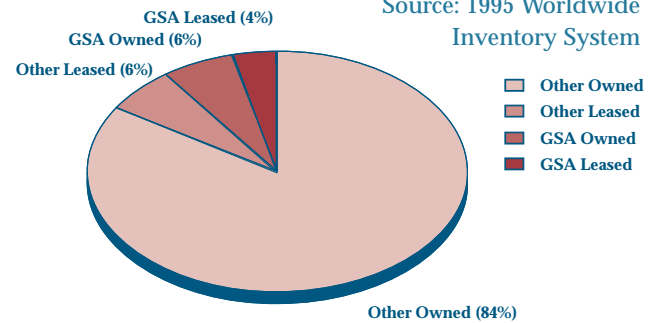
The purpose of this Governmentwide Real Property Performance Measurement Study is as follows:

- Describe the analytical and collaborative processes the team used to develop the proposed performance measures and the measurement system.

- Recommend an approach to measurement culminating in the publication of the *Governmentwide Real Property Performance Results* later in 1998.

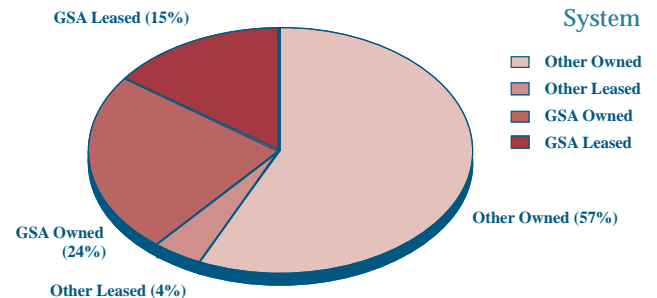
Total Space

The Governmentwide total space is 3.1 billion square feet.
Source: 1995 Worldwide Inventory System



Office Space

The Governmentwide total for office space is 668 million square feet.
Source: 1995 Worldwide Inventory System



- Provide a glossary of terms to assist other real property professionals embarking on a performance measurement program.

The *Governmentwide Real Property Performance Results* document, which we plan to issue in September 1998, will be valuable to Government decisionmakers, stakeholders, Federal agency real property professionals and all public and private sector organizations seeking benchmark data on real property.

Getting to the Right Measures

The Office of Real Property's project team developed an initial list with definitions of 36 potential real property performance measures. The team developed the list based on research and brainstorming sessions. The team used a real property life cycle model (i.e., planning, acquisition, operations, maintenance and disposal) to organize its thinking.

These were the initial 36 potential performance measures (many of these are defined in the glossary in Appendix C):

1. Customer satisfaction survey score
2. Customer satisfaction survey participation
3. Alternative work environment participation
4. Alternative work environment cost
5. Children in childcare facilities
6. Space use for childcare
7. Total building area
8. Building inventory
9. Owned to leased ratio
10. Utilization rate
11. Average operating cost per person
12. Space efficiency
13. Vacancy rate
14. Outleases
15. Real property regulations
16. Real property legislation
17. Federal construction activity
18. Change order rate
19. Cost of construction
20. Meeting construction commitments
21. Meeting occupancy commitments
22. Amount of space renovated per year
23. Cost of owned space
24. Cost of leased space
25. Facility management cost
26. Move costs
27. Space managed per specialist
28. Time to execute a lease
29. Churn rate
30. Security cost
31. Crime activity
32. Security investigations
33. Gross area monitored
34. Disposal sales per FTE
35. Value comparison
36. Time to execute disposal actions

The project team discussed the 36 measures at our first interagency working group meeting on October 28, 1997. The working group consisted of agency personnel who expressed interest in our project when we previewed it at the September 1997 agency meeting on the draft *Office Space Use Review*. The 7 agencies comprising the interagency working group are:

- Administrative Office of the U.S. Courts
- Department of Commerce
- U.S. Army Corps of Engineers
- Department of Energy
- GSA's Public Buildings Service
- Department of Justice
- Department of Veterans Affairs

Based on the October 28, 1997, discussion, further research, consultation with other real property professionals and subsequent project team meetings, the list was refined and revised to 12 performance measures. The team dropped measures that were not critical core measures or that were too broad without obvious practical value.

The 12 interim performance measures were:

1. *Customer satisfaction survey score*
2. *Owned to leased ratio*
3. *Vacancy rate*
4. *Cost of construction*
5. *Construction estimating*
6. *Cost per square foot - owned*
7. *Cost per square foot - leased*
8. *Total administrative cost per person*
9. *Management cost (overhead)*
10. *Space managed per specialist*
11. *Security cost*
12. *Value comparison for disposal*

We discussed these 12 interim measures with the interagency working group at our second meeting on November 18, 1997. At that meeting, the group agreed that the collection of data (the performance measurement "system") should ideally be built upon the work already done by LMI for PBS and their performance measurement effort.

At this point, the team wanted to ensure, consistent with the team charter (see Appendix E), that we were dealing with a broad set of measures (not just operational indicators). We categorized the 12 interim performance measures according to various classification schemes, reproduced in Appendix A.

The Cost-Benefit Analysis

We conducted a cost-benefit analysis on the 12 interim performance measures to see if we could reduce them to an essential few. The analysis was faxed to the members of the interagency working group on January 8, 1998, along with a request for their feedback. We did not convene a formal meeting of the interagency working group to discuss the analysis, which is straightforward.

Based on the analysis, we narrowed down the list of performance measures to five key indicators plus two additional global statistics.

The key assumption underlying the analysis is that a performance measurement system that provides feedback to Federal landholding agencies will drive improved real property asset management. To the extent that subsequent annual indicators show improvement in performance, we assume that

savings are generated proportionately across the Governmentwide inventory. Since these are broad assumptions, we are primarily interested in the scale of the potential savings compared to the annual expenditure for measurement. With this information, decision-makers can get a feel as to whether spending funds on a Governmentwide real property performance measurement system is a wise investment of scarce resources.

The cost-benefit analysis indicates that an annual expenditure of up to \$600,000 on data collection to support the seven chosen indicators can lead to potential annual savings of approximately \$350 million.

The cost-benefit analysis is reproduced in Appendix B.

The Recommended Performance Measures for Fiscal Year 1998

The five recommended real property Governmentwide performance measures for Fiscal Year 1998 are:

Cost per square foot (owned): This measure ranked first in terms of payback potential as well as overall rank. We will eventually need to work with a contractor to develop the data for this measure.

Vacancy rate: This performance measure ranked second in terms of payback potential. We will eventually need to work with a contractor to develop the data for this measure.

Cost per square foot (leased): This performance measure ranked third in terms of payback potential. We will eventually need to work with a contractor to develop the data for this measure.

Cost per person: This measure, still defined imprecisely, is more comprehensive in scope than the other strictly real property measures. One way to capture this information would be to work with OMB to estimate this number based on the annual budget. OMB may be able to break out the administrative costs from the program costs. Once we obtain the data from OMB, *the actual performance measure of real property will be the percentage of overall administrative cost per person attributable to real property.* We can hopefully benchmark this percentage against other organizations such as Johnson Controls, which has estimated the number at 15 percent (source: World Workplace '97).

Another way to approach this indicator would be to define the measure and estimate the baseline

based on a formal benchmarking effort with selected public and private organizations. This would provide a standard definition resolving such issues as which administrative expenses are included and what is the definition of people (employees, temporaries, contractors, etc.). We are actively considering such a benchmarking project for the late 1998 timeframe. Readers who are interested in participating in such an effort can contact Stan Kaczmarczyk at the Office of Real Property at (202) 501-2306.

Customer satisfaction: This indicator, for the initial FY98 effort, will be based on the current GSA/PBS customer satisfaction survey results. This is useful for purposes of establishing a baseline estimate since, although PBS manages the buildings, the customers are from various agencies. Nevertheless, the available results only reflect satisfaction with PBS's services. We hope to expand this indicator in future years to include customer agencies that would like to conduct similar surveys in their own facilities, thus expanding the scope of the Governmentwide input for the measure. Federal agencies that would like to use the PBS survey to measure occupant satisfaction in their facilities can contact Peter Ford

of PBS at (202) 501-0514.

Two additional broad statistical measures that we plan to provide are:

Employees housed: Initially, we will have to estimate this indicator from the FTE data in the President's budget. Although government buildings house other personnel besides FTE (notably contractors),

this information is not routinely collected by agencies. We recommend that agencies try to count all users of agency space due to the potential impact on budgets and space use.

Total square feet: We will obtain this data from the Worldwide Inventory. It provides the context for the other indicators.

Important note: We are attempting to provide information to help agency managers compare and make decisions relating to their real property operations. Dividing total square feet by FTE will yield gross square feet per FTE, which is not equivalent to the office space utilization rate, as discussed in the "Office Space Use Review." For a further discussion of this issue, please refer to the "Office Space Use Review" published by the Office of Real Property in September 1997. You can access the "Office Space Use Review" on the Internet at the following address:

<http://policyworks.gov/realproperty>

The five interim performance measures that we dropped are:

Construction performance: Formerly called construction estimating, we felt that this measure was difficult to obtain, standardize and benchmark. In addition, we dropped performance measures relating to new construction because we are limiting our initial Governmentwide real property performance measurement effort to

office space only. The Federal Government's current priorities for limited construction funds are special use buildings that are not readily available in the private market.

Cost of construction: See above. The Government's lack of capital to fund few new projects beyond special purpose buildings also ensures that measures of *return on investment* would not be among the

critical few. As it happened, *return on investment* did not appear in the initial list of 36 performance measures since the team felt that it was relevant to PBS (which charges rent) while we were looking for Governmentwide measures.

Disposal volume: The team felt that we would need to invest effort and expense into collecting data that are essentially statistical and not a true performance measure. The actual inventory changes tracked by the *total square feet* indicator are more meaningful.

Space managed per specialist: Again, this is somewhat interesting to know but not worth the expense of measuring. Also, a member of the interagency working group pointed out that this is not a good stand-alone measure. As this ratio goes up, customer service may suffer proportionately.

Average lease term: We would need to spend money to obtain information that does not tell us much by itself.

Note: Although we fully considered the merits of all twelve measures, we ended up dropping the five lowest ranked measures based on the overall ranking method (average of payback rank and cost rank).

Importance of Limiting the Number of Measures

Research confirms that measurement is expensive and time-consuming. Therefore, it is important to limit our initial effort to the core set of measures to maximize payback. For example, we encountered two public sector examples, Canada and Australia, where the core real property measures were limited to three.

The General Accounting Office (GAO) recommends that performance measures be limited to the “vital few” and cautions that “organizations that seek to manage an excessive number of performance measures may risk creating a confusing excess of data that will obscure rather than clarify performance issues” (source: *Agencies’ Annual Performance Plans Under the Results Act: An Assessment Guide to Facilitate Congressional Decisionmaking* [GAO/GGD/AIMD-10.1.18] published in February 1998).

Additional support for limiting indicators to the critical few can be found in the private and academic sectors. Robert S. Kaplan and David P. Norton, the originators of the “Balanced Scorecard” approach to performance measurement, wrote that “companies rarely suffer from having too few measures. More

commonly, they keep adding new measures whenever an employee or a consultant makes a worthwhile suggestion. One manager described the proliferation of new measures at his company as its 'kill another tree program.' The balanced scorecard forces managers to focus on the handful of measures that are most critical." (source: *Harvard Business Review*, January-February 1992).

The Performance Measurement System

As mentioned earlier, the next deliverable from our performance measurement initiative will be a publication called the *Governmentwide Real Property Performance Results*, due September 30, 1998. This will establish a baseline for what we expect to be an annual report.

In the next few pages, we discuss how the working group envisioned the performance measurement "system," i.e., how we will collect the annual performance data for the *Governmentwide Real Property Performance Results*. We don't expect to have the required funding for the proposed system prior to fiscal year 2000, so we discuss how the Office of Real Property proposes to get the effort off the ground by collecting some available data for fiscal years 1998 and 1999.

Regarding data collection, we recognize that certain limitations exist. For example, the lack of a central data source for a cross-cutting administrative function like real property, the unavailability of certain data and the quality and reliability of the data that are available are all challenges for our initiative. In keeping with recommendations from GAO, we will always report the limitations of the data on which our performance results are based (source: *Effectively Implementing the Government Performance and Results Act* [GAO/GGD-96-118] published in June 1996).

Governmentwide Implementation in Fiscal Year 2000

The working group proposes that the Office of Real Property hire a contractor to help gather the key data from a statistically significant sample of Government buildings. This is preferable to a data call (which exceeds our authority and only passes the expense and work burden on to the other agencies) or to developing a centralized database (an expensive, time-consuming task).

The cost side of the cost-benefit analysis was based on two assumptions. First, we need contract

help to collect data in support of three of the performance measures:

cost per square foot owned, cost per square foot leased and vacancy rate.

Second, we can derive parts of the other two measures (*customer satisfaction, cost per person*) and supplemental data (*total square feet, employees housed*) from data already being collected by GSA and OMB.

We developed this alternative in collaboration with our interagency working group. The working group felt that LMI would be the logical choice for the contractor so that we could economize by building on the work already accomplished for PBS. Although we used this suggestion as a basis for our analysis, that does not preclude the options of using another contractor or continuing a limited effort with our own staff.

The PBS/LMI effort indicates an expenditure of approximately \$600,000 to set up six performance measures (development and initial baseline measure). While the Governmentwide inventory is much larger (GSA/PBS controls only 39 percent of the Governmentwide *office* space inventory), the additional cost may be offset by the initial work already accomplished for PBS.

We estimate a required expenditure in the range of \$300,000 to \$500,000

to bring the contractor on board in fiscal year 2000.

Getting Started in Fiscal Years 1998 and 1999

Although we believe that performance measurement, benchmarking and feedback are essential to effective real property asset management, we recognize the difficulty involved in obtaining funds to hire a contractor for an extensive effort. We tried, in a methodical way, to limit the indicators to a critical few. In addition to the issue of the funding amount itself, there is the additional problem of the timing of obtaining funds:

- There are no funds available for this project in fiscal year 1998.
- There are limited funds available for this project in fiscal year 1999.
- The earliest available funding for a contractor would be in fiscal year 2000.

We want to fulfill the commitment in the Office of Governmentwide Policy's fiscal year 1999 Performance Plan to establish a baseline by the end of fiscal year 1998 and assess improvement by fiscal year 1999. Therefore, we propose to begin the

performance measurement process with a more limited, in-house effort that will make maximum use of existing data but also attempt to collect as much additional data as feasible. This effort will allow us to fulfill our commitments, make a good start and provide a basis for expanding and improving future efforts.

We hope that the 1998 and 1999 editions of *Governmentwide Real Property Performance Results* will provide a model for GSA and OMB decisionmakers of the more thorough and comprehensive contractor-led effort envisioned by the working group. We want to deliver the product, at least in rudimentary form, ahead of time so that decisionmakers will be confident that the fiscal year 2000 funds will be money well spent.

To get the Governmentwide real property performance measurement system up and running, Office of Real Property staff will collect data on the seven proposed indicators from the following sources:

- PBS inventory
- Analysis of measures performed by the LMI
- GSA's delegated building inventory
- BOMA
- OMB
- President's budget
- Worldwide Inventory building data
- Selected non-GSA buildings under custody and control of Federal agencies

We will gather, tabulate and analyze the data. Our goal is to publish results that, to the best of our ability and based on the available sample of facilities, approximate truly Governmentwide estimates of real property performance results. We recognize that the first year's sample may be overly influenced by the GSA inventory, since that is our primary data source. We hope to combine data from selected non-GSA buildings, the concept of a range of values and statistical sampling techniques to counter any GSA bias in the sample.

The collection of data and analysis, to be published in September 1998 as the *Governmentwide Real Property Performance Results*, will also feature benchmarking data (from the BOMA Experience Exchange Report and other sources) and a series of building profiles highlighting some of the "best in class" Federal

buildings in terms of performance. Organizations can benchmark, not only against the overall data, but against individual outstanding buildings that may match up more closely with their own buildings.

We hope that other Federal landholding agencies will cooperate to the extent feasible by providing two key data elements on selected non-GSA facilities. For any given building, we would ask for the cost per square foot (either owned or leased) and the vacancy rate. While everyone will benefit from the compiled performance data, the benefit received by everyone will be greatly enhanced to the extent that everyone participates in the system to some degree.

One idea that we discussed for possible future implementation is to expand Federal participation in the BOMA Experience Exchange Report, a voluntary compilation of performance data from the private and public sectors in the United States and Canada. In future years, such an effort can be easily and logically incorporated into the Governmentwide system once it is established.

Future editions of the *Governmentwide Real Property Performance Results* publication will

be more technically accurate and more truly Governmentwide in content as the data collection exercise is refined from year to year. If the effort receives the necessary funding from year to year, we can look at additional indicators and possibly expand the scope beyond office space to other types of space such as warehouse, laboratories, hospitals and other special use space.

Methodology for Data Collection

We hope to collect a few key pieces of data on as many buildings as possible. Ideally, we will compile a sample of buildings that will approximate the actual distribution of the Governmentwide inventory (at least in terms of GSA versus non-GSA buildings). The building sample will consist of the following:

- GSA-controlled facilities compiled from PBS information systems
- GSA-delegated facilities compiled from PBS information systems
- Non-GSA facilities compiled from voluntary submissions from federal agencies

Since this is a voluntary benchmarking effort, we have tried to keep

the data collection exercise as simple as possible. See Appendix C for blank data collection forms. We ask that our agency benchmarking partners provide data on sample facilities from their inventory to our office by mail, fax or electronic mail by July 24, 1998.

The chart below indicates the population of **Government-owned** office space from which we hope to draw a representative sample.

We request data from agencies on their **Government-owned** office facilities that meet the following criteria:

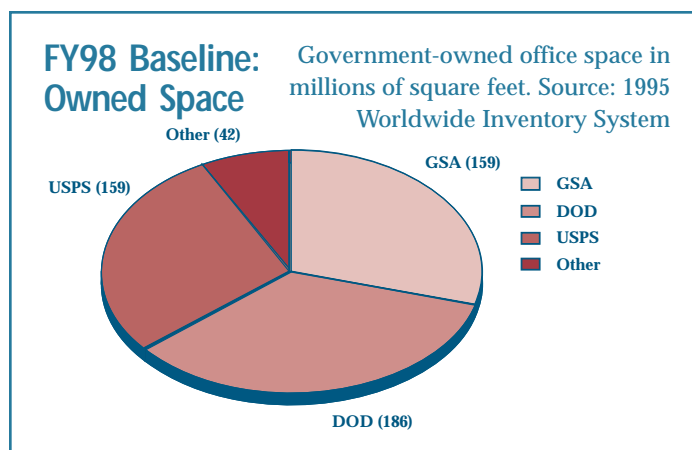
- Data should be for an entire building.
- Building should be predominantly office-type space (greater than 70% of building).

- U.S. domestic facilities only.
- Facilities should contain at least 50,000 rentable/ usable/ occupiable square feet.
- Keep it simple and avoid complicated examples (e.g., 24-hour operations, split occupancy with outleases, etc.).

The chart on the following page indicates the population of **Government-leased** office space from which we hope to draw a representative sample.

We request data from agencies on their **Government-leased** office facilities that meet the following criteria:

- Data should be for a leased assignment, not necessarily a whole building.



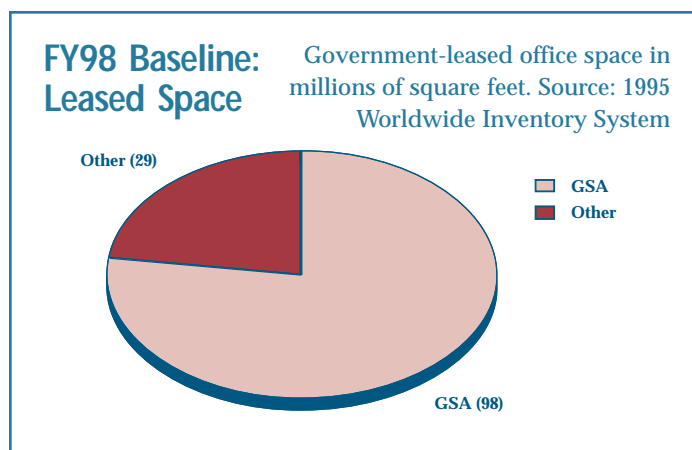
- Building should be predominantly office-type space (greater than 70% of building).
- U.S. domestic facilities only.
- Due to the smaller population, there is no minimum threshold in terms of rentable/usable/occupiable square feet.
- Keep it simple and avoid complicated examples.

We want to emphasize that this is a voluntary benchmarking effort and that all data we receive from Federal agencies will be treated as confidential and remain anonymous. We will not single out individual agency performance.

The purpose of *Governmentwide Real Property Performance Results*

is to provide estimates of Governmentwide performance:

- For agency managers to benchmark their own performance against the overall Government baseline.
- To benchmark the Federal Government as a whole against the private and public sectors.
- To give our office some sense of the effectiveness of Governmentwide asset management so that we can identify areas where we can be most helpful with policy guidance, education and identification of best practices.



CASE STUDIES: GOVERNMENT SECTOR

14

Introduction

The project team contacted other organizations to determine which real property performance measures they used. The team also researched how the organization collected and reviewed data, and how it used the measures to review performance.

The project team contacted private sector companies, professional associations and organizations, academic organizations, state and local governments and international governments. We report the relevant findings from these case studies in this section and the next two sections.

The case studies provide a number of measures ranging from broad overall management data down to very specific operational measures.

However, 4 performance measures are mentioned relatively frequently (at least 7 times each). They are:

- *Cost per Square Foot*
- *Cost per Person*
- *Customer Satisfaction*
- *Space per Person*

Of these 4 popular real property performance measures, the only one not included in our recommended core list of 7 measures is *space per person*.

The need to be competitive, to support new structures and ways of working, and to attract and maintain a skilled workforce has led to the use of alternative office environments and teaming, which involves creating flexible space arrangements that will support interactive collaborative work processes. More and more employees are working from home and at telecenters. In this changing environment, a measure of space use in the traditional office building environment, such as space per person, is not as useful as cost per square foot and cost per person.

While this effort will not collect space per person data, agencies can still compare their figures against the guideline suggested in the *Office Space Use Review*. The 200 usable square feet per person mentioned in the report is seen as a guideline, and not as a rule. This approach to space per person is preferable to a performance measurement approach. The latter approach suggests that less is always better, which in the case of space per person ignores important issues, such as productivity, morale and mission requirements. For a further discussion of this issue, please refer to the *Office Space Use Review* published by the Office of Real Property in September 1997.

Another summary observation is the inclusion of revenue-related performance measures by the private sector firms and their relative absence from the public sector organizations. Some of the more popular indicators of this type are:

- *Return on Investment*
- *Revenue per Square Foot*
- *Return on Assets*
- *Expense to Revenue Ratio*

At some point, we need to further consider including financial indicators in our measurement efforts. Although the Government is not a private sector organization motivated by profits, it is certainly true that the Government realizes revenue (taxes, user fees, revolving funds) and that the assets themselves have value. However, we do not deem these indicators to be as vital as the first group of seven that have been selected.

Logistics Management Institute for the Public Buildings Service

Since early fiscal year 1997, LMI and PBS have worked jointly on developing quantifiable performance measures for PBS's real property inventory.

Under contract to PBS, LMI has researched, identified, tested, developed and recommended real property performance measures for specific program components of asset management including:

- Facility operations
- Leasing
- Construction
- Security

In addition, LMI has compiled annual performance data from PBS and the private sector into relational databases for comparative analysis of prior year performance, as well as comparison of public and private sector performance. Based on LMI's efforts, the following has been accomplished.

Operations

Using GSA owned and operated office buildings, LMI benchmarked the operational costs (cleaning, maintenance, utilities) against the private sector, and developed and mapped out industry cost ranges for each. Excluded from this analysis were costs from reimbursable accounts and delegated building operations.

LMI obtained industry data from:

- BOMA

- Association of Higher Education Facilities Officers
- Institute for Real Estate Management (IREM)
- International Facilities Management Association (IFMA)
- PBS regional offices

LMI used regression models to predict industry cost ranges when data were unavailable. Sources included:

- Department of Labor
- County Business Patterns (labor wages)
- Edison Electric Institute (electricity)
- National Association of Regulatory Utility Commissions (natural gas)
- National Oceanic and Atmospheric Administration

Plotting building operational costs corresponding to specific building characteristics (city, square footage, urban/suburban) against industry cost ranges enables facility managers to assess real property performance. The scaling of the industry ranges reveals the level of performance and the cost benefits attainable by

improving performance within the specified industry scale.

Leasing

LMI used the same basic approach for the leasing program. LMI and PBS's regional offices identified leases as Class A or Class B space, as well as inside and outside of Central Business Districts (CBDs). Class A space is defined as space that has an excellent location, is well maintained and professionally managed. Class B space is defined as space that has a good location. CBD space is near historic urban core areas. This same process was also performed for private industry. LMI plotted PBS leasing costs on each type of industry cost scale (Class A, Class B, CBD, non-CBD) to assess program performance. LMI used regression analysis to fill in data gaps for smaller cities where no comparable industry data existed.

A facility manager can analyze cost variances in different types of space and locations. A facility manager can, for example, identify premiums paid for space in CBDs, determine appropriate leasing actions and budget accordingly.

Construction

Using data obtained from PBS and industry sources (such as the

Construction Industry Institute, R.S. Means and the American Institute of Architects, among others), LMI recommended performance measures for the PBS construction program. Measures identified included:

- *Cost growth* - final construction value minus construction award divided by construction award (includes options that were subsequently taken).
- *Schedule growth* - duration from notice to proceed (NTP) to substantial completion divided by estimated duration at contract award.
- *Design costs as a percent of construction costs* - the portion of design dollars to overall construction project dollars.
- *Construction management costs as a percent of construction costs* - cost for managing project to overall construction project dollars.
- *S curves* - plots duration from NTP to 100 percent substantial completion. Plots costs from zero percent to 100 percent of final construction value (includes reimbursable and contract modifications).

Results were mapped against industry standards for similar projects (office, courthouses, other). The project manager can assess the efficiency of construction projects and services compared to industry standards.

Security

Using data from PBS and private industry, LMI developed performance measures for guard services. Benchmark data came from sources such as:

- 1992 Census of Service Industries (guard service)
- American Society of Industrial Security (armed versus unarmed guard salary)
- IFMA
- U.S. Marshals Service
- Bailiffs
- PBS's Federal Protective Officer (FPO) and contract costs
- IREM
- BOMA

Measures developed include:

- *Contract rate* - analysis of guard salary plus overhead. Adjustments are made for location and whether service

provided requires armed or unarmed personnel.

- *Level of service* - guard versus police services.
- *Salary* - guard versus police and armed versus unarmed.
- *Levels of protection* - size of force to square footage of building.

The facility manager can assess the efficiency of security service delivery compared to industry standards for guards and police services.

Public Works and Government Services Canada

The Public Works and Government Services Canada (PWGSC), part of the Canadian Federal government, has developed and implemented specific management strategies that analyze, evaluate and report on real property program performance. Providing office accommodations to government personnel is a major cost item to Canada. Specifically, the Canadian Federal government provides approximately 3.98 million square meters of office space to 167,000 people at 4,000 different sites in Crown-owned (government-owned), lease-purchased and leased office facilities.

Relevant findings are:

PWGSC uses an Asset Management

Plan (AMP) to manage real property assets over their economic life. The plan:

- Provides the strategic framework for Canada's real property asset investment decisions.
- Develops a report that shows a current overview of real property asset physical condition, functional operation and financial performance in light of current market conditions.
- Identifies multi-year performance and financial targets for expenses, revenues and operations, and analyzes specific variances.
- Provides management with accessible real property asset documentation.

An Asset Performance Management Policy is grafted into the AMP. The policy provides measures on financial, operational and functional performance.

- *Financial performance.* Looks annually at Return on Investment (ROI), unit costs, unit revenues and vacancy rates for Crown-owned properties.
- *Operational performance.* Evaluates compliance with

national codes, health, safety, environmental and accessibility requirements.

- *Functional performance.* Evaluates real property assets for quantity and quality of space, location requirements and building operating conditions.

Key performance measures have been developed and implemented for evaluating and comparing Crown real property assets to the private sector. All measures are performed and reported on an annual basis. The measures are as follows:

- *Cost per square meter.* Represents actual market rents paid for leased and leased purchased space, and imputed market rental rates for Crown-owned properties. PWGSC analysis includes only office space and excludes warehouse space, storage space, laboratory space and other space not subject to office accommodation standards.
- *Space per person.* Looks at rentable space to persons housed. The number of persons housed is supplied/verified by the tenant and cross-verified by PWGSC against accommodation requisitions. Since the Crown

does not provide any accommodations to contractors and consultants they are excluded from this analysis.

- *Cost per person.* Looks at market based rents to persons housed.

State of Florida Performance Accountability System

In 1992, the governor of Florida created the Commission on Government Accountability to the People (GAP) to ensure that the state government agencies were accomplishing their stated missions.

The State of Florida enacted the 1994 Government Performance and Accountability Act that established the Performance Accountability System.

The law requires all state agencies to develop a strategic plan that outlines the mission and associated functions of each agency. These functions should be tied to measurable objectives that will be reviewed to ensure that the agency is achieving the goals in the strategic plan. Each state agency's annual budget request is now also tied to its strategic plan and associated objectives.

In coordination with this effort of developing strategic plans and performance measures, the GAP

Commission produced the Florida Benchmark Report in February 1996. The report includes a series of 268 indicators displaying Florida's progress from 1980 to 1995 in seven

major areas: families and communities, safety, learning, health, economy, environment and government.

The Florida Benchmark Report is available on the Internet at:

http://www.state.fl.us/eog/govdocs/gapcomm/critical/critical_bnmchrks_index.html

The Facilities Program Area within the Department of Management Services scoped out each major real property function from site selection through facility operation and maintenance. The State of Florida

occupies approximately 7.1 million square feet of office space in state-owned and leased facilities. For each function, they determined what activities are performed, and the outcomes for each activity.

The Facilities Program Area developed 112 performance measures that are maintained in a database. This database is accessible on the Internet at:

http://fcn.state.fl.us/oraweb/owa/pas_display.searchmeasure?user=default&pass=default

The database looks at a 3-year period for each measure. The past year standard and actual measure are listed, along with the current year standard and estimated figure. The future year budget request is also recorded.

Each measure can be categorized according to different schemes:

- First the measures are grouped by facility program activity (security, real property management, development, etc.).
- Each measure is also categorized as an outcome (such as fully serviced rent rate per net square foot) or an output (total net square feet occupied).

Finally, some measures are only used internally (number of fire safety training sessions), while others are incorporated in the agency's annual budget request (building efficiency).

Fairfax County, Virginia

The Department of General Services (DGS) provides realty services for the Fairfax County Government. Their scope includes approximately 160 county-owned buildings, county-owned vacant land and numerous leased facilities. The Department also provides real estate disposal services for the Fairfax County school system.

In January 1998, DGS instituted an initiative that focuses on the identification, development and implementation of formalized performance measures. The timeframe for completing this initiative should be about six months.

Measures currently used by Fairfax County include *unit costs for budgeting purposes*, i.e., *management by the bottom line*; and *limited market surveys* of other entities like local governments, IFMA and BOMA.

DGS also conducts surveys approximately every two years to determine tenant satisfaction with space and service delivery. The

survey is subjective without any specific parameters. Customer feedback is used to make improvements in County operations.

One measure used to assess the effectiveness of Fairfax County leasing operations is the *percent of vacant space* relative to the amount of overall space. The County strives to keep this ratio low. High vacancy rates can indicate unacceptable space quality, inadequate service delivery, or poor geographical location.

Australia

The Government Property Office, the real property arm of the Government of Australia, issued a National Benchmarking Survey Report in November 1997. The objective was to "compile and analyze statistical data on Government leased and owned office accommodation from all participating States and Territories across Australia using uniform methods of measurement."

The report aimed to "develop a national workspace ratio benchmark and identify key trends in use of office space across the public and private sectors both on a national and international level." The survey was distributed to agencies from States and Territories across Australia. The participating agencies

covered the following States and Territories:

- Australian Capital Territory
- New South Wales
- Northern Territory
- Queensland
- South Australia
- Tasmania
- Victoria
- Western Australia

The survey concentrated on three key indicators: *workspace ratio* (i.e., *space utilization rate*), *vacancy rate* and *lease expiration profile*. The agencies agree to voluntarily submit their performance data for benchmarking purposes to the benchmarking coordinator (one of the participating agencies). Each participant contributes towards funding the work of the coordinator so that data can be collected, analyzed and

distributed to the participating members on an annual basis.

State of California

The Real Estate and Building Division (REBD) within the Department of General Services manages an inventory of 166,000,000 square feet of state-owned space and 20,000,000 square feet of leased space. Of this total, approximately 21,000,000 square feet consists of office space. REBD's mission is to contribute to the success of customer agencies by making the best use of the State's real estate assets and providing quality facilities for state operations in the most cost-effective manner.

For each objective, REBD has certain performance measures with baseline information and quantifiable targets. Within each objective, there is also a description of the data collection and calculation methods, as well as the source of the data.

REBD uses a performance measurement system to gauge whether it is accomplishing its mission. There are 6 objectives that REBD strives for:

Objective

Performance Measures

Increase Customer Satisfaction

- Percentage change in overall customer satisfaction

Increase the Percent of “On Time” Performance

- Percentage of customer service requests where REBD met the committed time to occupancy into leased space
- Percentage of space alterations completed on time

Increase the Percent of Real Estate Services “On Time” Performance

- Percent change in the number of appraisal jobs completed within contracted time frames
- Percent change in the number of acquisitions jobs completed within contracted time frames

Meet Target Revenue from Disposal of Underutilized Assets

- Percentage of revenue increased through the sale of underutilized property

Meet Target Revenue from Leasing Underutilized Assets

- Percentage of revenue increased through lease of underutilized property

Maintain or Increase the Cost Savings for Similar Services Provided by the Private Sector

- Price/rate for leasing compared to private sector
- Price/rate for planning compared to private sector
- Price/rate for appraisals compared to private sector

Eugene, Oregon

The City of Eugene controls a total of 1,500,000 square feet of space in leased and owned buildings. Of this total, approximately 400,000 consists of office space. Performance measures tracked by the City include the following:

- Deferred maintenance work in a facility as a percentage of that facility’s current replacement value.
- Major maintenance work in a facility as a percentage of that facility’s current replacement value.
- Average energy costs per square foot.
- Percentage of work orders completed within allocated timeframes (i.e., timeliness of completion of work orders).
- Cost of project management as a

percentage of total project cost. The City has its own staff of project managers. This performance measure attempts to track the cost of their services.

- *Ratio of preventative work orders to reactive work orders* - how well maintenance work is anticipated before a work item in a building breaks down completely and must be repaired in an emergency.

The City also uses *customer surveys* to get input on how well facilities are being managed and operated.

State of Washington

The Department of General Administration controls approximately 2,000,000 square feet of owned and leased space

throughout the State of Washington.

Among the State's key indicators are:

- *Operating expenses per square foot*
- *Operating expenses per Full Time Equivalent*
- *Occupancy rate*
- *Revenue per square foot*
- *Lease rate charged to tenants compared to fair market value lease rate*

The performance data is collected through a "management reporting system," which tracks relevant data about individual buildings. The Department of General Administration also conducts *customer surveys* to track how well their facilities are being managed.

CASE STUDIES: PRIVATE SECTOR

Charles E. Smith Realty, Inc.

Charles E. Smith Realty provides commercial and residential space to third parties. Therefore, the company does not work with performance measures that look internally into how efficiently a tenant is using the space.

One measure used to assess commercial property performance is individual building *operating costs versus the budgeted bottom line*. This is performed at the detailed level (utilities, cleaning, maintenance, security, management, etc.), not the aggregate level. Measuring operating costs at the aggregate level tends to mask other issues and existing problems. Detailed operating costs are compared annually to other Smith Realty comparable building operations, and to external measures like the BOMA Experience Exchange Report, IFMA reports and other realty statistical data.

Other measures used include: *return on investment, commercial growth rate and net operating income*.

Surveys are conducted to assess tenant satisfaction with space and the delivery of building services. This annual task is performed by contractor and supplemented by

personal interviews with tenants that are conducted by senior level management. The firm uses the results to evaluate tenant satisfaction with space occupied and related amenities, services delivered and management and staff support/attitude towards tenants.

Vacancy rate is another key index used by the firm to evaluate the effectiveness of services provided.

High vacancy rates may indicate excessive rents, unacceptable space quality or inadequate service delivery.

Management and overhead costs are benchmarked against industry standards. One standard used by Smith Realty is the National Association of Real Estate Investment Trusts.

The *span of responsibility* is measured by looking at the number of tenants supported, square footage represented and physical distance between commercial properties.

E&Y Kenneth Leventhal

E&Y Kenneth Leventhal (EYKL) is a consulting firm that is currently under a National Asset Advisor Contract with PBS.

EYKL points out that different levels of an organization require different

types of measures. A facility manager is focused on the cost to operate and maintain the facility. A corporate executive has a different point of view. He sees the real estate asset as a component of the company; however, his main concern is the bottom line (does the real estate help the company achieve its mission and objectives?).

EYKL sees cost measures as the highlight of most real property performance measurement systems. However, utilization is also an important consideration. For instance, suppose there are two companies operating with the same revenue, real estate cost and amount of space. If you use cost per square foot or cost as a percentage of revenue as the measure, the companies are fairly equal. However, if one company operates with half as many people, using a cost per person would show a considerable difference between the two companies.

EYKL suggested that, in order to compare “apples to apples,” an organization that wants to develop performance measures should approach organizations or companies that it wishes to benchmark against. If all participants agree on the approach

from the beginning, complaints of non-comparable data are reduced. Participants agree on which measures will be used and on common definitions of the measures. If a company develops its measures independently, and subsequently tries to compare to other organizations, it will spend considerable resources explaining variances and deviations.

Other non-cost related performance measures that EYKL mentioned were *customer satisfaction*, *backlog of work orders* and *time to complete authorized repair and maintenance*.

The basic approach should be to develop a system that will allow corporate executives to determine whether the real estate portfolio is helping the organization achieve its objectives.

IBM Corporation

The IBM Corporation is an international information technology firm with approximately 240,000 employees and 103 million square feet of space. IBM tracks four major metrics to measure real property performance, tracks against annual budget information and gets feedback from user satisfaction surveys.

The major performance measurements are:

Occupancy expense to revenue ratio (E/R): This measure is the total cost of their real estate, including rent, operating costs, taxes and administrative costs related to property management (including in-house security, loading dock, etc.) divided by total company revenues.

Occupancy cost per person: This measure is the total cost of real estate (as defined above) divided by total number of employees.

Cost per square foot: This measure is total real estate costs (as defined above) divided by rentable square feet for leased space, and both gross and net rentable square feet for owned space. Both floor area measurement standards are tracked for owned space so that comparisons can be made directly with leased space.

Square feet per person: This measure is net rentable area per employee, and is often used to compare performance among different divisions with similar functions. It generally includes all space in a building except manufacturing floors. This measure cannot be used to compare all space use since it does not distinguish between different

uses such as sales (where sharing of space might result in a lower number) and administrative or development (which may show higher numbers because of the inclusion of laboratory or other work space). Instead, IBM uses division or company-wide numbers to track trends.

Customer satisfaction surveys: IBM uses these as a secondary measure to track occupant reactions to space. They use survey instruments that were developed in-house.

IBM tracks the measures by organizational unit, building and site. Results are generally reported on a somewhat ad hoc basis as the need arises, but usually at least on an annual basis. IBM benchmarks its real estate performance against other information technology companies.

Cushman & Wakefield

Cushman and Wakefield (C&W) is a full-service real property consulting firm that provides strategic advisory services; lease portfolio administration; transaction management and implementation; and facility and property management. As agents for other companies, they do not have a set list of their own performance measures. However, they

recommend appropriate metrics for each client.

For management of owned real property, tracking performance would be based on pre-established client goals and would be the responsibility of the property manager. C&W can track expenses of property and benchmark against information in their database for similar situations.

For a client with leased space, C&W is generally concerned with assuring that their landlords are fairly assessing the value of the real property and expenses on which the rent is based.

Some typical measures would be *cost per square foot*, *churn rate as a cost per employee* and *return on assets*. A service becoming more popular with clients is for C&W to provide management of the complete real estate transaction process.

C&W is currently developing a comparative asset management database for use by their clients that will track trends and be useful for benchmarking.

Dun & Bradstreet

Dun & Bradstreet is a global business consultant. They maintain a database of information on more

than 47 million businesses around the world and track it through the “Duns” number system.

Key real property performance measures used by Dun & Bradstreet for both owned and leased property include:

Gross annual cost per square foot: This indicator is usually based on useable or rentable square feet; it can be based on gross square feet for a whole building comparison.

Square feet per person: This indicator may be based on useable or rentable square feet.

Annual cost per person: This indicator is based on total operating expenses, including all costs directly associated with the property, such as utilities, taxes, parking and facilities management costs (for owned property). This indicator, derived from the other measurements listed above, helps account for the efficient use of space. For example, a high rent property used efficiently may cost less per person than a less expensive property that is not as well utilized.

Dun & Bradstreet keeps all real property tracking information on a Microsoft Access database so they can share information with each other. They have no formal

reporting system. They only do benchmarking on an ad hoc basis, especially at the start or end of a lease or purchase/sale.

State Farm Insurance

State Farm Insurance has a domestic inventory of approximately 28 million square feet of space in 1,680 buildings. There is a great variance in the size of the facilities, though most fall into one of four categories: regional headquarters, data centers, warehouses and local sales offices.

In the past, State Farm used *total cost per square foot* as a key measure. However, they were unable to explain variances in data due to building function, market conditions and geography.

Now they focus on a group of measures and compare data among several types of buildings with similar characteristics. The main measures are the *facility operations cost*, *energy cost* and *maintenance cost*.

These measures are used to compare different categories of facilities. For instance, State Farm has 28 regional offices, and compares the data between regional offices. State Farm also compares the numerous sales offices, but further classifies these offices as rural, suburban and metro, to account for some of the variances.

This step allows State Farm to better compare “apples to apples.” They don’t have to explain why a sales office in Manhattan costs more to operate than a sales office in a rural town in Iowa.

AT&T

AT&T is a world-class communications and information services company, serving more than 90 million consumer, business and government customers. The company has annual revenues of more than \$52 billion and more than 130,000 employees.

AT&T tracks two primary performance measures in measuring their real estate operations: *occupancy cost per square foot* (which includes costs such as janitorial services, mechanical and plumbing, utilities, etc.) and *square feet per person*.

The information is collected using a financial and billing system called PROMPT. PROMPT is a computer program that contains the inventory of all of AT&T’s real estate assets (location, square feet, etc.), terms and conditions of their leases, tenants housed in the space, etc. PROMPT can produce detailed billing statements for other AT&T departments. The system allows

AT&T to allocate costs among individual buildings, offices and divisions.

National Council of Real Estate Investment Fiduciaries (NACREIF)

The government sector generally looks at real property as an asset from a user/owner perspective. The private sector, while often filling the same role, will also look at real property as an investment. This is of course most applicable to financial sector firms such as Real Estate Investment Trusts and holding

companies. For such firms, the most relative performance measure is the *return the assets provide to the shareholders*.

NACREIF distinguishes between investment level returns and property level returns. Investment level returns reflect the performance of a fund or portfolio, whether it contains one property or several properties. Property level returns reflect the performance of individual properties or groups of properties.

For investment level returns, the basic formula is :

$$\frac{\text{Net income} + \text{Capital appreciation}}{\text{Weighted average equity}} = \text{Total return}$$

Weighted average equity

For property level returns, there are various formulas depending on whether or not the property is leveraged (i.e., mortgaged) and other factors, but they all feature the same combination of net income plus some increase in the underlying value of the property.

In the government sector, the focus tends to be on cost indicators alone. However, private sector asset managers need to look at these same indicators on a micro (individual

building) level since cost is a critical factor affecting net income.

According to NACREIF, performance measurement through *rates of return* is one of the principal ways investors make investment decisions. It is important that investors understand the underlying accounting policies that form the basis for calculating the data to which the return formula is applied. For example, a survey by NACREIF revealed divergent accounting

policies used by member firms in accounting for such inputs as tenant improvements, allowances, leasing commissions, building improvements and free rent.

The St. Paul Companies and the Balanced Scorecard

The St. Paul Companies realigned its Administrative Services department in 1992 to improve relations between service units and business units. Service units provide support and products to the business units, which then factor the cost for these services into the price of their product. Business units wanted more control over the cost allocated to them from the service groups. As a result, the firm's Administrative Services department found itself responsible for its own costs rather than allocating costs to profit centers, as they had done in the past.

In order to measure their performance, Administrative Services adopted the framework of the "Balanced Scorecard," a measurement tool developed by Robert Kaplan and David Norton. This increasingly popular tool uses four "perspectives" to balance and address overall performance:

- Financial
- Customer

- Internal
- Innovation and Learning

Administrative Services addresses the financial perspective through budget performance, the customer perspective through customer satisfaction, the internal perspective through a quality initiative and benchmarking, and the innovation and learning perspective through human resources management. The idea is to maintain balance. Too much emphasis on one perspective (for example, profit in the financial perspective) can lead to problems through neglect of another perspective (for example, dissatisfied customers or employees).

Administrative Services implements the Balanced Scorecard through a four-step process:

- Collecting and analyzing data
- Establishing a plan
- Examining and updating the current plan
- Communicating the plan to customers and employees

The scorecard is not static, but continues to evolve and develop (source of information - February 1998 issue of *FM DATA Monthly*, a Tradeline publication, Orinda, CA).

Lucent Technologies

Lucent Technologies is a 23 billion-dollar corporation that specializes in the manufacturing of telecommunications equipment and services. Lucent's real estate portfolio contains 54 million square feet of space consisting of office and administration space, research and development space and manufacturing and warehouse space. Lucent has 1,100 facilities around the world.

Lucent tracks three major areas in order to measure real property performance and compare against annual budget information. They also get feedback from user satisfaction surveys. The major performance measurements are:

Square feet per person: Lucent's target is 200 gross square feet per person.

Expense to revenue ratio: This measure is used to determine how much the real estate organization is costing the overall corporation. They are currently at 4 percent and constantly strive to meet the corporate goal of 2.85 percent.

Cost per person: Lucent tracks all operating expenses that are associated with facilities. Examples of these costs include: heating, electric, cleaning, cafeteria services

and costs associated with graphics mail and salaries. There are many expenses involved with people responsibilities and it is very labor intensive to identify and collect these costs.

In addition to the above measures, Lucent measures *energy costs*, both from the financial and usage aspect. Both of these costs have a high impact on the overall expenses and, therefore, impact the corporation's bottom line.

Most of the organizational components collect data on a monthly basis. However, the data is reported on a quarterly basis in all instances. Lucent uses a "scorecard" approach when collecting and reporting data.

Customer satisfaction surveys: Lucent uses customer satisfaction surveys as a measure to track and assess occupant reactions to space. Customer satisfaction is tracked quarterly and they use the survey results to make changes and to assess tenant satisfaction with space and the delivery of building services. In addition to conducting customer satisfaction surveys, Lucent also conducts an *associates survey*. The associates survey is an internal survey given to Lucent's employees and the results are measured against

the total corporation. The associates survey is conducted semi-annually. Examples of targeted areas are: how employees feel about corporate benefits; how satisfied employees are with their workspace; and how satisfied employees are with their pay. Each management group assesses the survey results and develops action plans that target specific areas that scored low. Lucent believes that the associates survey is very important because of the overall impact the results have on the total corporation.

Arthur Andersen

Arthur Andersen is a premier provider of audit, tax, business advisory and specialty consulting services to more than 80,000 clients worldwide. Over 53,000 personnel who serve marketplaces in 78 countries conduct its global practice.

In December 1997, Arthur Andersen published a report, *State of the Corporate Real Estate Industry - Participant's Report*. The firm was engaged to undertake a survey of select corporate real estate/facilities management organizations for the purposes of identifying and dimensioning organizational dynamics, key services, core competencies, key performance indicators, systems and technology,

flagship initiatives, best practices and lessons learned.

The survey feedback summarized below is based on interviews with and data supplied by a select group of executives from the participating corporations. Those companies participating were selected based on their known approaches to Corporate Real Estate and Property Management, as well as their organization's diversity of services, geographies, businesses served and reputation for employing competitive practices, processes and technologies. The corporations spanned certain industry segments and represented companies including:

- Communications - Entertainment
- High Technology
- Manufacturing
- Financial Services
- Utility - Energy

Although the *Participant's Report* addressed the 8 categories listed earlier, for the purpose of this Study, we have only included excerpts from feedback obtained from the companies on the following categories: key performance indicators; best practices and lessons learned.

Key Performance Indicators

Measuring and reporting performance is a key component in the goal of continuous improvement. It is also essential to communication processes between senior management and business units. There is an increasing focus on developing metrics that more directly link real estate decisions to corporate and business unit strategies and goals.

Some *economic* key performance indicators are:

- *Impact on Return on Investment*
- *Square Feet per Person Housed*
- *Occupancy Cost per Person Housed*
- *Occupancy Cost per Square Foot*
- *Occupancy Costs as Percentage of Revenue*

Some *operational* key performance indicators are:

- *Alignment with Corporate Strategy*
- *Cycle Times*
- *Satisfaction (Customer, Employees, Suppliers, Shareholders)*
- *Savings Log (Annual and One Time)*
- *Minority/Women's Business Ethics Use*

- *People Value Added Rating*

Best Practices

- Increased focus on total quality management and continuous improvement programs.
- Increased use of measuring company/portfolio/location performance against private sector metrics for both services and assets.
- Continuous use of benchmarking as a comparative analysis and learning tool.
- Increased use of performance scorecards for all individual FTE's of and suppliers to corporate real estate.
- Increased focus on adding value versus focusing on creating cash contributions.

Lessons Learned

Some lessons learned for performance measurement are:

- If you could only invest in one thing, it should be data - it's the "DNA of corporate real estate." Develop business information to establish credibility with business unit customers. Invest in technology and developing Information Technology skills. Systems are critical to the business.

- When actual data is not available, a rough estimate of portfolio and costs is adequate.

Other lessons learned are:

- Corporations should manage contracts actively - don't abrogate responsibility to contractors.
- Incorporate incentives for efficient space use programs.
- Resist becoming a real estate 'czar' - keep customers involved, informed and in control.
- Balance the payback of cost reduction initiatives with productivity and social impact.
- Communication is a critical success factor. Inter-company networking results in better overall performance from a corporate perspective. Bring regional managers together monthly to share knowledge of business unit activity and real estate best practices.

CASE STUDIES: ACADEMIC SECTOR

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National Association of College and University Business Officers (NACUBO)

NACUBO is a trade association representing approximately 21,000 institutions of higher learning. The total membership, which includes preparatory schools and other professional organizations, is approximately 23,000.

In 1990, NACUBO partnered with the consulting firm, Coopers and Lybrand, to develop a benchmarking report that covers higher education administrative functions.

Coopers and Lybrand established an advisory group made up of universities and other trade associations to see what was currently being measured. A much smaller group took this information and developed the NACUBO benchmarking survey.

The first survey took place in 1990 and covered numerous university administrative functions (e.g. facilities, security, student housing). The number of measures in each category varies from a couple of measures to several dozen. The benchmark measures for the facilities category are quantitative (cost per square foot, function cost as a percentage of total cost) and operationally focused (building

maintenance, landscaping, repairs). NACUBO has hired a contractor to administer the survey and tabulate the results.

NACUBO charges universities a fee to participate in the survey. This fee was initially high, so NACUBO could cover the development costs of the survey. The cost has dropped with subsequent editions of the benchmarking report.

While Coopers and Lybrand was heavily involved in the development of the survey, its role diminished in subsequent years.

University of California — San Diego (UCSD)

UCSD has approximately 15,000 students and is one of 10 campuses in the University of California (UC) system.

In 1993, UCSD participated in the joint study between NACUBO and Coopers and Lybrand. The NACUBO Benchmarking Project surveyed universities across the nation to benchmark their business operations. The survey not only benchmarked real property functions, such as *cost per square foot* and *square feet per employee*, but also looked at other administrative functions, such as financial aid and food services.

UCSD participated in this survey for only 2 years, as the school found it difficult to compare their data to the national benchmarks.

UCSD has also surveyed *customer satisfaction* at the campus. The Vice Chancellor for Business Affairs commissioned a contractor to develop and administer a customer satisfaction survey. The annual survey is sent to the Academic and Administrative Department Chairmen, who rate the various business units on a scale of 1 to 5. The survey results are then tabulated and distributed to each administrative business unit. The unit then reviews the results and

develops appropriate action plans to address deficiencies.

While the customer satisfaction survey is unique to UCSD, the facility manager at the school participates in a benchmarking effort with the other schools in the UC system. The Partnership for Performance effort is a quarterly meeting of facility managers who compare facility management performance measures. The group is currently finalizing the measures that will be used, but is considering *cost per square foot*, as well as the *amount and cost of deferred maintenance*.

APPENDIX A: CLASSIFICATION SCHEMES

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As described in the report, we classified our 12 interim performance measures according to several prevailing schemes. Reducing the number of key indicators to 7 has obviously left gaps in some areas. We reproduce the classification exercise here for its

educational value to readers researching real property performance measurement. It also may serve as a basis for possible future expansion of our effort (i.e., in future years, do we want to fill in the gaps in any chosen scheme?).

Functional

The team used this scheme during our original brainstorming efforts that developed the initial 36 performance measures. We wanted to ensure that we considered measures corresponding to all stages of the real property life cycle.

Category	Performance Measure
Customer Support	<i>Customer Satisfaction</i>
Facilities Planning	<i>Vacancy Rate</i> <i>Total Square Feet</i> <i>Employees Housed</i> Average Lease Term
Facilities Construction	Cost of Construction Construction Estimating
Facilities Operations	<i>Cost per Square Foot -- Owned</i> <i>Cost per Square Foot -- Leased</i> <i>Cost per Person</i> Space Managed per Specialist
Facilities Disposal	Disposal Volume

National Performance Review

A member of the interagency working group suggested looking at the interim measures in terms of the management values stressed by the National Performance Review.

Category	Performance Measure
Cheaper	<i>Cost per Square Foot -- Owned</i> <i>Cost per Square Foot -- Leased</i> <i>Cost per Person</i> Cost of Construction
Better	<i>Customer Satisfaction</i>
Faster and Smarter	<i>Vacancy Rate</i> Construction Estimating Space Managed per Specialist <i>Total Square Feet</i> <i>Employees Housed</i> Average Lease Term Disposal Volume

Balanced Scorecard

The Balanced Scorecard is a best practice in performance measurement. Many organizations in both the private and public sectors use this scheme.

Category	Performance Measure
Financial Perspective	<i>Cost per Square Foot -- Owned</i> <i>Cost per Square Foot -- Leased</i> Cost of Construction
Customer Perspective	<i>Customer Satisfaction</i> Construction Estimating (time)
Internal Business Perspective	Construction Estimating (budget) <i>Vacancy Rate</i> <i>Cost per Person</i> <i>Total Square Feet</i> <i>Employees Housed</i> Average Lease Term Disposal Volume
Innovation and Learning	Space Managed per Specialist

Organizational (Strategic Planning)

An individual organization (as opposed to our situation where a policy group supports a function that cuts across many different agencies) would begin a performance measurement process with a strategic plan, develop goals and objectives and then develop performance measures to track progress towards the goals. Our Governmentwide performance measurement project responds to the Government Performance and Results Act and the National Performance Review rather than an organization-specific strategic plan.

Goal: Federal real property business performance is comparable to other governments and the private sector and satisfactory to the customer (external focus).

Measurements: *Cost per Square Foot -- Owned, Cost per Square Foot -- Leased, Cost of Construction, Customer Satisfaction, Construction Estimating (time).*

Goal: Federal real property asset management is efficient, coordinated and consistent; decisions are made on the basis of accurate and relevant information (internal focus).

Measurements: Construction Estimating (budget), *Vacancy Rate, Cost per Person, Total Square Feet, Employees Housed, Average Lease Term, Disposal Volume, Space Managed per Specialist.*

APPENDIX B: COST-BENEFIT ANALYSIS

The cost-benefit analysis conducted by the project team is reproduced on the following two pages:

PERFORMANCE MEASURE	ESTIMATED COST	POTENTIAL BENEFIT (savings)	POTENTIAL PAYBACK
Customer Satisfaction	some cost to Govt (paid by PBS)	not readily quantifiable (intuitively beneficial)	no identified benefit/ sunk cost = no payback
42 Vacancy Rate	\$100,000	assume: 1% reduction in rate equal cancellation of leased space 1% of 668 million sf = 6.68 million sf 6.68 million sf @ \$17 per sf = \$113.56 million (note: excludes first year initial buildout costs)	\$113.56 million / \$100,000 = 1,136 times
Cost of Construction	\$100,000	not readily quantifiable savings would be project-specific	some savings/\$100,000 = some payback > 1
Construction Performance	\$100,000	assume: Inaccurate cost estimates also lead to time delays \$1 billion construction program Average savings of 30 days delay \$1 billion x 0.0003 per day for 30 days = \$9 million	\$9 million / \$100,000 = 90 times
Cost/square ft. (owned)	\$100,000	assume: current = \$5 per sf 541 million sf x \$5 = \$2.705 billion 5% savings = \$135.25 million	\$135.25 million/\$100,000 = 1,353 times

PERFORMANCE MEASURE	ESTIMATED COST	POTENTIAL BENEFIT (savings)	POTENTIAL PAYBACK
Cost/square ft. (leased)	\$100,000	assume: current = \$17 per sf 127 million sf x \$17 = \$2.159 billion 5% savings = \$107.95 million	\$107.95 million / \$100,000 = 1,080 times
Cost per person	some cost to Govt (OMB already has)	not directly quantifiable summary statistic reflects savings achieved elsewhere in operations	no identified benefit/sunk cost = no payback
Space managed per specialist	some cost to Govt	not readily quantifiable - savings in personnel costs may be offset by poorer service delivery	no identified benefit/some cost = negative payback
Total square feet	some cost to Govt (but already in WWI)	management data not related to savings	no identified benefit / sunk cost = no payback
Employees housed	negligible (from Pres. Budget)	management data not related to savings	no identified benefit / no cost = no payback
Average lease term	\$100,000	management data not related to savings	no identified benefit / \$100,000 = negative payback
Disposal volume	some cost to Govt	management data not related to savings	no ident. benefit / some cost = negative payback

PERFORMANCE MEASURE	PAYBACK RANK	COST RANK	OVERALL RANK
<i>Cost per square foot (owned)</i>	1	6	3.5
<i>Employees housed</i>	6	1	3.5
<i>Vacancy rate</i>	2	6	4
<i>Cost per person</i>	7	2	4.5
<i>Cost per square foot (leased)</i>	3	6	4.5
<i>Total square feet</i>	7	2	4.5
<i>Customer satisfaction</i>	7	2	4.5
Construction performance	4	6	5
Cost of construction	5	6	5.5
Disposal volume	10	5	7.5
Space managed per specialist	10	5	7.5
Average lease term	12	6	9

Notes:

Payback: Ranked in order of greatest payback with 1 being the largest payback.

Cost: Ranked in order of most economical with 1 being the least expensive to collect the data.

Overall: Average of payback rank and cost rank.

APPENDIX C: DATA COLLECTION FORMS

This appendix contains the following:

- Sample data collection form for Government-owned space.
- Detailed definitions for components of cost per square foot owned.
- Sample data collection form for Government-leased space.

Please submit data on these forms for your owned and leased space by July 24, 1998 to:

Chris Coneeney
U.S. General Services Administration
1800 F Street, NW
Room 6214 - MPE
Washington, DC 20405

You can also fax your data collection forms to Chris at (202) 219-0104 or e-mail them to Chris at chris.coneeney@gsa.gov.

When you submit your data, please identify yourself, your agency and your phone number.

Should you have any questions or need additional information, please call Chris directly at (202) 208-2956.

Note: If you would like to review examples of completed forms drawn from the GSA inventory, we will gladly fax them to you.

GOVERNMENT OWNED SPACE

Data as of FY _____

Building Name _____

Building Address _____

(please include zip code) _____

Agency Holding Title _____

Gross Square Feet (GSF) _____

Please provide at least one of the following:

Rentable Square Feet (RSF) _____

Usable Square Feet (USF) _____

Occupiable Square Feet (OSF) _____

Vacant Square Feet: _____

above units are in: GSF RSF USF OSF
(please circle)

Cost per Square Foot:

Cleaning _____ per SF

Maintenance _____ per SF

Utilities _____ per SF

Total* _____ per SF

above units are in: GSF RSF USF OSF
(please circle)

* Please provide total cost per square foot as defined, and individual breakdown if readily available.

Point of Contact Agency Phone No.

Definitions for Cost per Square Foot Owned

Cleaning

Includes labor costs for in-house and contract service, payroll, taxes and fringe benefits, plus salaried supervisors and managers, as well as expenses related to routine equipment and supplies required for daytime and nighttime cleaning of offices, elevators, public areas, rest rooms and windows. Also includes the costs of specialized cleaning services such as trash removal, recycling, window washing and carpet cleaning plus the costs of roads and groundskeeping services.

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Maintenance

Includes all expenses required for general repairs, maintenance and upkeep of the facility. Labor costs include payroll, taxes and fringe benefits for employees and contracted workers. Personnel include operating engineers, general maintenance personnel and chief building engineers. Repairs and maintenance items include elevators; heating, ventilation and air conditioning; electrical; structural/roof; plumbing; and fire and life safety systems as well as maintenance supplies.

Utilities

Includes the cost of all utilities (electricity, gas, oil, purchased steam and hot water) used by the facility and its occupants.

APPENDIX D: GLOSSARY OF TERMS

Alternative work environment:

Approved off-site work environments, such as telecommuting centers and flexiplace (work at home) arrangements.

Average operating cost per person:

An indicator of the cost to house employees in building space. May include rent, operating costs, facilities management costs, etc.

Building inventory: Structures owned or leased by the Federal Government.

Central Business District (CBD):

The area of a municipality officially designated as the core of commercial activity and development. CBDs consist of space near the historical urban core, commonly associated with traditional government and financial districts.

Change order rate: Dollars spent on project scope changes compared to the overall project cost.

Churn rate: The turnover of occupants in building space annually.

Commercial growth rate: A measure of commercial tenants and space over time.

Cost of leased space: Fully serviced rent paid to a lessor to occupy leased space.

Cost of owned space: Dollars expended for cleaning, maintenance and utilities in Government-owned space.

Customer satisfaction survey participation: An indicator of agency participation rate in a standardized customer satisfaction survey.

Customer satisfaction survey score: Rating of real property services by building tenants to determine satisfaction levels.

Delegated building operations: Refers to situations where GSA delegates its operational responsibilities for building services to the Federal agency occupying the building.

Facility management cost: Dollars expended to provide management expertise and support services (overhead) for a facility.

Lease/Purchase: A method of acquiring ownership of real property by paying installments equivalent to rental payments.

Move costs: Cost to relocate personnel and furnishings from one building or space to another building or space.

Net Operating Income: Gross income less operating expenses, vacancies and collecting losses.

Occupancy rate: Percent of building space occupied by tenants.

Outleases: Contractual arrangements used to grant occupancy in excess vacant Government-controlled space to non-Federal tenants.

Owned to leased ratio: Relative percentage of Government-owned to leased space.

Regression analysis: A statistical tool used to predict the expected value (when data is missing or unknown) of one variable (e.g., a lease rate) for a given level of another variable (e.g., a small city). In the given example, the value can be predicted based on the known relationship between lease rates and large metropolitan areas.

Reimbursable accounts: A contractual arrangement between GSA and a Federal agency where GSA performs work above the standard level that is reimbursed by the agency. The standard level covers those GSA building services and buildout provided as part of the basic rental consideration.

Return on investment: The ratio of net income to owners' equity.

Security cost: Expenditures for all types of security measures provided for a facility divided by the gross area of the building. Used to assess the cost efficiency of provided security services.

Space efficiency: The amount of usable area compared to total gross building area.

Square meter: Basic unit of space measurement in the Metric System consisting of an area measuring one meter by one meter and equivalent to 10.76 square feet.

Total building area: Total area of a building, measured in gross square feet or square meters, based on exterior perimeter dimensions.

Utilization rate: Average area of workspace (including circulation, support and pro-rata share of special space) used by each person, measured in square feet or square meters. In Australia, referred to as accommodation ratio.

Vacancy rate: Percentage of building area not occupied or obligated compared to total building area leased or owned.

Value comparison: Comparison of building sale revenue to building fair market value.

APPENDIX E: TEAM CHARTER

(Final Version adapted from the September 1997 Draft)

The Team

Team Members

Chris Coneeney
Stan Kaczmarczyk (team leader)
Brenda Maxson
Rob Obenreder
Ron Whitley

Sponsors

David Bibb
Margie Lomax

Contributors

Joan Bender
Pat Plunkett
Malcolm Saldanha

Purpose

The team will determine, in collaboration with other Federal agencies, a set of appropriate Governmentwide real property performance measures and a methodology for annual measurement. The draft report is due in February 1998.

This initiative addresses two short-term goals:

1. Raise the awareness of and increase Governmentwide participation in real property performance measurement.
2. Establish a Governmentwide baseline for the agreed-to set of measures that will allow agencies and GSA to evaluate and benchmark performance.

The long-term goal is for the Government to demonstrate improved asset management relative to the baseline measurements.

Depending on the number of measures, their complexity and data collection issues, an initial baseline of performance measurements could be established as early as September 30, 1998. We will, however, establish the baseline no later than September 30, 1999, consistent with the Office of Governmentwide Policy's (OGP's) FY99 Performance Plan.

Background

The Government Performance and Results Act (GPRA) of 1993 seeks to improve the management and accountability of federal agencies by shifting the focus of federal management and decision-making

away from a preoccupation with agency activities to a focus on the results of those activities. This emphasis on results means that federal agencies must measure their performance. This is also a requirement of the National Performance Review.

In the area of real property, Governmentwide measures are useful to evaluate and benchmark performance. However, there are two challenges in this area. First, Federal agencies are limited in the level of resources that they can allocate for measuring real property performance since it is secondary to the primary agency mission. The second challenge, internal to OGP, is measuring the outcomes of policies and our own effectiveness.

On July 30, 1997, OGP presented its second General Performance Review to Administrator Dave Barram. The theme of the presentation was the status of performance measurement efforts within OGP. The Office of Real Property presented the following plan to the Administrator:

- Most of what we currently know about the “Government sector” actually refers to the GSA inventory only.
- We will identify and “champion”

the most useful performance measures for the Government-wide real property area.

- Process must be collaborative since agencies will only spend time and money measuring what is important and useful.
- Process to take approximately 6 to 9 months.
- The ultimate goal is a benchmarking system by which agencies can measure performance and track improvement.

The Performance Measurement team will fulfill the commitment made to the Administrator at the second General Performance Review.

This project directly supports key performance objectives for the Office of Real Property as incorporated into the OGP FY99 Performance Plan.

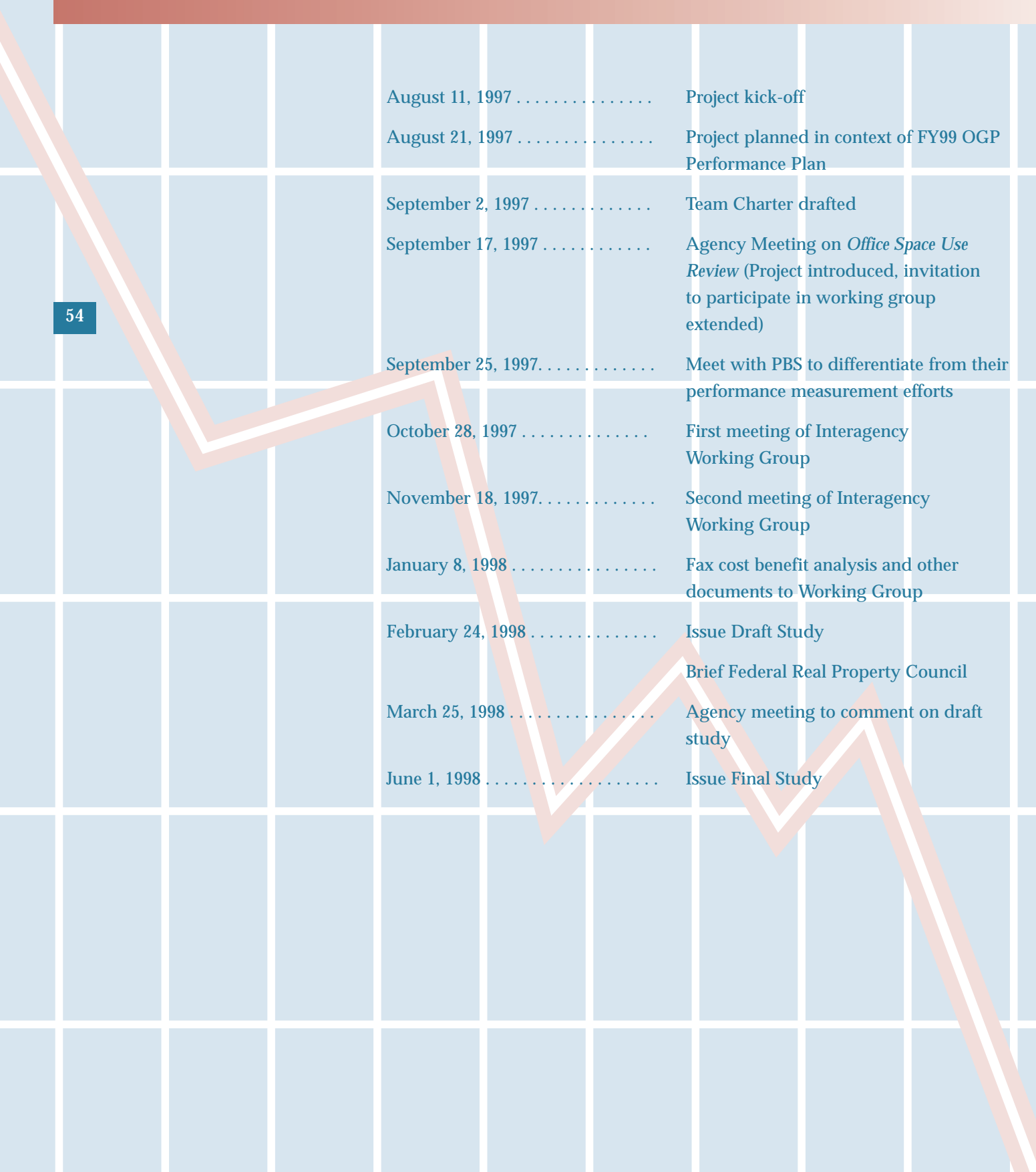
Parameters

The team has agreed to the following parameters for this project:

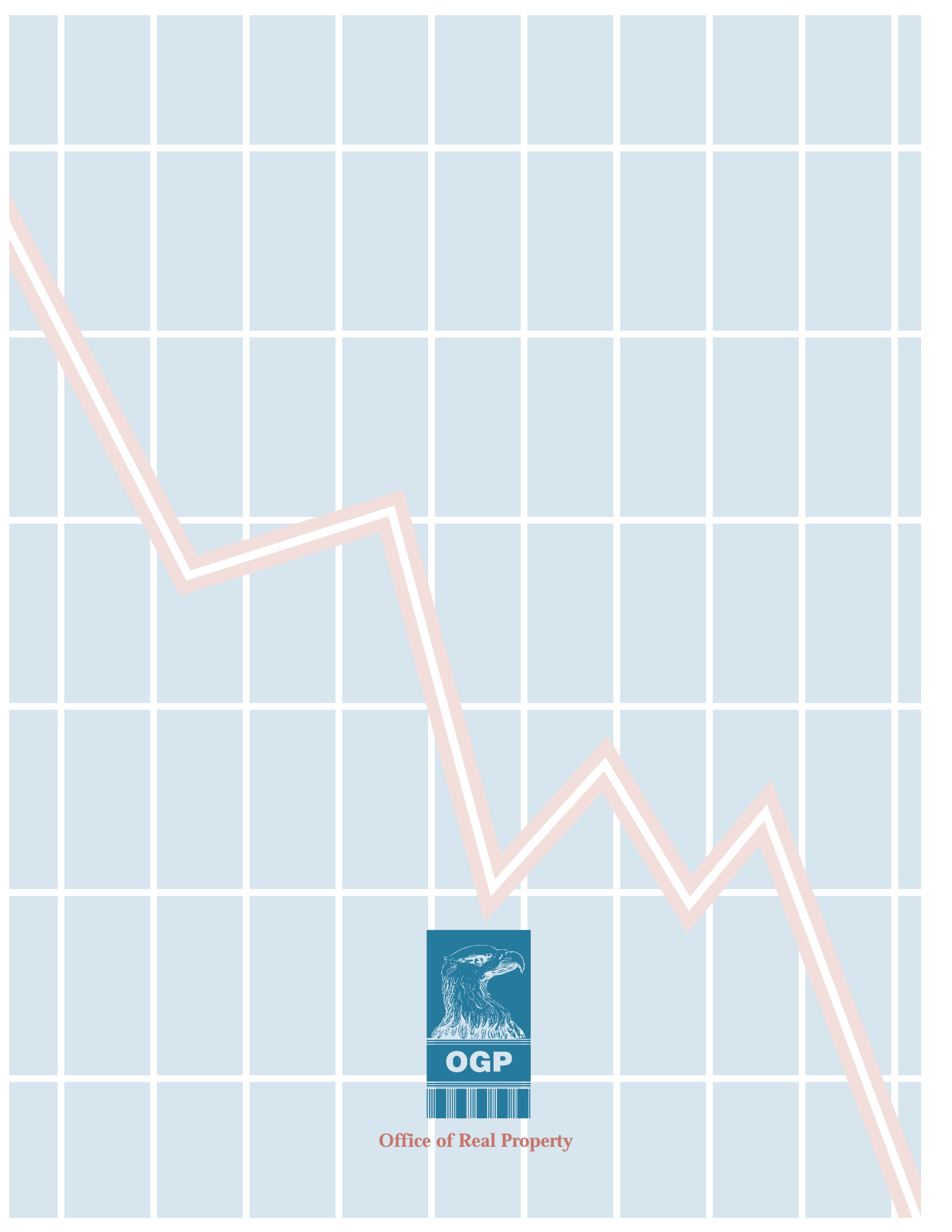
- Each identified performance measure should be useful to management -- no measurement for measurement's sake.
- The chosen measures should drive behavior, i.e., be the basis for future improvement.

- The team will consult with organizations in both the public and private sectors to identify performance measures and a methodology for annual measurement.
- The suggested methodology should maximize the use of already existing measures and systems, and incorporate best practices from both the public and private sectors.
- The suggested methodology should minimize additional burden on the customer agencies.
- The team may decide to identify a few core measures that everyone should attempt to measure plus a number of additional optional measures.
- From a Governmentwide perspective, the set of measures should serve as a baseline from which OGP can track improvements that obviously are related to cost savings or improved workplaces.
- We must identify and communicate the value to the customer. For example, the benefit could be incorporation into agency strategic plans in support of GPRA, or the opportunity to influence baseline numbers that will serve, in the future, as generally accepted benchmarks of Governmentwide real property asset management performance.
- The set of measures should not be limited to just operational measures. We have tentatively identified two other types of measures: customer satisfaction and policy implementation.

APPENDIX F: PROJECT MILESTONES



August 11, 1997	Project kick-off
August 21, 1997	Project planned in context of FY99 OGP Performance Plan
September 2, 1997	Team Charter drafted
September 17, 1997	Agency Meeting on <i>Office Space Use Review</i> (Project introduced, invitation to participate in working group extended)
September 25, 1997	Meet with PBS to differentiate from their performance measurement efforts
October 28, 1997	First meeting of Interagency Working Group
November 18, 1997	Second meeting of Interagency Working Group
January 8, 1998	Fax cost benefit analysis and other documents to Working Group
February 24, 1998	Issue Draft Study Brief Federal Real Property Council
March 25, 1998	Agency meeting to comment on draft study
June 1, 1998	Issue Final Study



Office of Real Property