

**Washington State
Department of Enterprise Services**

SPACE ALLOCATION STANDARDS REPORT

VOLUME 1

CONCLUSIONS AND RECOMMENDATIONS

September 2011

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PREFACE

The report is intended to support the role of the Department of General Administration (GA) in setting facility efficiency standards for state government, reflecting its statutory authority (RCW 43.82.010(2)), as well as a number of other statutes and Executive Orders relating to high performance buildings, sustainability and energy and water conservation.

The goals of the Space Allocation Standards Manual are:

- To provide a decision-making tool for agencies, GA and the Office of Financial Management (OFM) in estimating the amount of space needed for facility planning.
- To promote space planning concepts such as the open office layouts, universal workstation and the peripheral circulation plan.
- To address the needs of cross-functional and self-directed work teams, teleworking, and shared space.
- To provide examples of workspace layout.

Its objectives are:

- To reduce the state's space costs
- To reduce state's energy costs
- To reduce the state's carbon footprint

The focus on Space Allocation Standards is also part of GA's agenda for implementing the Governor's Government Reform Initiative, based on the acquisition of appropriate and efficient and cost effective facilities to house government operations.

A measure of success of space standards is the actual square foot per person achieved. Space allocation standards applied consistently can provide space at the lowest possible cost in sufficient quantities and qualities for programs to function more efficiently. The current space allocation standard targets an average of 215 square feet per person.

This report provides an examination of "industry metrics" and compares Washington's current approach with these benchmarks, as well as feedback from state agencies on our standards.

This report is divided into two volumes:

Volume 1: provides a comprehensive discussion of conclusions and recommendations.

Volume 2: provides the technical information, research and context for the report.

I EXECUTIVE SUMMARY

Introduction

Measuring the efficiency and effectiveness of how state government utilizes its facilities is a critical component of better asset management and provides opportunities for increased productivity and reduced costs.

RCW 43.82.010(2) requires that state facilities “*shall conform to standards adopted by the Director [of General Administration] and approved by the Office of Financial management governing facility efficiency unless a specific exemption from such standards is approved by the Director of General Administration.*”

A space allocation standard should promote a common understanding of acceptable levels for allocating space across the portfolio. Functionally the standard should be specific enough to be consistently applied and broad enough to be flexible when needed.

GA’s *Space Allocation Standards Policy* (and supporting Manual), effective December 29, 2009, establishes an aggregate standard of 215 rentable square feet per person for the allocation of space and provides a set of guidelines to be used in determining space needs as well as promoting the functional, equitable, efficient, and flexible use of space.

This standard and its applications are consistent with and supportive of the goals of the Six Year Facility Plan, specifically:

- Meet the business needs of state agencies
- Use the state’s facilities efficiently
- Use the state’s funds effectively

In practice, it has become apparent that “one size does not fit all”. Facilities that require large support areas, such as those that deliver services to the public (e.g. community services offices, licensing offices, parole offices, etc.) and special purpose facilities (e.g. laboratories, data centers, courtrooms etc) do not readily fit a generic space allocation model. However, space allocation standards allow organizations to plan for new space, to evaluate usage of existing space, and to benchmark against other organizations in the public and private sectors.

Evaluation

After the Space Allocation Standards Policy was updated in December 2009, a team composed of planning staff was established to:

- Review the state’s current space standards and practices
- Research other states and other public sector entities for “best practices” and appropriate benchmarks
- Explore different approaches for the application of standards
- Recommend whether to retain, update or revise the current standard and how it is or should be applied based on the results of the research

- Develop a plan to implement changes to achieve a new recommended standard, or alternatively recommend a plan to incrementally improve the current standard

Research

The research included an analysis of a representative sampling of Washington state agencies regarding space allocation practices and the resulting space usage. These practices and space usage results were compared to those of other public and private organizations.

The websites of all 50 states as well as the federal government were examined, as were those of the Canadian federal government, 3 Canadian provinces, the Australian federal government and 3 Australian states and that of the British government.

Given the number of Washington state agencies that have unique program requirements that cannot be satisfied within the 215 rentable square feet/person, the team was interested in seeing how other states and countries “flex” space standards to meet the wide range of uses or not. Although not all states have an aggregate square foot target, those that do report that this space measure is best applied to typical administrative office functions.

When agency space requests do not fit an administrative or general office function, the review and approval of a higher space allocation than the recognized standard, to meet unique program functions generally requires or prompts an exception or exemption process of some kind. Most of the states interviewed reported that this exception process required a written justification by agencies. Some states handled such requests for exemptions in a more informal manner. The exception request was then reviewed by the state real estate unit which compared the request to historic space usage or other relevant information before making a determination. In some states this determination was “final”, in others agencies could “appeal”, either formally or informally.

Exploration of Other Approaches

One of the criticisms of a single “standard” is that it does not fit agencies that have unique program requirements. An alternative would be to use a square foot range. There are arguments for different space standards for different types of office, different locations and for different building characteristics. However, the power of a single figure more than outweighs the disadvantages.

Although only eight of the states use a single aggregate number as the basis of their space allocation, all other international public sector entities researched utilized a single aggregate number. Most entities applied a quantitative “standard expectation or target.” However, a number of them are moving towards qualitative factors, such as how space can be designed to facilitate specific functions. A number of states consider “standards” to be:

- Flexible guidelines vs. absolute standards
- Minimum expectation vs. maximum threshold

Most states utilized a system of allocating square footage by individual function of position. None applied a set of aggregate numbers based upon agency function or mission, such as general government, social services, and natural resources and so on. This is not to say that certain differences in mission were not accommodated. In a similar fashion, the differences between administrative and service delivery were accommodated but not treated separately.

One of the common refrains from the research conducted with Washington state agencies was that the current state standard does not provide general *sizing guidelines* for support or common spaces.

In addition, the feedback from state agencies indicates that GA has not effectively communicated how to apply the Space Allocation Standard.

- There are differing expectations as to how and when the standard is applied.
- There is a lack of awareness on what facility elements affect efficiency.

Summary of Recommendations

1. Retain Current Space Allocation Standard

Washington is close to the mid-range of all the public sector organizations reviewed (161 to 250 SF). It is close to the aggregate number that U.S. General Services Administration uses (200 usable square feet or 230 rentable square feet). It is notable that the public sector in Canada, Australia and United Kingdom are all on the low end of the scale. The reduction in square footage is accompanied by an intensive effort to increase density and alternative work strategies to achieve this benchmark without significantly impacting employee productivity or morale. This approach has been greatly influenced by what has been happening in the private sector: major corporations are striving for reduction in square footage at the same time as pursuing innovative and supportive workplace strategies.

However, it would be difficult for Washington to reduce the aggregate standard without similar strategies in place.

The research undertaken for this study involving analysis of the GA Lease Inventory System Database, case studies of existing practices related to state office space and recent research of public and private sector organizations in the US and internationally, together with the practical experience of the study team, lead to:

Recommendation: *The State Space Allocation Standard for the use of occupied office space should continue to be set at an average of 215 rentable square feet per person.*

2. Open Office vs. Enclosed Office

Efficient space standards assign a high percentage of employees to cubicles vs. enclosed offices. Open space office environments embrace the concept of ergonomic design by using modular furniture systems to maximize work efficiency and employee comfort. Open office planning was developed as a means of providing organizational

flexibility, promoting interactions among people in different units, and supporting a team concept. An open office significantly reduces the number of private offices and distributes staff throughout the space in workstation groups. Ratio of office to cubicles is important because:

- High proportion of enclosed offices increases the footprint and thus the rent.
- High proportion of built space increases tenant improvement costs and thus rent.

The current Space Allocation Standard encourages open workstations with a minimum of private enclosed offices and indicates a 10 percent ratio for private office to 90 percent open workstations.

The research indicated that most public sector organizations adopted an open space plan approach, whether formally or informally because the benefit is lower one-time costs and higher density. The criteria for private enclosed offices included:

- Position classification
- Work functions and/or
- Work patterns

Some require a justification process for requests for private offices beyond what the criteria allow.

Recommendation: *Clarify the criteria for private offices and develop a justification process that validates requests for private offices over the 10 percent threshold. Work in collaboration with OFM to incorporate this information into the review of Modified Pre-design and Space Planning Datasheet.*

3. Other Elements to be explored

One of the common refrains from the research conducted with state agencies was that the current state standard does not appear to provide general sizing guidelines for support spaces or common spaces. Thus individual agencies have developed their own versions of such standards as well as guidelines for which staff occupy enclosed offices vs. cubicles as well as the relative sizes of each. One option that should be explored is to isolate the unique space needs of service delivery programs and other special programs from the types of spaces that can more easily be standardized. This would allow the standard to be more consistently applied as well as present an opportunity to identify unique needs of various agencies and programs. A number of related elements should be considered as well.

(a) Alternative Office Layouts

Given the nature of work, some of the public sector organizations have incorporated office layouts that emphasize collaborative team space or shared workspaces for more mobile workers.

Recommendation: *Develop standardized layouts, including collaborative/team space and shared space.*

(b) Circulation

Circulation is a very important element in the calculation of space efficiency. The research showed that it varied from 10 percent to 45 percent. The circulation may vary due to furniture type or whether internal only or external and internal circulation is included. A number of the organizations researched have been reducing the circulation rate that they use.

Recommendation: *Evaluate the current circulation factor in the Space Allocation Standards in collaboration with OFM in review of Modified Pre-design and Space Planning Datasheet.*

(c) Support Space

Support space is necessary and should be included in the application of the space allocation standard. The research showed that:

- Some states strictly define what is support space
- Some states use a formula based on the number of occupants in a building to identify types and size of support space
- Some states require agencies to justify all or some of the requested support space

Recommendation: *Clarify the criteria for determining support space and develop a justification process that validates support space requests. Work in collaboration with OFM to incorporate this information into the review of Modified Pre-design and Space Planning Datasheet.*

(d) Special or Unique Program Needs

Each of the public sector organizations identified and recognized the need for Special or Unique Program Needs.

- Some states strictly define what is standard and non standard
- Many states require extensive documentation/justification for “special” or “unique” space or agency specific requirements

Recommendation: *Clarify the criteria for determining special program space or unique program space and develop a justification process that validates such requests. Work in collaboration with OFM to incorporate this information into the review of Modified Pre-design and Space Planning Datasheet.*

4. Training

The research and feedback from state agencies indicates that we have not effectively communicated how to apply the Space Allocation Standard.

- Agencies are unclear about open workstations to enclosed office ratio
- Agencies desire more clarity, and accept the necessity of more standardization to achieve consistency and predictability
- There are differing expectations as to how and when the standard is applied
- There is a lack of awareness on what facility elements affect efficiency
- There is a lack of awareness on elements of facility efficiencies

Recommendation: *Incorporate clarifications in revisions of the Space Allocation Standards Manual and the Reference Guide as appropriate. Develop and implement at least two training sessions per year for state agency facility staff and gather feedback from attendees about the effectiveness of the training. Modify the training program as needed to ensure consistent and meaningful information is being provided.*

5. Evaluation of Current Projects

The state should take advantage of current or pending projects to assess in more detail how any proposed changes (e.g. assertively applying the open plan/private office ratio, increasing density) apply to real situations. This information will be analyzed and evaluated to identify opportunities for efficiency gains and any necessary modifications to the Space Allocation Standards. For example:

- GA's move to 1500 Jefferson Street will allow the department to 'live' in a facility closely designed to the 215 rentable square foot standard.
- Heath Care Authority (HCA) Medical Assistance merger should optimize an existing leased facility using the standard, or provide exception data.
- Consolidations of Department of Social and Health Services (DSHS) regional offices.
- Footprint reduction of Department of Natural Resources (DNR) in the Natural Resources Building.

Our research will help to inform OFM's review of Modified Pre-design by providing information on "best practices" and challenges and enable us to collaborate effectively with OFM in updating the space planning data sheet of the Modified Pre-design update.

Our research and feedback from the agencies and OFM will help inform a decision as to whether to change part of the standard denominator from "square feet per person" to "square feet per workstation".

Recommendation: *Evaluate current projects to assess the current standard against actual practice.*

II. INTRODUCTION

The issue

In recent years many public and private sector organizations have focused on space efficiency as they have become more rigorous in their management of property costs, while also focusing on improving the quality of the work environment.

The purpose of this report is to evaluate the current space efficiency standard for government offices and recommend any appropriate changes. This report emphasizes the principle that the state government facilities should be run with the minimum amount of space, consistent with the business need for state agencies to operate effectively and sustainably within their buildings.

The report is intended to support the role of GA in setting facility efficiency standards for state government in its statutory authority (RCW 43.82.010(2)). GA's focus on Space Allocation Standards supports the implementation of the Governor's Government Reform Initiative to acquire appropriate, efficient and cost effective facilities to house government operations.

Facility Efficiency Standards vs. Space Allocation Standards

Facility efficiency standards are workspace standards that are intended to promote incremental space efficiency, consistency, and cost savings. Facility professionals continuously look for ways to reduce the area allotted, to make space configurations more efficient, and to conserve resources. RCW 43.82.010 (2) identifies design, location, size, and space as important facility efficiency areas for state agencies.

Facility efficiency standards can be defined as a formal document that establishes work space standard sizes and design criteria, methods, processes and practices. Standards are intended to provide equitable, functional, efficient and flexible space for tenants and:

- Includes design criteria to include suggested furniture layouts and guiding principles for space planning (i.e. location of built vs. open space, proportion of offices to open space, lighting, partition heights, etc.)
- Includes methodology for determining acceptable components of space (i.e. number and sizes of conference rooms, training rooms, etc.)
- Does not include "décor package" (standardization of color choices coordinated with carpet, wall color, and furniture finishes, signage, etc.)
- Does not include equipment or information technology standards

The facility efficiency standards for Washington State Government should:

- Provide for a productive work environment, flexible and cost efficient space utilization
- Support facility budgeting predictability and consistency

However, a number of factors affect an organization's ability to use a single standard to maximize its space efficiency.

- **Building attributes:** The efficiency achieved when applying a space standard to a particular building is affected by the building itself. The size and shape of the floor plate, the structural systems (columns vs. clear span) and window to core depth ratio are all factors that support or impede efficient space layouts.
- **Program requirements:** Some agencies have unique requirements that do not fit a typical office standard. For examples, agencies with a service delivery mission that serves the public through “walk ins” require oversized support areas.
- **Organizational philosophy:** Some organizations support alternative work styles that acknowledge that some employees spend a high percentage of time working outside the office. Space standards in these organizations include options for shared workspace that improve space utilization.
- **Configuration of space:** The percentage of staff that resides in private enclosed offices vs. open plan workstations has a major impact on the space required as well as costs of tenant improvements.
- **Financial:** The final factor is financial because making changes to improve efficiencies usually costs money.

Performance Measures

Generally, there are three major performance measures that are used in facility efficiency, each of them presenting challenges¹:

- **Space per person:** This is the “utilization rate”, how many people per workstation or “seat”. However, this metric needs to be defined consistently—should it be based on “full time employees (or “equivalents””, or how many employees need a “seat”, or does this include non-employees such as contractors, volunteers and so on.
- **Cost per square foot:** this provides cost data for space, but may not provide “total costs”
- **Cost per person:** This needs to include all costs associated with how people work in the space

Both government and private sector organizations pay attention to efficiency measures based on square feet per person. Such a utilization rate is used in traditional office settings, despite the measure’s challenges (oversimplification, differing support and circulation needs, differences in how the space is measured etc.).

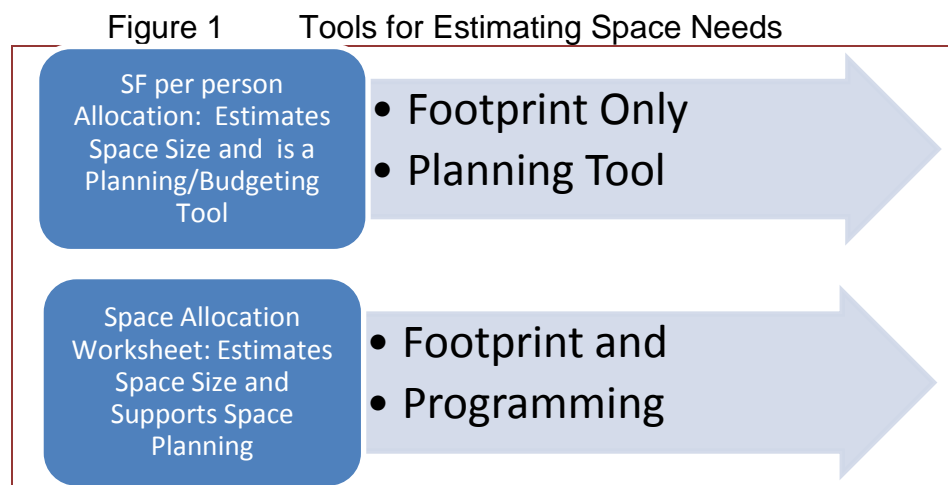
¹ A more detailed discussion of performance measures can be found in: General Services Administration: Office Space Use Review, Current Practices and Emerging Trends (Washington DC, 1997).

Our research determined that all the organizations used some form of a square foot per person measure—though it was difficult to discern consistent “apples to apples” comparisons, whether it was the definition of “person” or whether the measure was expressed in terms of “rentable square feet” or “usable square feet” for example.

Space Allocation Standards

“Space standards” are an all-embracing and often misunderstood component of space planning and management. Although standards go by many different names in states, generally there are 2 components:

- 1) A tool for determining the overall size or footprint; and
- 2) Guiding principles for the space planning within that space, as indicated below:



The Space Allocation Standards:

- Are a decision-making tool for facility space planning
- Utilize current concepts such as the “universal workstation” (a set of standard modular or conventional furniture workstation layouts).
- Address the needs of cross-functional and self-directed work teams, teleworking, and shared space
- Encourage innovative space planning

Goals and Benefits:

- Reduce one-time costs
- Minimize ongoing occupancy costs
- Increase sustainability
- Reduce cost of future remodeling
- Increase flexibility
- Contribute to employee productivity
- Provide a measure of equity
- Improve the quality and effectiveness of the work environment

Space Allocation Standards in Washington

Space is allocated based on an average 215 rentable square feet per person for office workspace areas. A manual assists state agencies to comply with the Space Allocation Standard and includes guiding principles for space planning and some standardized cubicle configurations. While this standard provides metrics for employee space, it does not provide metrics for determining space needs for special programming areas for various agencies. Consequently, the overall space usage (space per person) and ratio of square footage per workspace may vary between agencies with different program service delivery needs.

The state's *Space Allocation Standards Policy* and *Space Allocation Standards Manual* has been revised a number of times since it was originally developed. The 1988 version based space allocation on position classification or function and a range of 156 net square feet per person to 209 net square feet per person. In addition, it required that "new space" (new construction and remodeled space) use the "open office plan approach", as well as set a goal of 90 percent of staff within open space plan and only 10 percent in private enclosed offices. This approach relied on a long list of job classifications as a means of determining which staff resided in what types and sizes of workspaces. It proved difficult to keep up-to-date, interpret, and enforce.

The next version was a result of a multi-year study and culminated in December 1995 with the reduction of the number of position functions to be considered in assigning space as well as a recommendation to revise the standard from a range to a single aggregate or average number. This was accomplished in 2000, with the recommendation that the standard be established as 200 gross square feet per employee as well as eliminating all job categories based square footage assignments. When approved in December, 2000 the standard was established as an average of 215 Building Owners and Managers Association (BOMA) rentable square feet per person. (The average included a workstation or private office, support space, internal circulation and non-assignable common areas). This version retained the 90 percent/10 percent split.

At the same time, the new standard gave more latitude to agencies to lay out their programmatic functions in the fashion best suited to the agency needs. Between 2000 and 2006, there was a rapid expansion of both owned and leased space, especially in Thurston County. GA recognized that an average of 215 rentable square feet per person allocation is adequate for administrative office functions, but may not adequately cover some agency unique requirements.

GA began treating the standards as "guidelines" - that is, not "mandatory". Although agencies attempted in varying degrees to honor the GA metrics established in the state space standard, agency-centric standards emerged as a means of addressing the ways in which those with unique requirements could allocate and manage space internally. Agencies with very unique program requirements, such as the Department of Licensing's Driver Services Centers and Department of Social and Health Services

(DSHS) Community Service Offices were informally granted “exemptions” to the standards.

By treating the need for additional unique program space in this way, GA has lacked historic data to consistently size unique agency requirements. In addition, space has become more customized to individual agencies based on cultural differences and perceived needs. This has resulted in a move away from another goal of space standards--standardized work settings where groups can be moved from one space to another with minimal reconfiguring.

GA has reassessed this “guideline” approach and has concluded that while there is merit to considering unique program needs separately, the benefits of consistency, predictability and standardization in the application of the Space Allocation Standards will be more cost effective and efficient. That is why the current standard was adopted as a state policy in December 2009.

III. RESEARCH

Scope

After the Space Allocation Standards Manual was updated and policy signed in December 2009, a team of planning staff was directed to:

- Review the state's current space standards and practices
- Research other states for "best practices" and appropriate benchmarks
- Explore different approaches for the application of standards
- Make recommendations for keeping the current standard or adopting a different type of standard
- Update/revise current standard and how it is applied if approved

The team conducted extensive research, examining information from all 50 states as well as Canada, Australia and Britain—both public and private sector. Detailed information on the research can be seen in Volume 2-Technical Report.

Private Sector Influences

In recent years, the private sector has exerted significant influence on the public sector in terms of how we house people and the costs involved. Some private organizations report operating cost of an office building account for approximately 10 percent to 15 percent of total operating expenses. Basically, there are two important approaches that contribute to cost-savings and increased profit:

- Achieving greater effectiveness by improving the productivity of employees
- Achieving greater efficiency by reducing occupancy costs

Many private sector organizations have approached this issue by significantly reducing their square footage per person or workspace. Others have tried efforts to increase employee productivity through "environmental" and physical amenities in the workplace, ranging from increased natural light to more comfortable "gathering areas" and cafes. Specifically:

- Including areas in the office layout that encourage interaction and stimulate creativity
- Providing a varying work environment to support various tasks and activities
- Using support spaces like meeting spaces, brainstorm rooms and libraries

Such strategies can also have a negative impact on facility operating costs. Private sector organizations that have approached the issues from the reduction in space have used:

- Floor ratios that avoid excessive structure and reduce unusable space
- Designing efficient layouts by optimizing workstation configurations and avoiding oversized spaces
- Reducing the costs of churn through standardized workstations and furniture systems
- Decreasing the average space per workstation or increasing the number of people per workstation

A number of private sector organizations however embarked on strategies that combine reduction in space with considerations that contribute to employee productivity. They recognized that the biggest contribution to organizational performance would be made by making work environments more efficient and more effective simultaneously. They recognized that a reduction in workspace alone might have an adverse impact on productivity, negating any savings. They had also recognized that on average, work stations are only occupied from 55 percent to 65 percent of the time. So they have approached the issue from the perspective of increasing workstation utilization as a better way to obtain cost savings. At the same time, they increased their support of “productivity strategies” and “alternative work strategies”.

In the forefront of this “combined” approach are many of the “high tech” companies such as Cisco Systems and Sun Microsystems, financial services such as Bank of America; others are fairly “staid” corporations, such as Deutsche Bank and British Telecom. However, this innovative combined approach was not solely the realm of the private sector.

Other States and Countries

The private sector is often seen as the innovator, but increasingly the public sector is taking the lead. A number of public sector organizations were also well ahead of the innovation curve in terms of workplaces, including the Treasury Department of the United Kingdom (a “staid corporation” if there ever was one) and the US General Services Administration’s Public Building Service.

The innovative combined approach has significantly influenced the public sector in Britain and Canada, and increasingly at the federal level in the US. The US General Services Administration (GSA) has developed a whole range of innovative strategies for both the physical environment as well as alternative work strategies for use by federal agencies.

The websites of all 50 states as well as the federal government were examined, as were those of the Canadian federal government, 3 Canadian provinces, the Australian federal government and 3 states and that of the British government. (**Volume 2-Appendix B** provides a summary). We contacted over 30 states with follow up requests for more data, and interviewed the relevant staff from ten representative states (**Volume 2-Appendix C** contains the questionnaire that formed the basis of the interviews).

In some states, the procedures that include certain space and utilization criteria that are used for the completion of an inventory of facilities are also used for standards. In others, standards are specific planning criteria to be used solely in the preparation of capital budget project requests. Elsewhere, there are separate policies, distinguishing between “space planning standards” and “space programming standards”. A number of states consider “standards” to be:

- Flexible guidelines vs. absolute standards
- Minimum expectation vs. maximum threshold

Several states that reference standards as guidelines also caveat that the space size is not an entitlement but rather the maximum (not minimum) of space to be allotted. Many have a “standard expectation or target”—based on one number.

Most entities apply a quantitative solution — square feet (or meters) per person or square feet per full time equivalent (FTE). A few use square feet per workstation. However, a number of them are moving towards using additional, sometimes qualitative factors, such as how space can be designed to facilitate specific functions.

Current Practices in Washington State

The current Space Allocation Standard (December 2009) includes a range of acceptable space allocations for workstation cubicles, offices, offices support spaces (reception, conference, meeting, equipment, copy, etc.) and metrics for internal office circulation. The intent of the standard is to address the features that are common to the vast majority of state occupied office space.

Like many other organizations in both public and private sector, the state government is both challenged and motivated to re-evaluate how well our office environments support contemporary work processes and business objectives.

Challenges in Washington

According to state agencies, the current practice presents challenges:

- Agencies do not have a clear understanding of how to use the standards manual when filling out the Modified Pre-design
- The current state standard manual does not provide general sizing guidelines for support spaces or common spaces. This has left it up to individual agencies to develop their own versions of such standards as well as guidelines for which staff occupy enclosed offices vs. cubicles as well as the relative sizes of each.
- GA lacks historical data on space size and cost efficiency
- A number of agencies have developed their own standards – generally “program specific”
- Some agency planners do not consider the state standard to be relevant
- Some agencies’ operations are not conducive to general standards
- Agencies are unclear about open workstations to enclosed office ratio
- Many agency staff desire more clarity—and accept the necessity of more standardization to achieve consistency and predictability

Findings from agency research

- The application of the standard is not always clear
- There are differing expectations as to how and when the standard is applied
- There is a lack of awareness of the standard
- There is a lack of understanding of what facility elements affect efficiency

Focus

The research, with other states and our client agencies led us to focus on the “building blocks” of space allocation, namely:

- Ratio of offices to modular workstations
- Size of offices and modular workstations
- Support areas—type and size
- Special program areas—type and size
- Circulation

IV. RECOMMENDATIONS

1. Guiding Principles

Research indicated that standards are more effective when framed within a set of principles or policies. The following examples of such principles:

- Standards and guidelines should be easily understood
- Space allocation and exemptions to standards should be predictable, functional and fair
- Emphasize co-location and sharing of resources where appropriate
- Use office space strategically to reduce occupancy costs and to support and stimulate performance
- Acknowledge the differences in work processes and give agencies more options related to total office space
- Recognize the holistic impact of the office environment on productivity and satisfaction of workers including space planning, access to light, acoustics, security, ergonomics, and ease of access.
- Build flexible office environments that can be cost-effectively changed over time to reflect changing work patterns
- Space should be allocated according to functional standards, not always based on position or rank in an organization
- Move people, not furniture

Recommendation: *Develop a set of guiding principles in collaboration with state agencies.*

2. Single Standard

The research found that many organizations focus on organizational mission, job function, space availability, cost and effectiveness to plan and allocate space. Many of the organizations surveyed or analyzed use a “space per person” standard based on employee position, function or role. A few organizations use a single average or aggregate space per person.

Washington uses a single average or aggregate standard. This type of approach has been slow to “catch on” in the public sector within the US. Our research identified this approach as being used commonly in the public sector in Australia, Britain and Canada, as well as in major corporations around the globe.

The research conducted acknowledges that a Single Aggregate Standard presents a significant challenge for a number of existing office buildings occupied by the state. This is because there are a number of factors that affect the ability of an organization to maximize its space efficiency. The efficiency with which space is used in a particular circumstance is subject to a number of often conflicting factors. These include:

- The program function and/or work processes in the space
- The need for growth and spare capacity to accommodate organizational change

- The physical constraints imposed by the building's age
- The difficulties posed by building configuration, size of floor plate and servicing
- The culture of the organization and its willingness to embrace flexible working styles
- The need to plan for visitors or customers and different patterns of use in the workplace (including support functions and meeting rooms)
- Different work practices
- Provision of technology
- The impact of efficiency targets on workplace productivity and environmental sustainability
- The availability of funding for workplace improvements

The issue is therefore complex: no particular approach will be perfect. One of the criticisms of a single “standard” is that it ignores specific circumstances. Opponents of the single standard argue a better alternative would be to use a range. There are arguments for different space standards for different types of office, different locations and for different building characteristics.

The research did not find examples of other public sector organizations that divided overall office space into office, storage or special program space. The identified standard covered all space in an office-type setting - in other words a traditional office environment with associated support and special areas.

This study has concluded that the benefit of a single figure outweighs the disadvantages, provided that its implementation is sensitive to mitigating circumstances. Some buildings will present challenges which make achieving the Standard impossible but, nonetheless, using a Standard can help managers justify and set their current space performance in context.

Little in our research—both within Washington State and in other states—suggests that the standard of an average of 215 rentable square feet per person should change or that the state adopts a different approach, such as a standard based on position classification or functions. Our standard is in the “mid-range” of other states’ standards. Thus there is no compelling reason to move away from our single aggregate standard.

The Standard may be inappropriate in a number of different circumstances and that some offices are currently occupied less intensively than this. However, research indicates that it is an achievable overall office space standard both for the whole portfolio and for individual buildings.

The current standard meets our state’s needs and while it is possible that the number could be reduced from 215, we need to collect data on the impact of such a change and evaluate any change in the number.

Recommendation: *Retain the single (aggregate or average) office Space Allocation Standard of 215 rentable square feet per person*². There should be an acknowledgement that business needs or building characteristics may mean that there is a valid business justification for an office not being able to achieve the Standard. Mechanisms will need to be identified to ensure that agencies can work towards the Standard and provide justifications as to the reasons why the overall Standard cannot be attained, when it's not possible or practical to do so.

3. Open Office vs. Enclosed Office Ratio

Open space office environments embrace the concept of ergonomic design by using modular furniture systems to maximize work efficiency and employee comfort. Open office planning was developed as a means of providing organizational flexibility, promoting interactions among people in different units, and supporting a team concept. An open office significantly reduces the number of private offices and distributes staff throughout the space in workstation groups.

The open office plan vs. enclosed cellular office debate has been aired for many decades (since the 1970s when the open office plan started gaining attention). An open office plan can:

- Foster communication and interaction
- Enable changes in configuration to occur more quickly and cost effectively
- Allow more workstations to be provided per square foot of office space
- Signal greater “equity” within the office environment

However, the level of distraction brought about by a high density of communication, noise and interaction may inhibit productive work where productivity is dependent upon periods of contemplation and clear thinking, or where confidentiality is an essential element of the job.

In a survey of public and private sector organizations across Canada and the US designed to explore views about the physical conditions of the office, respondents ranked air quality and ventilation as being of prime importance. However, privacy and noise levels were ranked second and third respectively in importance. Clearly the design of the workstation is critical in influencing these latter two aspects of the office environment.³

The point should be made that both open and closed offices serve useful purposes. There is no right answer - the configuration must fit the business need. The meaningful question is, “what is the right balance between open and closed offices”. Finding the right balance requires understanding the purpose of the office and even more so, the

² Space per person provides metrics related to:

(1) Space per workstation; or (2) People per workstation. GA will work with OFM and state agencies to determine if the standard should be updated to specify ‘per workstation.’

³ Veitch, J., Charles, K.E., Farley, K. and Newsham, G.: *A model of satisfaction with open-plan offices conditions*” COPE Field Findings. Journal of Environmental Psychology, Volume 27, N.3, pages 177-189, 2007.

nature of the work being done.⁴ As the research has indicated, many public entities have examined this question and seem to have derived more definitive criteria than Washington currently uses.

In an open office plan, offices and conference rooms are situated in the center of the floor to allow the staff to work by perimeter windows to access natural light. In addition, the furniture systems use lower panel heights to improve lighting and the circulation of heat and air conditioning.⁵

Benefits of open office plans include:

- Encouragement of conversation and collaboration between employees
- Increased access to natural light and outdoor views
- Improved air quality and circulation
- Ability to support and accommodate advances in technology
- Economy of storage and usable work space
- Easy access to storage and surrounding facilities
- Increased comfort and convenience
- Improved office morale and employee productivity
- Better communication and exchange of information among employees
- Reduced square footage with the associated cost savings; and
- Enhanced aesthetics—offices can have orderly and attractive appearance

Generally, the open office design increases efficiency, reduces construction costs and leasing expense, increases heating and cooling efficiencies, and, most importantly, lessens furniture remodeling costs. Open workspace offices can positively impact organization in a broader manner by aiding strategic business issues such as attraction and retention, and support for mobility and other needs related to high performing employees.⁶

The current Space Allocation Standard includes a 10 percent ratio for private office to 90 percent open workstations. That ratio does not seem realistically applicable to a number of agencies such as the Office of the Attorney General and State Auditor, as well as various Executive and Legislative offices. While the Manual (implementation guide for the Standard) states that the state's policy is for open workstations with a minimum of private enclosed offices. The datasheet then identifies the ratio. The ratio of office to cubicles is important because:

- High proportion of enclosed offices increases the footprint and thus the rent
- High proportion of built space increases tenant improvement costs and thus rent

⁴ Becker F. and Sims, W: Offices that Work: Balancing Cost, Flexibility and Communication (Cornell University International Workplace Studies Program, 2000)

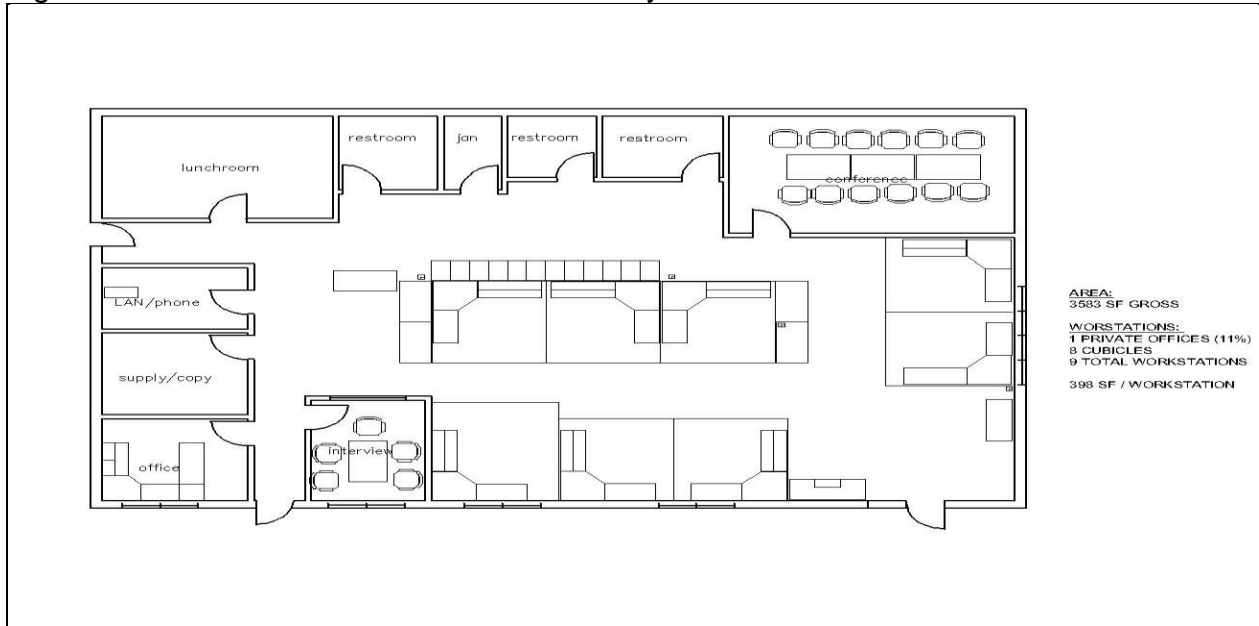
⁵ They also increase noise and reduce privacy. Newsham, G.: "Construction Update #60", Institute for Research in Construction.

⁶ Neil, M. "Open Plan and Enclosed Private Offices". Knoll Workplace Research, 2008; Venezia, C. and Alee. V. "Supporting Mobile Worker Networks: Components for Effective Workplaces". Journal of Corporate Real Estate, February, 2007

The following figures demonstrate potential inefficiencies related to both the number of enclosed private offices and their location within the space.

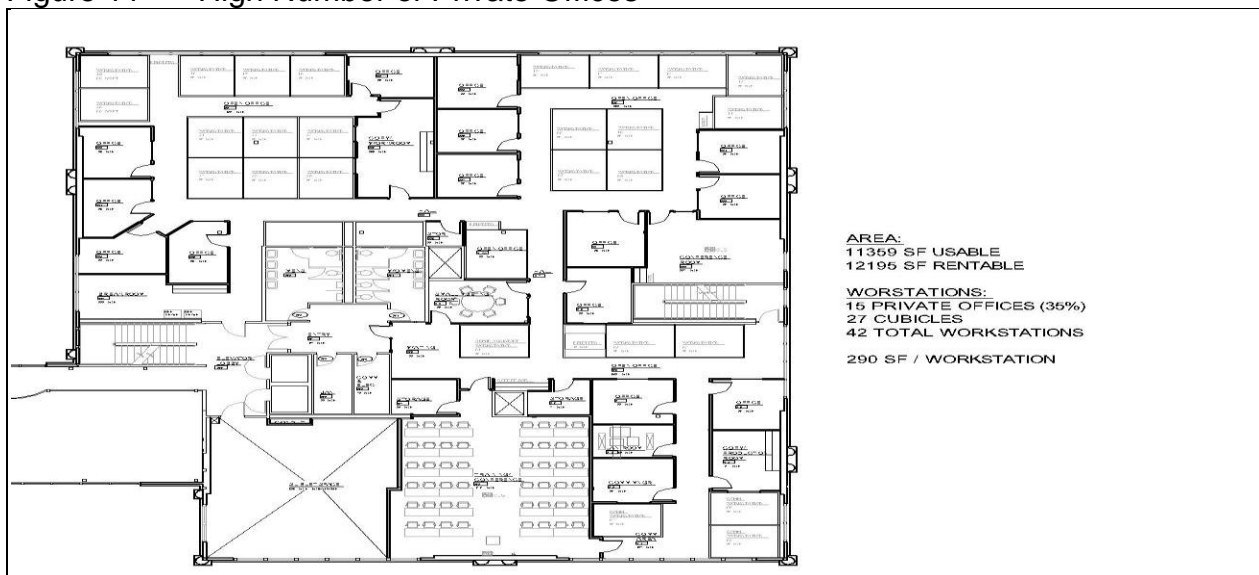
Figure 10 demonstrates the challenges for efficiency when most of the workstations are located on the walls and the open office area is placed at the center. While it is difficult to wrest efficiencies out of a small space, this workplace design exacerbates the inherent inefficiencies. Figure 11 shows a high number of private offices can be costly and inefficient.

Figure 10 Small Stand Alone Office Facility



Source: GA Real Estate Services Files

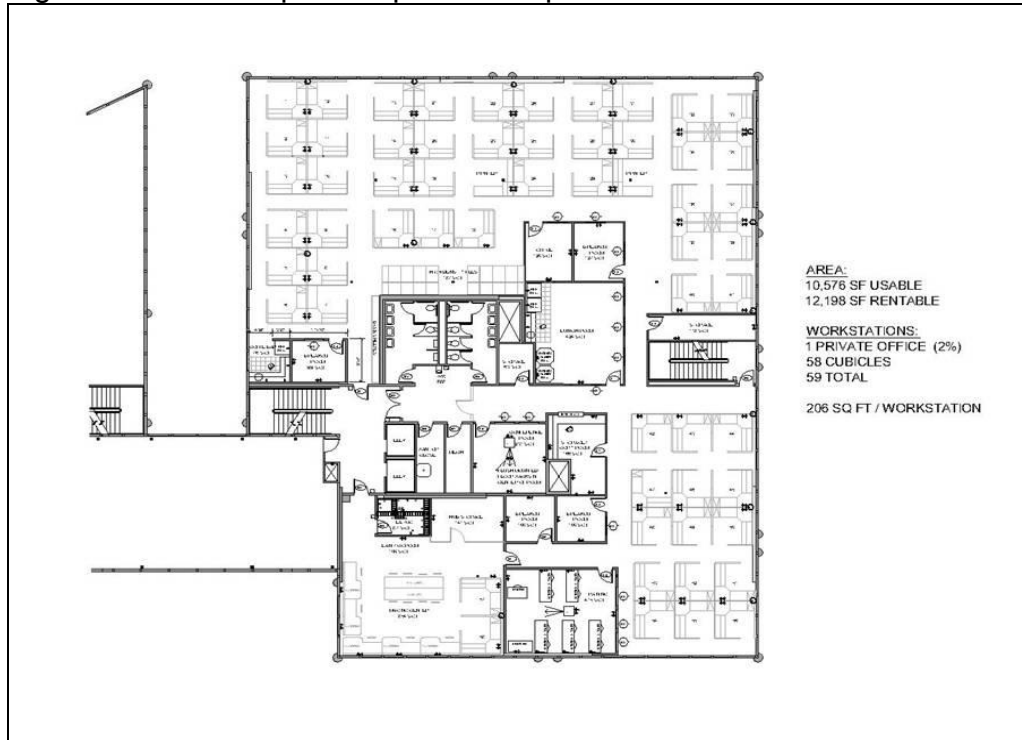
Figure 11 High Number of Private Offices



Source: GA Real Estate Services Files

Figure 12 demonstrates how an open office plan can make a somewhat inefficient building effective in terms of the use of space by concentrating the office and program functions in the building core. This leaves the bulk of the space available to open office cubicle areas.

Figure 12 Example of Open Workspace Plan



Source: GA Real Estate Services Files

In theory, perhaps the current standard should require GA to employ an exemption process for any facility that exceeds the 10 percent ratio. This has not however, been the practice.

Recommendation: Further exploration should be undertaken related to either clarifying or expanding the current criteria in the manual. Such exploration should also consider whether the ratio should be enforced by a justification or exemption process.

4. Workplace Design

Effective workplace design directly correlates to improved performance. There is a major shift from “command and control” organizational and workplace structures to the empowerment of front line “knowledge” workers.⁷ “Top performing companies design more effective workplaces that allow people to spend higher quality time in the work modes that matter to their job success.”⁸ This research asserts that workplaces need to be designed to support knowledge transfer and connectivity, rather than linear business processes. Given this way of thinking about what an “office” is, the first

⁷ Gartner: *The Agile Workplace: Supporting People and Their Work* MIT Press, Cambridge, 2001.

⁸ Genster: “2008 Workplace Survey-United States-A Design Performance Report”, 2008

question for an organization struggling with scarce resources, is how office design, from enclosed private offices to a variety of open plan offices affect knowledge transfer and connectivity, communication and interaction.

Many of the organizations we researched have moved away from the tradition of allocating space by rank or position and toward generic workstations—one size fits all. One of the benefits of such an approach is an increase in flexibility. The one size fits all workstation will accommodate a number of different work styles and job functions utilizing a finite number of furniture configurations arranged in different ways. This allows components to be standardized and become interchangeable.

Generally, organizations limit the number of configurations. Thus the standardized workstation module can easily be reconfigured to address changing requirements. The advantage of standardized modular systems furniture is greater flexibility, less time needed to change and lower costs in any change.

(a) Collaborative or Team Space

Collaborative Teaming refers to a situation where workspace is designed to incorporate physical elements that encourage communication and collaboration with team members. For example, clustering the workgroup areas along an interior “street” or where centralized facilities such as meeting rooms and break rooms are located.

Knowledge creation is an important feature of collaboration. The exchange of knowledge among individuals or teams leads to innovation and the generation of new capabilities.⁹ In general, layouts with the greatest number of connections to other spaces had more interaction among employees.¹⁰ Collaboration is perceived as a key to organizational effectiveness in an increasing number of work contexts.¹¹

Studies have demonstrated that collaborative or team-oriented space can reduce costs as well as enhance work effectiveness.¹² Although collaboration is defined as “working together”, effective collaboration entails both individual, focused tasks and interactive group work. Proximity and visual contact help people interact frequently and build relationships that help them share information, think creatively, and reach more innovative solutions.¹³

Research has definitively linked environments characterized by visibility, openness and greater employee mobility to effective collaboration. In other words, effective

⁹ Saint-Onge, H.: Collaborative Knowledge and Competitive Advantage. New Paradigm Learning Corporation, 2005;

¹⁰ Heerwagen, J, et al: “*Collaborative Knowledge Work Environments*”. Building Research and Information. November-December 2004; Augustin, S. and Brand, J.: “*Impact of the Physical Environment on Knowledge Worker Performance*”. Haworth. September, 2009.

¹¹ Brager, G, et al: Team Spaces and Collaboration: Links to the Physical Environment UC Berkeley, Center for the Built Environment, 2000

¹² Becker, F. and Sims, W op cit.

¹³ Gensler, op cit.

collaboration involves three related social behaviors: awareness, brief interaction, and collaboration. Visibility leads to interaction which leads to communication and learning.

Accordingly, collaborative work environments require spaces, furnishings, and technologies that support both the individual focus and group interaction, while also facilitating transitions between these activities. Finding the right balance and types of support for individual and group work requires an understanding of both social and cognitive processes. Unfortunately, according to IFMA, to increase the availability of collaborative areas, many individual workspaces have been shrinking. From 1997 to 2006, work spaces in the US shrank an average of 18 square feet.

The central conflict of collaboration to be considered is: how to design effectively to provide a balance between the need to interact and the need to work effectively by oneself.



This type of workplace encourages and supports information sharing, teamwork, and collaboration in a variety of workspace styles.

Recommendation: Develop effective layouts for clusters or teams. Include layouts in future versions of the Space Allocation Standards Manual.

(b) Social Interaction

The changing nature of work means greater mobility for workers, workspaces within and external to buildings, greater use of geographically dispersed groups, increased dependence on social networks—and greater pressure to provide for all of these needs and behaviors in a leaner and more agile way. Workplaces have responded with many new options, including more teaming and informal interaction spaces, more supports for virtual work, greater flexibility in work locations, and more focus on fitting the workplace to the work rather than vice versa. Many workplaces are also incorporating spaces that encourage relaxed engagement with colleagues to reduce stress and promote a sense of community.



"Café"-informal meeting area



Study Area within an office environment

Such spaces may include:

- Small rooms for concentrated work, confidential meetings or telephone use
- Open areas or lounges at central nodes or connecting spaces for spontaneous interaction or informal discussions
- Quiet areas for studying
- Centrally located cafe
- Specialist areas for specific work such as developing presentation or viewing audio-visual material

A number of public and private sector organizations have successfully implemented these elements to enhance collaboration—and as a result reduced the costs of space and increased density. For example, Cisco Systems has claimed that it achieved a 37 percent reduction in real estate cost from the development and utilization of collaborative workspace and increased density that is heavily supported by technology.¹⁴

Sun Microsystems reports that the introduction of a variety of settings designed to increase the informal spread of ideas contributed to a perceived 10 percent gain in individual productivity and a 7 percent gain in team productivity, resulting in millions of dollars in productivity gains.¹⁵

Recommendation: Develop layouts with inclusion of more informal meeting places in facilities and add them to the Space Allocation Standards Manual.

5. Circulation

The circulation factor is the interior space of a structure required for internal office circulation, such as hallways. In an office space is often one of the first space

¹⁴ Cisco Systems: "How Cisco Designed the Collaborative Connected Workplace Environment". Cisco Systems White Paper, 2007.

¹⁵ Commission for Architecture and the Built Environment: "The Impact of Office Design on Business Performance". London, 2004.

allocations challenged when the overall space requirement needs to be reduced. The circulation factor can range from 25 percent to 45 percent as research on organizations in other states has demonstrated. The range is largely dependent upon the predominant type of individual workspace. Typically “routine processing” organizations that utilize compact open workstations will require a higher circulation factor than those with large enclosed offices. Collaborative or team based organizations may also prefer a higher circulation factor since their increased needs for collaborative space can make wider support corridors support interactive functions.

Variables to consider in planning circulation include:

- Size and type of individual workstations
- Percentage of individual space relative to shared support and common space
- Options for “mobile” work and shared workstations
- Multi-use of common space
- Availability of common areas within a building that could be shared

Recommendation: *Evaluate the circulation factor in collaboration with OFM in the review of the Modified Pre-design and Space Planning Datasheet. As different work styles and different types of workstations are developed (collaborative, hotelling, shared, etc.), the circulation factor needs to be re-evaluated.*

6. Support Spaces

Keeping in mind the general principles of consistency and flexibility, the allocation of all support space functions should relate to the population of each floor, while ensuring that each floor is as generic as possible so that spaces can be used over time for multiple tenants with minimum modifications.

In addition, shared open support spaces such as collaborative areas or resource areas may be useful.

Recommendation: *Further explore how support space is configured and whether it is feasible to develop specific criteria for inclusion of each element of support space.*

These criteria could be set to be used for the inclusion of each type of support space or if a request for support space is beyond a specific threshold. This approach should be accompanied by a justification requirement for space in excess of the standard.

7. Unique Non-Office Space

The current Space Allocation Standard does not provide any metrics for calculating space allocations for classrooms, testing rooms, laboratories, libraries, public auditoriums and oversized reception areas. A number of agencies include such unique space in their requests for space. Given that, should GA explore the development any additional standards that could be applied or used to evaluate such requests?

Potential examples of new standards:

- Agencies that require classrooms and testing rooms should be able to provide metrics for standardizing the size and number of these spaces required. If there

is no direct correlation to the FTE count, other metrics such as class schedules as correlated to anticipated case loads.

- Agencies that require laboratories will typically be able to provide standard space requirements for these facilities. Because the nature of laboratory work varies, it is possible that there may not be a universally applicable standard and in some cases the exemption process may be more relevant.
- Agencies that require libraries will typically be able to provide space requirements for these features. Many agencies are already moving towards utilization of electronic files so this need may diminish in the future. The new standard might encourage the trend toward electronic documents.
- Similarly many agencies require large file rooms. It is expected that there will be a noticeable average need for file rooms (as well as file storage in workstations and offices). Again, agencies are moving towards utilization of electronic files storage and the new standard could encourage this trend.
- Determining appropriate metrics for sizing waiting areas. Agencies that require these spaces may be able to provide a range of anticipated case loads that can be coordinated with the number of case workers at the facility it is expected that there will be some common trends but in some cases, exemptions may be warranted.

However, there are diminishing returns associated with incorporating every possible variation of state agency requirements in a new set of “standards”. It may be more appropriate to have such requests for unique space called out through a “justification process”. The challenge is to identify the threshold where a unique space requested by an agency triggers a justification or even an exemption process.

Recommendation: In order to develop a new and meaningful analysis that could be applied to these unique spaces, *GA should work with agencies to determine if there are specific metrics that can be applied to these spaces, or agree on an exception process that clearly justifies the need and captures data meaningful to state planners.*

8. Space Standards and Efficiency

Research points to a fundamental change taking place in the way office space is used and managed -- a change driven by technology-enabled organizational transformations. The modern workplace has become a more fluid and responsive environment. Collaborative work teams and a wider variety of work settings are just two of the indications of change. More and more organizations are offering flexible working styles and schedules to support expanded staff mobility and work-life choices. Improvements in communications and technology allow employees to move seamlessly from a private office to a “drop in” workstation to a team space.

For many, sitting at the same desk each day, all day, while performing routine tasks has become outdated. Several studies have indicated that utilization of “seats” is less than 70 percent in a work day. It has been suggested that total occupancy of all office workplaces –workstations, meeting rooms etc—peaks at 60 percent during the average

Monday-Friday eight hour workday.¹⁶ The average workspace in 2011 is only 1/3 the size of a workspace in the 1970s. Not only is the average office becoming smaller, but the total amount of space allocated to offices in general is being reduced.¹⁷

These trends provide opportunities to introduce more efficient workplace standards, without compromising employee comfort and productivity.¹⁸ While space at the workstation might shrink in size, or become shared with others, opportunities to use other types of work settings increase. However, such flexibility requires a change in approach to space management and facilities support to improve the work experience and productivity.

Similarly, the concept of an average “occupancy density” must be treated with some caution. The achievable space per person will vary based upon factors, including: configuration and specification of building; age and condition of building; how long the organization has occupied the building; the work functions; design of the layout; and the goals of the management team. An increase in density is not a simple matter of squeezing people into less space. Such a simplistic approach could have a negative effect on an organization.

The traditional concept of space per person being the same as space per workstation is changing dramatically. As “ownership” of a desk evolves into shared workstations, greater space efficiency outcomes translate into higher per capita of employees per building and improved working environments.

There are two principal ways of achieving more efficient utilization. First, space allocations per workstation are reduced. For employees in an open plan, there is simply less space around their workstations; while for others there is less enclosed space and more open plan, allowing higher densities; and support space is generally planned with greater efficiency. Increased efficiency, through higher densities, can have an immediate impact, and is a simple measure with which to communicate more prudent use of resources.

A British study revealed the average density of offices has increased by 40 percent since 1997, from approximately 179 square feet to 127 square feet in 2009.¹⁹ This sharp increase in density did not mean that offices were becoming more crowded. A decade of innovative design and technological developments allowed organizations to use their office space more efficiently and allow more people to fit into the same space without creating a crowded environment.

¹⁶ Duffy, F.: *Work and the City*, Black Dog Publishing, London 2008.

¹⁷ Brand, J.: “*Designing for a Distributed Workforce*”. Haworth White Paper, September 2009.

¹⁸ British Council for Offices and the Commission on Architecture and the Built Environment: “*The Impact of Office Design on Business Performance*”. Also an early proponent of workplace design--Becker, F., Sims, W., and Davis, B.: *Managing Space Efficiently*. Cornell University, 1991

¹⁹ Pringle Bandon: “*Occupier Density Study*”. British Council for Offices, June 2009.

“...It is a misconception that higher office densities mean we are all packed in like sardines. The increase in density has come about because, on the whole, we are working differently and using space more effectively. The cellular, inflexible offices of the 70s and early 80s have gradually been replaced by open-plan, team-oriented environments...We are a knowledge based service economy where comfort and amenity play a significant role in workplace productivity.”
Richard Kautze, CEO of the British Council for Offices

The second step is to manage the work environment more dynamically. It is well known that traditional office layouts are often half empty due to people being out of the office, and many organizations have introduced hot desking, desk sharing and alternative work styles to improve utilization. Such initiatives allow a building to support more people in the same amount of space. Their impact on overall densities can be dramatic, often reducing an organization’s need for space by around 20 percent to 30 percent. Accenture, a consulting company went from 66,000 SF to 25,000 SF while still retaining its workforce of more than 800 people using unassigned workplaces and collaborative settings. This phenomenon is now widely referred to as “spaceless growth”.²⁰

However, one size will never fit all with office space. Cramming more desks into less space to save money can affect the performance of the workplace and employees. As the workplace changes, the workplace must support diverse work styles and dynamic movement from activity to activity through the day—a variety of needs requiring a variety of settings. As a result, the traditional “one size fits all” space planning standards are evolving to incorporate **a series of settings or workspace models** within the office. Therefore, some organizations are embracing the concept of “proportional planning”, a model that links (space) planning to the predominance of particular work styles or patterns within the workplace—and how individual work styles impact group work styles.

This is especially reflected in the approach articulated by Duffy, among others, and used by British Columbia and Ontario for example. That is, space allocation is based upon work styles or patterns or functions—which are different than space based on job classification (see Technical Report, page 8). As long as a “space standard” is coupled with improved work environment that responds to flexibility, the balance between “efficiency” and “effectiveness” is maintained. The combination of improved efficiency and improved workplaces will support a more productive workforce.

It is clear that growing numbers of organizations are dramatically changing the way in which they occupy their office buildings. Part of the drive is economic as organizations respond to cost pressure. But part of the drive is organizational as they transform their work processes to respond to new operational pressures. Static production line-style offices are giving way to more dynamic work environments in which team work, collaboration and meeting space occupy far greater proportions of space. The changes present new opportunities to use office space in a more efficient and sustainable manner.

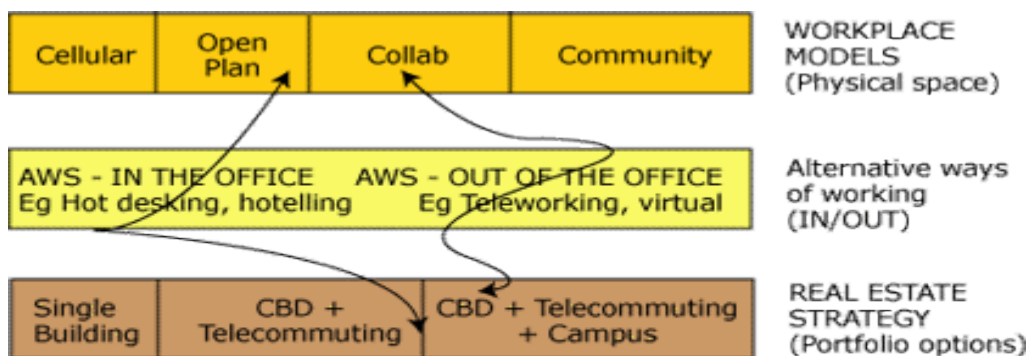
²⁰ Steelcase: “Harder Working Spaces”. [360 Magazine](#), June 2010.

Recommendation: *Further explore standard layouts and standard system furniture that increases seat occupancy or density. At the same time, encourage space planning and programming approaches that more closely examine work patterns or styles in developing workplace plans.*

9. Alternative Workplace Strategies

The above descriptions of “workplace models” describe the physical structure of generic workplaces, as defined by business approaches and organization structure. There is another level that helps to define *workplace strategy* and is related to use of Information Technology (IT) and issues describing management policies. These are the Alternative Workplace Strategies (AWS) of new officing ideas that include, amongst others, concepts such as hotelling, hot desking and levels of “virtuality”.

It is important to note however that the basis of developing the appropriate Workplace Strategy for an organization is based on these two factors together with the appropriate *real estate strategy*. These factors together describe the Workplace Strategy, and can be represented in the following diagram:



Workplace/Accommodation Strategy

Diagram developed by Strategic FM, Pty. Ltd, Sydney, Australia

In finding ways to integrate changing attitudes and opportunities into the workplace, many organizations are investigating and implementing different kinds of Alternative Workplace Strategies (AWS). The strategies, scope and scale of the alternatives will vary depending on the opportunities for flexibility within the organization. They can be used to radically change the workplace and stimulate rethinking of management structures, business strategies and process improvements.

Respondents to a benchmarking study in 2010²¹ related to the use of alternative work strategies reported using a variety of “worksites”. These included offsite locations such as home-based workplaces (89 percent); on-site flexible or unassigned drop-in spaces

²¹ Ouye, J., Nagy, G., Singer, B., and Langhoff, J.: Alternative Workplace Strategies in the Current Economy: Results from a New Ways of Working Benchmarking Study, April 2010.

(82 percent); non-company offices such as client sites (37 percent); and satellite offices (drop-in spaces on the employee side of the commute) (35 percent). The study indicated that successful alternative workplace strategies incorporate human resources, information technology and corporate real estate practices. If alternative workplace strategies are not supported by all three “domains”, success is less likely.

Analyzing the data, those with formal programs, supporting policies, tools, and technologies in place tended to use each type of alternative workplace, while companies with ad-hoc practices tended to use only home-based (89.5 percent) and on-site/flexible/drop-in spaces (79 percent). Compared to 2008 findings, home-based work usage increased (78 percent to 89 percent) and all other types of alternative workplace uses decreased.

Shifting Priorities

Compared to a few years ago, the primary business drivers of alternative workplace have shifted toward “hard” economic issues--cost savings and real estate flexibility--and away from “soft” employee centric ones--greater work/life balance, increased employee productivity, and improved employee attraction/retention. Environmental Sustainability (eco-responsibility and reduced carbon footprint) was ranked as one of the lowest business drivers for the adoption of Alternative Workplace Strategies. Thus, it seems that many organizations have not yet made the connection between the opportunities for sustainability through Alternative Workplace Strategies. Alternative Workplace Strategies, such as reducing square footage, fewer commutes, travel reduction, less office space, and reduced paper use (digitalization), can have a large, positive impact on sustainability.

A number of studies have examined the how different generations view the workplace.²² The general conclusion has been that the hardest part of workplace change is not the physical environment or technology, it’s the people—their culturally conditioned attitudes about how they should be managed, how and when they should work, and their attachment to the traditional, centralized workplace. This is not surprising. How we relate and use space is part of our culture.²³

Though many employers have leveraged alternative workplace options, organizations continue to leave workspaces underutilized. Study respondents reported that 76 percent of their AWS employees continue to use assigned workspaces while 35 percent of the employees use alternative locations. This indicates an 11 percent overlap of workers who use alternative workplaces, but still occupy an assigned workspace. Last year’s study yielded similar results. This suggests that some companies still provide assigned workspaces for those with alternative options to lower the cultural resistance to “losing one’s desk.”

²² Pitt-Catsoupes, M. and Smyer, M.A.: The 21st Century Multigenerational Workplace. Center on Aging and Work, Boston College, Boston, June 2007.

²³ Hall, E.T.: The Silent Language, 1959 and The Hidden Dimension, 1966. (Numerous editions).

A number of trends are also at work, including the availability of “enabling technologies and social collaboration tools”.²⁴ One study has suggested that by 2016, 63 million Americans are expected to Telework, representing 43% of all US workers.²⁵ Another study found that 60% of businesses globally believe that alternative workplace strategies, whether related to office hours or location, are more cost efficient than “fixed office working”.²⁶

The most frequently employed Alternative Workplace Strategies are²⁷:

In the Office:

- Activity zone
- Collaboration/team space
- Hotelling

Out of the Office:

- Teleworking
- Virtual

Strategy: Activity Zones

What is it?

The **activity zone** workplace provides a blend of settings for work, from individual workstations to open meeting areas, focus rooms, and enclosed conference rooms with a variety of collaborative technologies. Although it may look in many ways like a typical office, it differs in one important way:—people do not have assigned workspaces. As their activities and needs change across the day, they move to different spaces. Activity zones are also known as: free address, hot-desking, and first-come-first served.

When is this strategy most useful?

- when the work, primarily, occurs in many places within the primary building or outside the building, such as with clients or on travel
- when assigned workstations are utilized only a small portion of the day
- when the work is largely improvisational, requiring frequent unplanned meetings, conference calls and/or intense individual concentration in short bursts with each activity needing a different type of space (e.g., technology aided collaboration space, quiet rooms, cafes or informal team spaces, formal meeting rooms)

What are the potential benefits of this strategy?

- increased overall utilization of spaces in the office
- support for different styles of working

²⁴ Ouye, J.: “*Five Trends that are Dramatically Changing Work and the Workplace*”, Knoll Workplace Research, 2011.

²⁵ *US Telecommuting Forecast 2009*. Forrester Research.

²⁶ *Flexible Working Goes Global*. Regus Global Report, March 2011

²⁷ This information is excerpted and summarized from General Services Administration: [Space Utilization Guidelines and Recommendations](#), September 2010

- cost savings from construction, workplace services, furniture, cabling, equipment room space, real estate holdings
- increased ability to reconfigure space
- increased ability to collaborate in a variety of ways – rapid unplanned meetings, informal gatherings, technologically aided collaborations, formal planned meetings
- decreased individual storage needs
- decreased energy/carbon due to increased use of laptops
- increased employee satisfaction after an adaptation period

What are the constraints of this strategy?

- initial technology investments – laptops, smart phones, wireless, increased number of electrical outlets
- investment in paper reduction and digitizing documents
- employee resistance - change management and coaching may be required to assure successful adaptation

Strategy: Hotelling

What is it?

Hotelling is a workspace solution that provides a reservation based system to share desks or offices. It is also known as on-demand space. Under hotelling a workstation or office is not assigned to a specific person but is reserved in advance through a concierge or an on-line reservation system for a period of time ranging from hours to days.

Hotelling was born out of numerous studies in the 1990s that showed how often traditional, assigned workspaces were unoccupied. In many cases desks were only occupied 35 percent to 50 percent of the time. Recent research by GSA in federal offices continues to show similar results with people spending approximately 30-40 percent of their time at assigned workstations.

When is this strategy most useful?

- when the work primarily occurs in many places within the primary building or outside the building, such as with clients or on travel
- when workforce productivity is aided by access to a variety of workspace types such as quiet areas, workrooms, conference rooms and collaborative space
- when a significant numbers of employees travel or work remotely such as teleworkers

What are the potential benefits of this strategy?

- delinks the consumption of space from the number of employees by moving away from the “one person = one desk” model ; adding additional employees may not require an investment in additional space or furniture
- increased overall space utilization (represented by a higher density of people in the space on a daily basis)

- decreased overall space requirements
- decreased need to heat, cool and light empty or underutilized space
- improved performance by providing ready access to appropriate types of workspace (e.g. quiet areas and collaborative space)
- increased workplace flexibility and scalability

What are the constraints of this strategy?

- not suited to operations that require the majority of employees to be in the workspace the majority of the time
- technology investment in a reservation system
- employee resistance or lack of rules/etiquette - change management and coaching may be required to assure successful adaptation
- requires alternative storage arrangements to accommodate the materials formerly kept in assigned desks and offices
- measuring actual occupancy and utilization of reserved spaces important for optimizing the mix of spaces

Strategy: Benching

What is it?

Benching is a workstation layout that provides a basic set of tables and chairs (see diagram on pg. 36), essentially parallel work surfaces along a spine, but generally includes all necessary IT connections. It is more than just a piece of office furniture; it's a method of working. Generally this layout is not used for hotelling which requires reservations, but is used for “free address” or “hot-desking” – spaces available on a walk in basis.



When is this strategy most useful?

- When designing environments that need to be creative, flexible, and adaptable.
- best suited to dynamic, interactive, social work styles
- within a culture or workgroup that emphasizes teamwork and socialization, especially in dedicated project rooms

- can support mobile workers in a relatively open, dense environment that allows them to quickly reconnect and coordinate with internal and external customers

What are the potential benefits of this strategy?

- decreased real estate costs while making best use of existing assets
- Cost savings from shared amenities and services (e.g. printers, conference rooms, cafes, IT support etc.)
- Encourages discussion and informal learning
- Increases access to coworkers and collaboration
- Increased energy (from coworker density)
- Increases access to daylight and views (from lack of panels)
- Supports fast paced work and reducing delays

What are the constraints of this strategy?

- not as effective for a task or a workplace that requires quiet, privacy, confidentiality, or work involving deep concentration
- initial technology investments – laptops, smart phones, wireless, increased number of electrical outlets
- employee resistance or lack of rules/etiquette

Strategy: Interagency Space Sharing / Consolidation

What is it?

Interagency space sharing and consolidation refers to the use of a single workspace to serve multiple organizations or agencies. Interagency workspace sharing intensifies office workspace use by consolidating operations and combining organizations under the same roof.

While rarely used in the United States, interagency space sharing directly addresses the need to focus attention on better use of resources, especially the need to more intensely use existing space. Whether an organization is reducing real estate footprint, real estate costs, or making work-life easier for mobile employees, an interagency space sharing/consolidation strategy is a flexible cost-effective workplace strategy.

When is this strategy most useful?

- when organizations with similar missions can co-locate to achieve more efficient operations
- when small organizations can combine resources
- when large organizations with committed leases can take advantage of shared space and amenities to increase their space use efficiency
- when employees are widely dispersed and a more conveniently located shared workspace is a viable option

What are the potential benefits of this strategy?

- decreased real estate costs, while making best use of existing assets

- cost sharing/savings from construction, workplace services, real estate holdings
- Cost savings from shared amenities and services (e.g. printers, conference rooms, cafes, IT support etc.)
- long-term cost savings with consolidation and more efficient facilities
- More efficient facilities at a lower cost to individual agencies since more intense use of existing space reduced the operational costs per person.
- develops and strengthens interagency ties and core expertise
- enhanced operational relationships
- opportunities for dynamic partnerships – whether through collaboration, information sharing, alignment or integration

What are the constraints of this strategy?

- integrating information technology from different agencies while maintaining network security and bandwidth
- negotiating budgets for shared operations
- maintaining key organizational identity and independence
- differences in location factors – some may be suboptimal
- learning and modeling new work process innovations may be required
- space may need to be reconfigured to maximize consolidation opportunities - need to identify smart configurations to leverage synergies
- Limitations of lease agreements and/or authorities that govern space sharing for leased and possibly owned properties.

Strategy: Storage Solutions as a Space Saving Strategy

What is it?

Alternative storage solutions strategies remove the majority of objects from a building floor and capture the newly released space for other purposes, such as additional personnel. Office-related storage, shared files, contract files and reference materials from individually owned personal storage cabinets are gathered in central locations, interior spaces, off-site locations or disposed of altogether. Moving toward mingled storage solutions (which can also be paired with consolidated printer/fax areas) can facilitate positive cultural change as impacted employees learn how to share office resources.

Storage solutions can be combined with a paper-to-electronic document conversion strategy. Storage solutions also work best when paired with document management protocols that help people search, store and find resources when they need them. While some storage options, such as high-density storage or facilities managed by third parties, require investment in furniture or service contracts, most options can be planned and executed in-house.

When is this strategy most useful?

- when teams share documents and reference materials
- when different teams utilize the same types of documents or materials (e.g., contract files, scientific samples)

- when paired with both assigned and free-address workstations (shared storage is actually required for the latter)
- When the work does not depend on immediate access to paper documents.

What are the potential benefits of this strategy?

- increased use of prime space for personnel
- decreased rent when combined with high-density filing solutions
- supports access to shared files
- decreased paper use over time and cuts down on redundancy
- enhanced ability to reconfigure space
- increased ability to share desks and space when all workstations are not occupied by documents or materials
- accommodates a variety of individual and team storage needs, unconstrained by workstation or office size
- decreased floor load stress when heavy files are moved to areas of building better able to support their weight, usually interior spaces away from windows—where people usually sit
- increased interaction between staff when retrieving stored items
- increased employee satisfaction after an adaptation period

What are the constraints of this strategy?

- initial technology investments – scanners, document management protocols
- investment in paper reduction and digitizing documents
- change management and coaching to assure successful adaptation

Strategy: Telework

What is it?

Telework, also known as “telecommuting” or “flexiplace”, is a work arrangement in which an employee performs officially assigned duties at an alternative worksite, such as the employee’s home or other sites (such as telework centers), on a regular and recurring basis that result in a reduction or elimination of the employee’s commute. Telework also includes long-distance work arrangements, in which employees work most or all of the time from a different geographic area. ***It is important to note that unless telework is paired with other strategies that reduce, repurpose and release surplus space no cost savings may be achieved by this strategy.***

Occupations and/or functions that require actual physical presence for the full work week are not good candidates for telework, especially those for which there is no technology or procedure change that can substitute for physical presence. These include hands-on jobs such as operating machinery, guard duty, and manual labor in manufacturing and construction.

When is the strategy most useful or applicable?

- broadly applicable to most organizations

- can be used to support most work situations and environments – advances in IT and network security allow even those who work with classified materials to do so remotely

What are the potential benefits of this strategy?

- decreased overall office space if shared space arrangements are implemented as part of the telework program
- reduced energy-related costs due to increased flexibility and reduced space needs
- reduced carbon emissions from reduced commuting
- reduced costs of administrative leave for work stoppage situations
- reduced employee stress, improved overall satisfaction, and more effective work
- improved ability to recruit and retain a high quality workforce

What are the constraints of this strategy?

- Need to manage by results, not by presence. This requires clear expectations for work and how it will be evaluated
- need for training, mentoring and support associated with technologies, communication practices, and work processes
- adequate and secure technological infrastructure that allows teleworkers to access all tools and information required to perform their work
- may require behavioral and cultural change support
- may enable real estate savings by reducing the demand for space but can only effect change when the unused space created is repurposed or released

Strategy: Virtual Workplace

What is it?

Virtual Workplace or virtual offices are work environments in which employees work cooperatively from different locations using a computer network in lieu of any single building or other single central physical location. A virtual workplace is typically a collaborative communications medium such as a computer network, where workers gather electronically to collaborate and carry out work activities. The actual physical locations of the employees working in a virtual workplace can be temporary or permanent and can be anywhere such as their homes, satellite offices, hotel rooms, corporate offices (shared work space), airports, coffee shops, or automobiles.

The virtual office differs from alternative officing and long distance telework in that the virtual workplace has no ‘main office’ physical structure’. The terminology ‘virtual workplace’ as used in this guide should not be confused with ‘virtual offices’ referring to facilities such as temporary executive suites that are rented for specific periods of time as needed.

When is the strategy most useful or applicable?

- organizations in which all of the work can be handled remotely

- Organizations in which all or most of the employees are amenable to full time telework.
- situations where there is an international or other geographically widely dispersed customer service or collaboration need

What are the potential benefits of this strategy?

Virtual workplaces can help an organization achieve nearly all of the benefits cited for telework (see above). Because there is no physical plant or infrastructure, the virtual workplace strategy yields the maximum savings in the following areas:

- reduced physical space and associated cost savings
- reduced energy related costs
- increased return on investment in technology
- reduced travel costs associated with capability of establishing a geographically distributed office in which meetings and other collaboration are handled on-line (via technology as opposed to physical travel)

What are the constraints of this strategy?

In addition to the constraints cited for telework in this guidance, possible virtual workplace constraints include:

- critical need to ensure the adequacy of the technology infrastructure, especially telecommunications
- critical need to ensure effective communications practices as well as opportunities for interpersonal communication, both formal and informal
- Since there is no physical 'front office', it is important to ensure the handling of administrative functions as well as basic needs such as office supplies and procurement. This means that the administrative function must be well trained and capable for remote servicing of staff
- management of a virtual workplace must have the capability and procedures for handling typical management and human resources issues remotely

Conclusion

Alternative workplace strategies aim to optimize the workplace by simultaneously cutting costs, improving space utilization, limiting environmental impacts, and ultimately, creating more effective ways of working.

These strategies will not only rationalize and reduce real estate costs but are compatible with government initiatives such as waste and energy reduction, document management protocols, talent recruitment and retention, and performance management.

The bottom line is that alternative workplace strategies offer an opportunity for deeper cuts because they represent a shift from thinking about occupancy (how many people a building can accommodate if each worker was assigned a specific seat) to utilization (how many people actually use a building or office at any given time).

“Companies are starting to realize that instead of being satisfied that their building is 95% occupied they should instead be worried if it’s only 40% utilized, because people are often out of the office.”
Prentice Knight, former CEO of CoreNet Global.

V. CASE STUDY

Minnesota's New Approach

Minnesota is a state that seems to have brought all these ideas together and developed a system that reflects new workplace design, increased density and emphasized alternative workplace strategies. Minnesota embarked upon a study that was to lead to:

- Development of new space standards that have a better match to the type of work being performed by employees.
- Development of a wider array of options that can be used as standards in order to allow flexibility for workstation types that aligns with work functions.
- Identification of potential cost savings through reduced space needs and improved productivity through the implementation of these standards.

Minnesota discovered through research and surveys that the concept of one workstation equals one employee was not true. The study revealed the workforce is more mobile, more work is being done outside the office and the office has become a place for workers to meet and collaborate on projects. On average, Minnesota discovered that employees spend no more than 50 percent of their workday at their desk. Time is spent in meeting rooms, traveling, or working in remote locations. Meeting rooms or open areas provide the necessary spaces for collaboration and often a remote location is ideal for heads down, focused work time.

Therefore, Minnesota's new approach counts every workstation, conference room seat, and open collaborative space as a "workstation". A "mobile worker" may only spend 4 hours per day, three days a week in the office. Thereby, three different people can now use the same typical workstation within the week, creating a need for "free-address" or "hotelling" workstations. These workstations are not assigned to an individual.

The closed room conference rooms and open collaborative meeting rooms are also used as workspaces for the mobile worker. Because the mobile worker may only come to the office for meetings, the meeting space itself becomes a workspace for that person, and therefore, the mobile worker does not require a typical workstation during that visit.

Technology improvements provide opportunities to re-think the workstation. Flat screen monitors do not require the depth of workstation that the CRT monitors needed and can now be placed on a typical straight work surface. This also allows the employee to be able to orient their view away from the corner where their back has always been against the opening into the workstation.

More work today is done in teams and the ability to easily collaborate with team members has been researched to show increased productivity.

Technology allows workers to be connected via email, VOIP, WebEx, video calls. Therefore collaboration can also occur using technology in conjunction with face to face encounters.

As a result of its study, Minnesota redesigned its standard layouts/ workstations. The typical workstation was 8' x 8'. With the research and survey results, Minnesota developed two types of workstations: "resident workstation" of 6' x 8' and a "free address" workstation of 6' x 6'. With these layouts, Minnesota believes that not only will the "footprint" of the workstation be reduced, but the number of "seats" will be reduced.

For example, its demonstration project in the Centennial Office Building looks like this:

Figure 13 Comparing Existing Office Plan with Proposed Office Plan (41,000 SF)

Existing Plan		Proposed Plan	
Resident Workstations (8' x 8')	162	Resident Workstations (6' x 8')	96
Free Address Workstations	0	Free Address Workstations (6' x 6')	89
Private Office	13	Private Office (10' x 12')	12
Shared Private office	0	Shared Private Office	4
Total Dedicated Office Spaces	175	Total Dedicated Office Spaces	201
		Increase in Office (quantity)	26
		Increase in office (percent)	13 percent
Density per person	234 SF/person	Density per person	204 SF/person
Conference Room seats	125	Conference Room seats	84
Collaborate seats	28	Collaborate seats	94
Total Meeting Spaces	153	Total Meeting Spaces	178
		Increase in meeting space (quantity)	25
		Increase in meeting space (percent)	14 percent
Total Offices + Conference Rooms	328	Total Offices + Conference Rooms	379
		Increase in total seats (quantity)	51
		Increase in total seats (percent)	13.5 percent
Density per person	125 SF/person	Density per person	108 SF/person

Source: Minnesota Department of Administration: *Flexible Work Environments*

Minnesota claims that there is a range of cost savings to be gained through its new approach. Some are tangible in the form of reduced space needs through smaller workstation sizes. Others can be realized indirectly through improved efficiency and productivity. However, it recognizes that it is difficult to quantify these results or to develop conclusive cost savings based on communication and productivity improvements.

A summary of the space reductions based on comparison of existing standards to new standards includes:

Figure 14 Comparison of Standards

Existing Standards	New Standards	Results
Current Workstation 8' x 8' = 64 SF	Resident workstation 6' x 8' = 48 SF	16 SF reduction 25 percent savings
Current Workstation 8' x 8' = 64 SF	Free Address Workstations 6' x 6' = 36 SF	28 SF reduction 44 percent savings (also requires an increase in quantity of meeting space)
Private office space 10' x 12' = 120 SF	Private office space 10' x 12' = 120 SF	0 SF reduction 0 percent savings

Source: Minnesota Department of Administration: *Flexible Work Environments*

The new workstation standards are 25 percent to 44 percent smaller than existing conditions. Building conditions and layout efficiency contribute significantly to overall real estate savings. As demonstrated for the Centennial Office Building, the new approach can yield a projected 13.5 percent increase in total number of people per floor. Conversely, this could result in 13.5 percent decrease in real estate needs.

As shown by the demonstration project at the Centennial Office Building, an overall increase of 13.5 percent in seats was gained by implementing the new standards. Conversely if the total number of workers had remained the same in the project, the reduction in real estate would be:

Figure 15 Hypothetical Real Estate Savings

Existing space Total number of offices and conference seats	328
Proposed space density using new approach	108 SF/person
Hypothetical space needs for 328 people @ 108 SF/person	32,425 SF
Current size of space in Centennial Office Building	41,000 SF
Reduction in real estate needs (quantity)	5,576 SF
Reduction in cost in real estate needs (percent)	13.5 percent

Source: Minnesota Department of Administration: *Flexible Work Environments*

The bottom line is that these new standards have the potential to reduce costs through real estate savings and improve productivity and job satisfaction for employees.