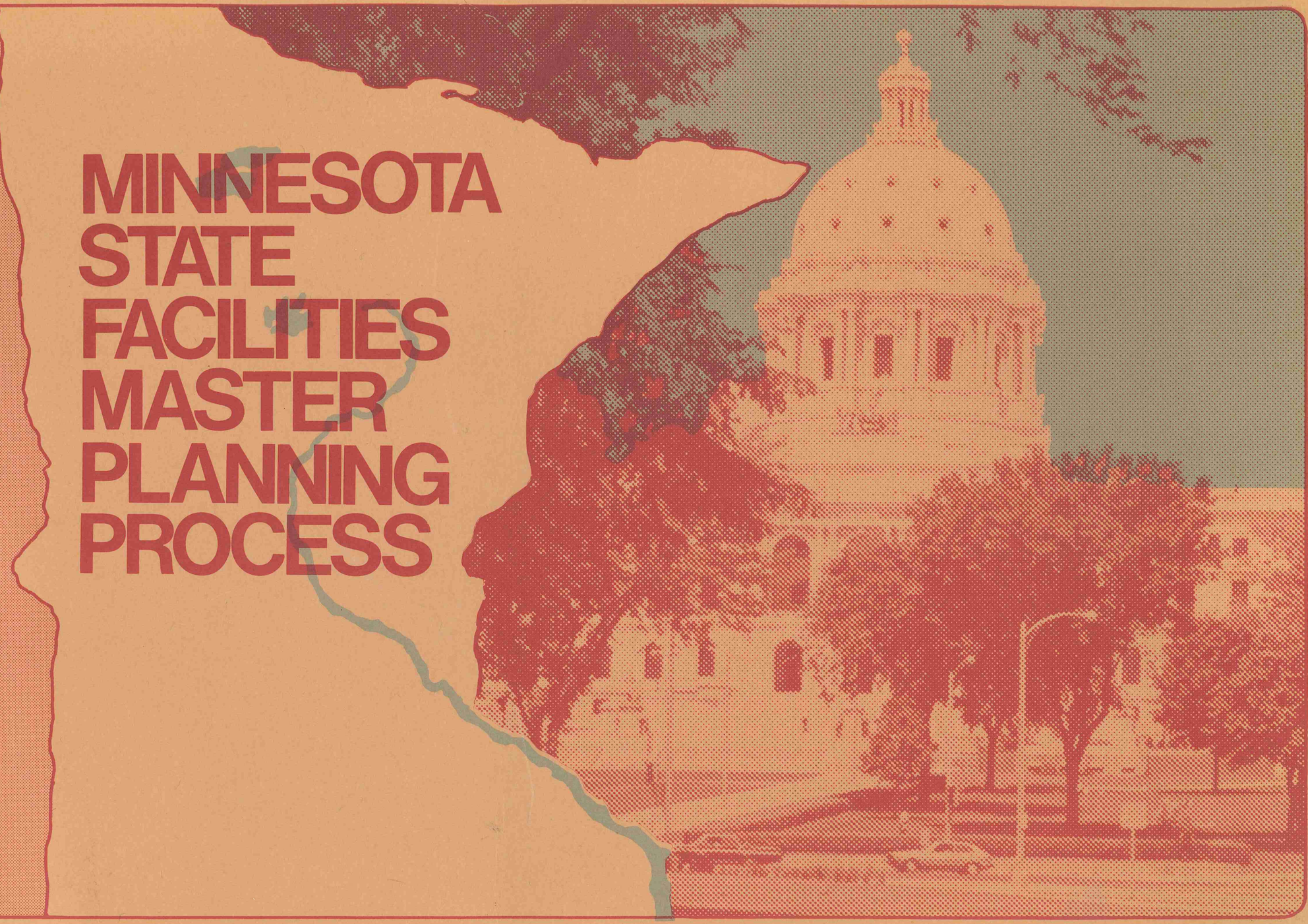
MINNESOTA STATE FACILITIES MASTER PLANNING PROCESS



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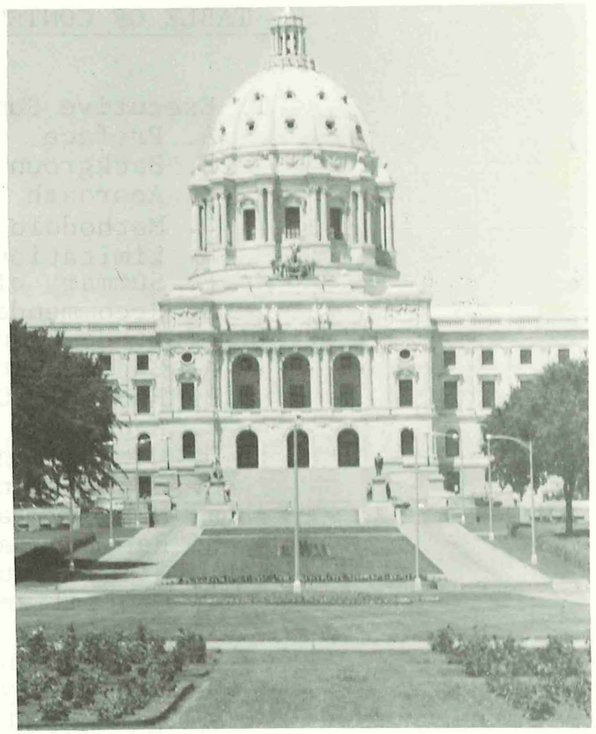
PREPARED FOR:

THE STATE OF MINNESOTA
DEPARTMENT OF ADMINISTRATION



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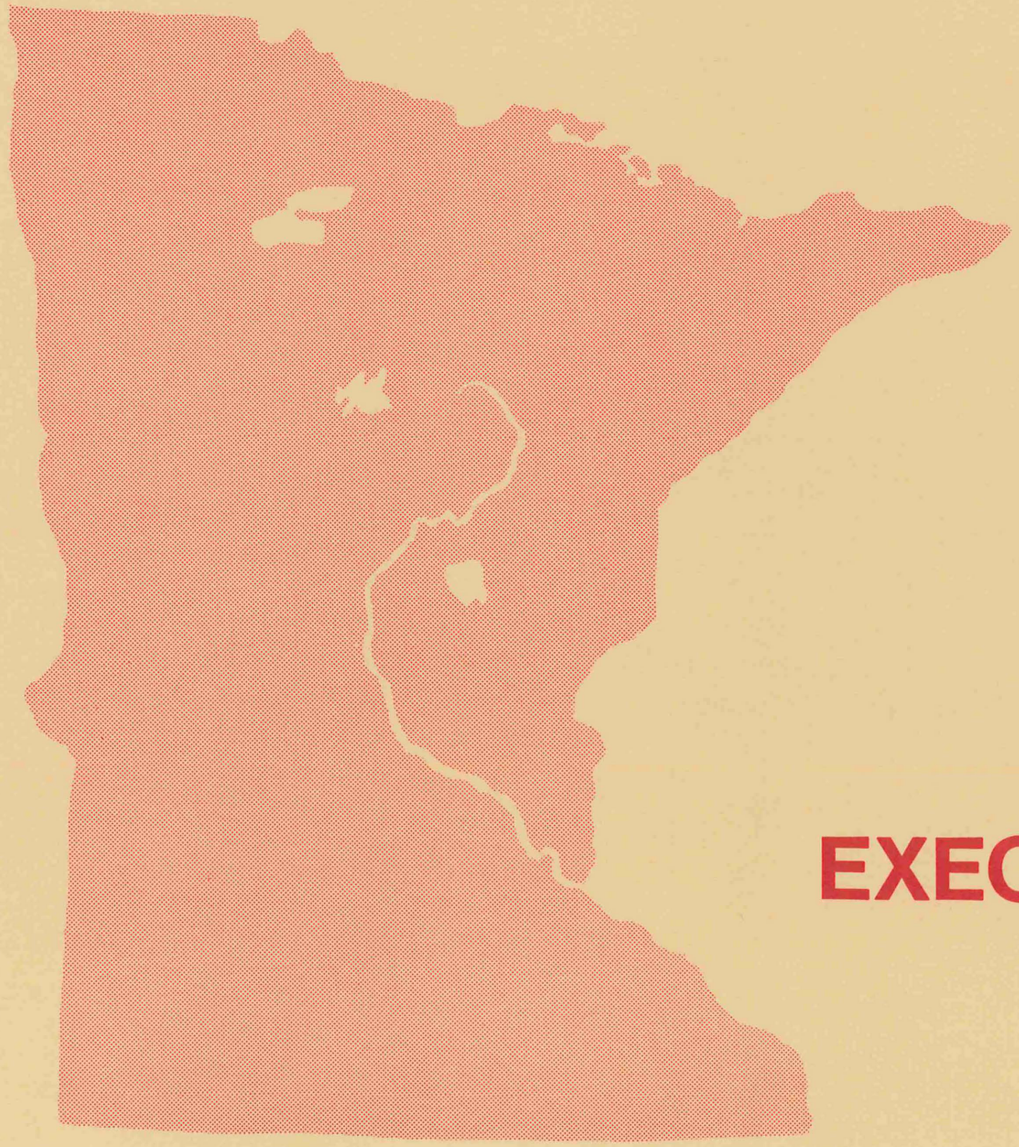


EXECUTIVE SUMMARY

CHAPTER I

EXECUTIVE SUMMARY

A. PREFACE

The purpose of this Executive Summary is to provide the reader with an overview of the "Minnesota State Facilities Master Planning Process." The main body of the document, Chapters IV through X, includes much of the detailed analysis which resulted in the development of the charts, graphics and recommendations contained in this Executive Summary Report. Should the reader desire more detailed information than presented in this Executive Summary, reference to Chapters IV through X is recommended.

B. Background and Objectives

The 1978 Legislature directed the Department of Administration to conduct studies to facilitate planning to satisfy State office space needs. This directive was in part a response to a request for legislative funding to construct a new State office building to lessen the State's current dependence on leased space and to satisfy proximity requirements of the many departments.

Because Capitol Complex facilities were fully occupied in the early 1970's, the State has satisfied needs for additional office space during the last many years by a "passive decentralization" approach to planning. As a result, the State currently leases approximately 500,000 net square feet (NSF) of space in the downtown St. Paul area plus approximately 100,000 NSF in the balance of Ramsey County and the seven county metropolitan area. A decentralization that, while responsive to needs and cost effective, has been re-action as opposed to action oriented.

The State has accounted for approximately one-third of the total downtown office rental space absorption during the last few years. Due to the magnitude of the State's current presence in the St. Paul central business district (CBD) and the fact that State owned property is tax exempt, alternative State long term facility development strategies can impact retail sales, building occupancy rates and property tax revenues. The State recognizes its responsibility to contribute to the economic vitality of the CBD and is sensitive to the economic impacts of alternative facility planning strategies on the community.

Recognizing that no long term plan to satisfy space needs existed, and that fragmentation was continuing, the Legislature mandated this long range facility planning study to satisfy the following primary objectives:

- to provide an analysis of office space needs for the next five years;
- to evaluate the comparative economic advantages to the State of satisfying current and future space requirements through construction, purchase or continued leasing strategies;
- to identify appropriate general locations and cost estimates for required new facilities through year 1990; and
- to identify the economic impacts on the City of St. Paul and Ramsey County of the addition of state office space as a result of employing alternate strategies.

The Consultant, Facility Sciences Corporation of Beverly Hills, California, and Hodne/Stageberg Partners of Minneapolis (hereafter jointly referred to as the Consultant), sought to create a true master planning document which would provide the State with overall planning concepts and development guidelines as appropriate within the Minnesota environment. The objective of the master plan was not to rigidly identify specific building sites, designs or occupancies but rather to provide the State of

Minnesota with alternative directions to proceed to satisfy space needs while retaining an appropriate degree of flexibility to react to future changes in space requirements and staffing levels. Thus, the report is a documentation of alternative strategies and a record of a dynamic planning process as opposed to a static or fixed final plan.

C. Approach

Recognizing that the long term master planning process is a dynamic activity which ultimately affects all space users and may have significant economic ramifications, the Consultant sought to create a realistic and workable facility development plan through a highly interactive process. Utilizing this approach, a number of goal-oriented meetings and interim presentations were conducted with the immediate clients, the Department of Administration, the included space user agencies, and other State representatives. This approach was chosen because it assures that a final report will not be invalid and recommendations unsupported due to the Consultant having operated within an informational vacuum after gathering basic analytical data.

The interactive planning and decision making approach provides three valuable benefits:

- verification of the accuracy of collected and developed data;
- completeness of informational input regarding policy questions and other relevant considerations which are specific to the client; and,
- the credibility and support of recommendations included in the final report because affected space users were a part of the decision process and were provided the opportunity to voice their concerns regarding both the tentative findings and the direction of the study prior to the finalization of conclusions.

A number of conditions affected the direction and findings of this study:

- Study group - The study group included only Executive branch agencies and components of those agencies which are not site specific due to special space configurations or the location of clientele service delivery requirements.
- The "Spine" - If new construction was to be suggested, consideration was to be given to the preference of both the City of St. Paul and the Capitol Area Architectural and Planning Board to locate any new facility within an area bounded by Cedar, University, Jackson and Twelfth Streets.
- Parking/Eating - The State will provide parking and eating facilities for employees as appropriate to the specific geographic areas considered, based on the availability of commercial facilities in the surrounding community. It was recommended by the Consultant that the State should not subsidize employee parking costs associated with new buildings which it may construct or purchase. All parking costs associated with newly-constructed facilities should be assumed on a pro rata basis by all State employees who pay parking charges associated with State owned facilities.
- State Office Building - The State Office Building was specifically excluded from this study because it is reserved for Legislative use and not available for occupancy by Executive branch agencies.
- 4% Staffing Reduction - For future space planning purposes, it was assumed that the Personnel Law of 1979 calling for a 4% reduction of State-funded positions will be implemented and that the reduced staffing level will serve as the bases for developing future staffing projections.

D. Methodology

After the included agencies and buildings were defined, users completed questionnaires which were formulated to address the data requirements for this study. More than one hundred personal interviews, plus numerous telephone interviews were conducted with user agencies in order to clarify questionnaire responses and identify space and proximity requirements. A data base was developed for all major buildings and all State owned and most leased buildings were toured by the Consultant to evaluate their suitability for future occupancy and their potential for improvement of space utilization through cost effective remodeling.

The major analytical steps which followed were:

- inventory and evaluation of existing staff levels and spaces occupied;
- projection of future staffing levels through year 1990;
- identification of future space requirements;
- definition of future space shortfalls through a comparison of future needs to the current space inventory;
- identification and comparison of alternative facility acquisition strategies and locations;
- identification of five alternative facility development plans and the advantages, disadvantages and life cycle costs associated with each;
- selection of three master plan options most suitable for further definition; and
- detailing of occupancy patterns for the three recommended options.

Three highly interactive goal-oriented meetings attended by representatives of major State agencies were conducted. These meetings resulted in defining future staff and space growth parameters to be utilized within the master plan. The sessions also resulted in the identification of site location parameters and optional solutions, including the placement of specific agencies within included facilities.

E. Limitations

As noted, the State Office Building was not considered to be available for occupation by Executive branch agencies. If that building were to become available, it would significantly impact the findings of this report.

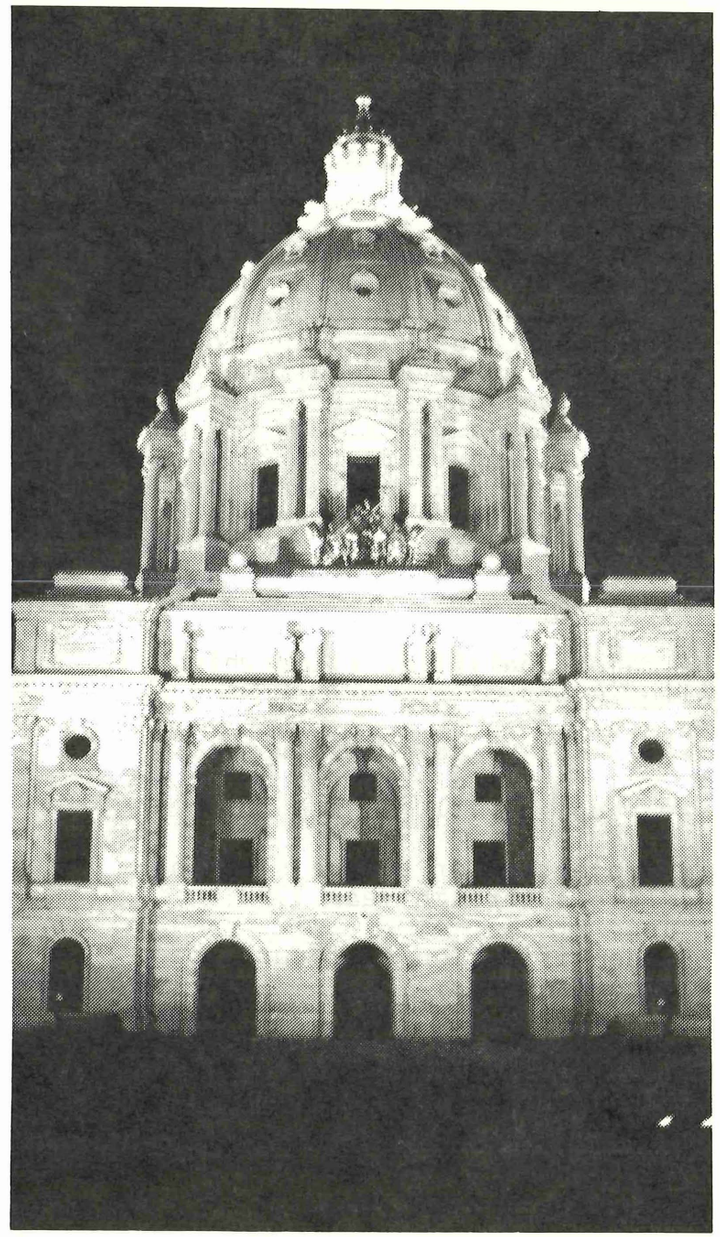
The comprehensiveness of this master plan is necessarily limited due to the exclusion of Legislative and Judicial branch components which have a major impact on the Capitol Complex. This study assumes that, other than the provision of the State Office Building for legislative use, future legislative and judicial space requirements will be status quo and will not affect the findings and recommendations contained herein.

Although the Consultant sought to incorporate accurate descriptions of current and future space requirements by providing preliminary data to space users for their review, individual space identifications may not be in agreement with various source documents for one or more of the following reasons:

- nearly one year transpired between initial data base development and final analysis and moves, remodeling and staff level changes may have occurred;
- users may not have provided correction to inaccurate data; and
- new information may have become available during the year but too late to be incorporated into this study.

This is a master planning document rather than a study intended to result in final identification of individual space requirements. The Consultant is thus confident that relatively small changes in individual space requirements will not impact final recommendations regarding the approximate size, location and method of space acquisition.

Detailed space programs and pre-architectural planning documents must be prepared before initiating a site selection study or commissioning any architectural designs. At that time specifi departmental space assignments can be verified and data included in the report updated and detailed.



F. SUMMARY OF FINDINGS

The development and analysis of the data base plus other relevant information provided the following quantitative findings that formed the basis of subsequent recommendations:

1. Current study group staffing level - 10,178 personnel.

2. Current assignable space inventory - 1,893,198 net square feet (NSF):
   - Buildings occupied - 44
   - Proportion of space leased - 36.1%
   - Proportion of total space located within the Capitol Complex - 53.2%
   - Proportion of all space in the downtown area - 30%

3. Current total net area factor - (NAF equals total net square feet divided by total staff) - 186 NSF

4. The State's lease space has doubled since 1975 and the State has accounted for approximately one-third of the downtown area rental office space absorption in recent years.

5. Historical compound annual growth rates:
   - State population between 1975 and 1979 - .75%
   - Ramsey County State employment staffing growth rate between 1975 and 1979 - 2.68%
   - Study group between 1970 and 1979 growth rate - 1.70%

6. During the 1970's, executive agency staffing within the seven county metropolitan area grew at two to three times the annual growth rate of state population.

7. State population is projected to grow at .65% annually through 1985 and .59% annually from 1985 through 1990.

8. At two to three times the above State population growth rates, employment might be expected to grow at between 1.2% and 1.95% annually through year 1990.

9. Projected staffing growth rates (unadjusted):
   - 1979 to 1985: 1.76%
   - 1979 to 1990: 1.41%

10. Current staff less the "4% reduction" equals 9,878, represents a reduction of 300 employees and provides the "adjusted base".

11. The State leases approximately 11% of available downtown area rental space.

12. Projections based on 1% and 2½% annual growth rates applied to the adjusted base staff level of 9,878:

	1% Rate	2½% Rate
Staff.....	11,002	13,000
Space (NSF)	2,083,838	2,470,000
Net area factor	190	190

13. All existing buildings - except the three small owned Rice Street buildings, which should not be considered because of their size, are suitable for continued occupancy by the State.

14. Current leases are one to two years in length and average $6.50 to $7.00 per square foot of usable space. The Department of Administration is prohibited by law from entering into leases beyond two years.

15. Space is currently generally well managed and lease space costs are below what the same space would cost if provided in new lease space or as a result of new construction. Opportunities do exist, however, for improvement in space utilization efficiency through more extensive use of open office planning and furniture systems as a result of cost effective remodeling.

16. Although a large portion of leased space is in older facilities with some environmental problems (lighting, air distribution), the State's current short lease terms do not encourage landlords to provide appropriate interior improvements. It is not cost effective for the State to invest large sums of money to refurbish leased space.

17. A number of departments are less than optimally located in downtown leased space or are hampered by split operations due to the current space shortage.

18. Neither cost nor operational savings would result from consolidating laboratory activities into one facility. This is due both to the diversity of current activities and facility requirements plus more crucial functional ties between laboratory activities and associated administrative personnel.

19. The numbers of clients visiting more than one department on a particular visit are not so significant to outweigh departmental proximity requirements due to inter-departmental activity and cost considerations.

20. The average employee lives approximately five miles northwest of the Capitol Complex.

21. If all other factors are comparable, leasing becomes uneconomical when compared to new construction if lease rates exceed $7.00 to $8.00 per NSF per year.

22. Based on total life-cycle costs per employee over a thirty year time frame, the following locations and modes of acquisition are the most cost beneficial if economical leases cannot be attained:

    1) Purchase and renovation of an existing building in the downtown area or the balance of St. Paul - life-cycle cost: $25,000 per person.

    2) Construction within Ramsey County but not in the Capitol Complex or downtown St. Paul - life-cycle cost: $35,000 per person.

    3) Construction in the Capitol Complex - life-cycle cost: $37,000.

23. The average downtown area monthly expenditures for parking, lunch, shopping and entertainment are $68 for downtown employees and $23 for Capitol Complex employees.

24. Recommended actions to satisfy State space requirements may result in an annual income loss to landlords of slightly over $100,000. Roughly one half of this amount, however, represents variable costs which would not be an actual cost to the landlords if the space were unoccupied. Offsetting these losses to landlords would be income gains (not profits) of $700,000 to $1,700,000 annually to retailers due to increased spending as compared to the present as a result of increased state employment levels in the CBD and Capitol Complex area in all the recommended options.

25. Based on the potential location of a new facility, pro rata monthly parking costs, if charged only to employees using those facilities, would be: $51 in an urban location, $44 in the Capitol Complex, and $15 in a suburban location. These costs include maintenance plus the amortization of initial construction costs and land value.

26. Space Utilization Improvements of between 10% and 25% can be achieved in a number of State owned facilities. Cost effective remodeling can reduce life-cycle costs, increase occupancy levels, and reduce net area factors from 190 NSF to 165 NSF in upwards of 800,000 NSF of State owned facilities. Similar space utilization improvements can be incorporated into the planning and interior design of new facilities that are to be added to the State space inventory.

27. For every $2 invested in interior remodeling and the procurement of new furniture components or systems that can improve overall space utilization, total present value, life-cycle costs will be reduced by $3. If applied to only one-half of the applicable current State owned space inventory and all new space to be added, a $10,000,000 remodeling and conversion to open office planning investment would reduce present value, life-cycle costs by $15,000,000.

28. The feasibility of utilizing systems furniture is economically justified for a large portion of current State Executive branch administrative employees. Upwards of 3,000 personnel are included in this category.

29. Initial costs to be incurred during calendar years 1980 and 1981 to begin the implementation of one of the three recommended master plan options would necessitate establishing a budget between $14,000,000 and $31,000,000.

30. Total capital costs associated with implementing the entire Phase I will necessitate expenditures through 1986 for the acquisition of land and/or an existing building, the funding of additional programming, planning, and design activities, the procurement of new furniture, the renovation of existing State owned facilities, and the construction of new buildings will require a budget over the next six years of between $50,000,000 and $75,000,000.

G. RECOMMENDATIONS

Based on the analysis of available data and consideration of those subjective factors which are of importance to the State of Minnesota, the Consultant recommends the following:

1. Generally, the State can continue to lease cost effective office space if the lease rate is less than approximately $7.00 - $8.00 per NSF.

2. Leases currently totaling 337,487 NSF should be consolidated into new facilities to provide increased operational efficiency and long term cost savings.

3. Leases totaling 371,398 NSF are appropriate for continuation.

4. The State's long range facility planning strategy should support compound annual growth rates of 1% to 2½% applied to the adjusted staffing base (current employment level less 300 employees due to the "4% reduction" law) of 9,878 personnel.

5. The State should implement plans to provide approximately 2,083,838 NSF of space initially to support a 1% annual growth rate within a context that can expand to 2,470,000 NSF to support a continuing growth or a 2½% growth rate through year 1990 through a phased development approach.

6. In order to satisfy lease consolidations and growth, this level of support would translate into a need for an addition of 530,000 to 910,000 NSF of space by 1990 through a two phase development strategy.

7. The State should be prepared to initiate a third phase of development if staff levels of included agencies should grow beyond 13,000 employees and, although unlikely in the foreseeable future, a fourth phase of development if forecasted staff grows to beyond 17,000 employees.

8. Space utilization should be improved through cost effective remodeling and the conversion to an appropriate degree of open-office planning and the acquisition of furniture systems for partial replacement of existing furniture and to support expansion.

9. If the State fails to attain the required space resources through leasing space at between $7.00 and $8.00 per NSF or less or through cost effective remodeling of existing facilities, it will be necessary to acquire additional space in accordance with the following priority schedule:

   - Priority I - Purchase and renovate a facility in the Capitol Complex or the Central Business District.

   - Priority II - Construct an appropriate sized State owned facility in a close-in suburban area to be occupied by departments who have the lowest need for direct adjacency to the State Capitol Complex and/or special facility needs that can best be accommodated in a suburban location.

   - Priority III - Construct a State owned facility, modular and expandable in nature, on a relatively large site directly adjacent to the Capitol Complex area.

   - Priority IV - Construct a new State owned facility on a high access site on the Spine and mass transit line between the State Capitol Complex and the CBD.

10. Three development options are recommended for consideration - one must be selected by the State

for implementation:

Option One - Option One purchases and renovates an existing facility of approximately 300,000 NSF in the Downtown area as the first component of implementation. The second component of implementation is the construction of a suburban site of 221,405 NSF. When completed, Option One provides 521,405 additional NSF of space.

Option Four - Phase IA of Option Four develops a 302,484 NSF building on a high access site located between the Capitol and the CBD. Primary occupants of this facility include DNR, Public Safety, PCA, Agriculture, an appropriate complement of Attorney General representatives and a series of small boards and commissions. The high access site includes those agencies who were initially thought to have extremely high interaction patterns and common clientele.

Phase IB of Option Four develops a 209,884 NSF facility in the Capitol Complex area. Primary occupants included State Planning, Personnel, Welfare, the Secretary of State, an appropriate complement of Attorney General representatives and a series of small boards and commissions.

When completed, Option Four provides 512,368 additional NSF of space.

Option Five - Phase IA of Option Five changes the combinations of components previously included in other options and initiates with the procurement and renovation of a large existing facility in the Downtown area totaling 300,000 NSF. Primary occupants are identical to those in Option One and include DNR, Welfare, Personnel, PCA, an appropriate complement of Attorney General representatives, and a series of small boards and commissions.

Phase IB of Option Five develops a 218,249 NSF facility adjacent to the Capitol Complex. Primary occupants are the Department of Public Safety, Agriculture, State Planning, the Secretary of State, an appropriate complement of Attorney General representatives and a series of small boards and commissions.

When completed, Option Five provides 518,249 additional NSF of space.

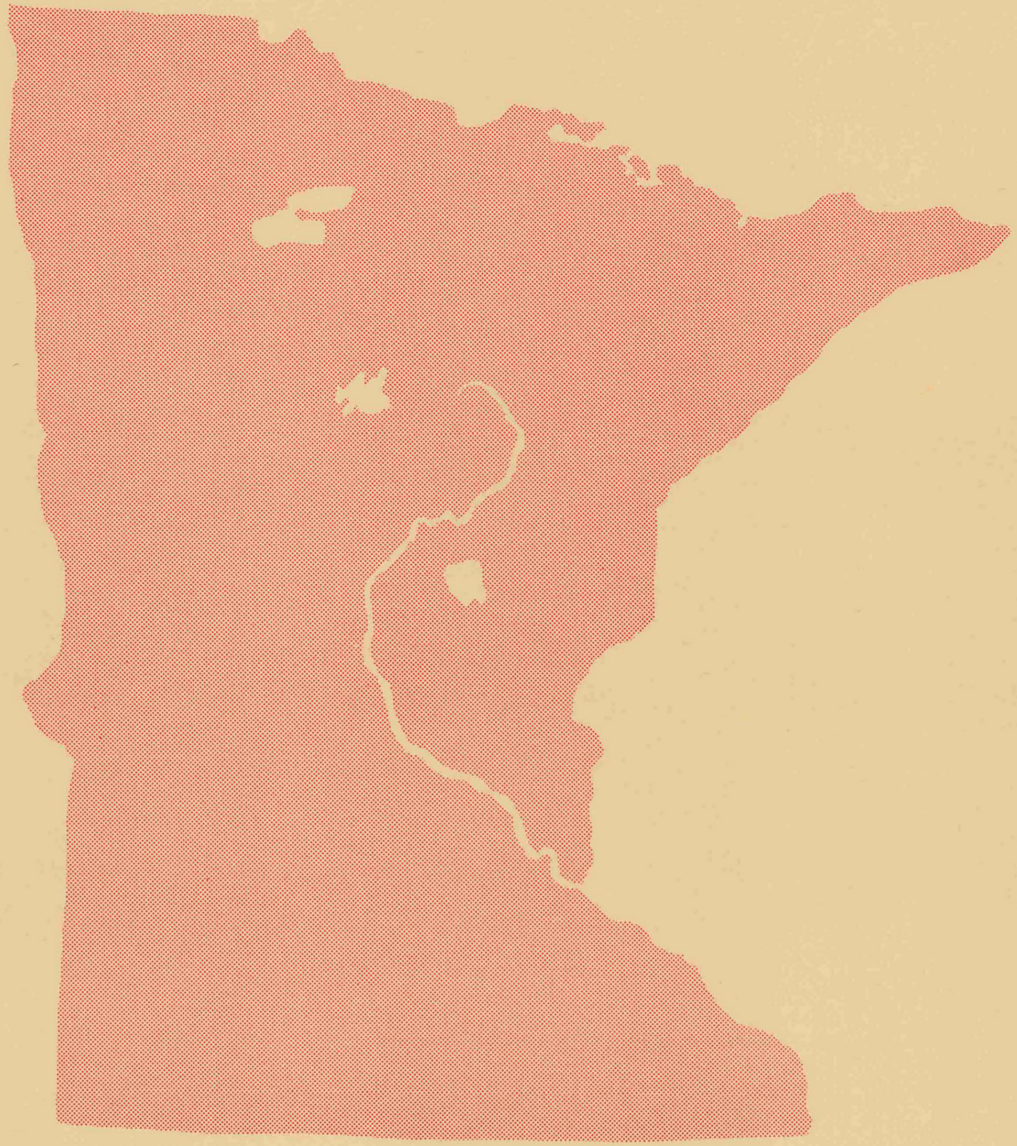
11. The Consultant recommends that the State provide parking spaces in the different locations for the following percentage of employees housed within a new facility: Downtown - 50%, Capitol Complex - 55%, and Suburban - 70%. Pro rata costs should be assumed by the users of all State owned parking facilities rather than being subsidized by the State or the responsibility of only those employees assigned to the new facility.

12. Primary consideration should be given to adopting either Option One or Option Five. The decision should be made on a basis of flexibility, functional needs, and with consideration for economic impacts as opposed to the insignificant cost differences between the two options.

13. A $31,000,000 budget should be established for calendar years 1980 and 1981 to implement initial work for either Option.

14. Remodeling and conversion to furniture systems should be implemented immediately in approximately 400,000 NSF.

15. A continuing space management and long range planning system should be developed along with formats for the development of pre-architectural programs, detailed space programming data, and the selection of highly qualified personnel to assist.



INTRODUCTION

CHAPTER II

INTRODUCTION

A. BACKGROUND

The 1978 Legislature directed the Commissioner of Administration to conduct studies to facilitate planning State office space needs. This directive was in part the result of a request for legislative funding to construct a new State office building to house the Departments of Agriculture, Pollution Control Agency, Natural Resources and other agencies occupying leased space. The Legislature, realizing that no long term plan to satisfy State office space needs existed, mandated this study through legislation which read in part:

> "The Commissioner of Administration shall conduct studies including: a detailed analysis of the office space needs of the State of Minnesota for the next five years; the comparative economic advantages and disadvantages for the State of Minnesota of the construction, purchase or leasing of needed State office space; economic impact of the construction, purchase or leasing of State office space in the City of St. Paul and in Ramsey County; alternative locations and cost estimates for constructing a building or buildings of sufficient size to office the Department of Agriculture, Pollution Control Agency, Natural Resources, and other State agencies presently leasing office space, and provision of adequate laboratory space, and sufficient parking facilities ..."

The State has not built a significant office building in the Capitol Complex area since the Administration Building was constructed in 1967. The Employment Services Building was constructed in the downtown area in 1968 for use by the Department of Economic Security. The last significant addition to the State's office building inventory was in 1971 when the Capitol Square Building was purchased. The State leased significant amounts of space in this building prior to that time.

In 1970, the State occupied approximately 74,000 sq. ft. of leased space in St. Paul excluding that contained within the Capitol Square Building. Because the State experienced significant growth in the number of employees since 1970 and the Capitol Complex facilities were fully occupied, the lack of additional State office space construction resulted in a "passive decentralization" facilities policy which significantly increased the amount of space the State leases in the St. Paul area.

The State currently leases approximately one half million square feet of space in the Downtown St. Paul area plus approximately another one hundred thousand square feet of space throughout Ramsey County and the Metro area. The State has been a significant force in the downtown St. Paul office rental market and has accounted for approximately one third of all office rental space absorption during the past few years.

It is within this context and because the City of St. Paul has a high proportion of tax-exempt properties, which could increase if the State were to own additional property, that the 1978 Legislature requested that the facilities planning analysis include an evaluation of economic impacts on various geographical areas. The following maps illustrate the Capitol Complex, the St. Paul Central Business District and the seven-county Metro area as defined in this study.

The mandating legislation, in calling for the evaluation of a potential building to house the Departments of Agriculture, Pollution Control Agency and Natural Resources, was related to previous actions regarding long range plans to satisfy legislative space requirements. In 1973, funds were appropriated for preparation of a program of legislative space requirements through the year 1990. In late 1975, the Department of Administration was authorized by a joint House and Senate committee to evaluate the potential of the State Office Building for conversion to a legislative office building. In early 1977, a program was prepared to renovate the State Office Building to satisfy those needs and previously encumbered funds were released in 1978 for renovation purposes.

This action, plus a realization that the Department of Agriculture space within the State Office Building was inadequate, required the Legislature to provide for potential Department of Agriculture relocation needs. Additional benefits could accrue to the State by providing alternate housing for the

Pollution Control Agency, currently in relatively expensive leased space in Roseville, consolidating the Department of Natural Resources and satisfying perceived proximity requirements for the three departments due to assumptions concerning significant numbers of common clientele. Noting that a number of agencies, such as Pollution Control, Agriculture, Transportation and Public Safety, within State government have laboratory facilities and that the Department of Transportation laboratory facilities are inadequate, the Legislature sought to provide sufficient laboratory space within any new buildings and, if possible, gain space savings and efficiencies by appropriate consolidation of laboratory facilities.

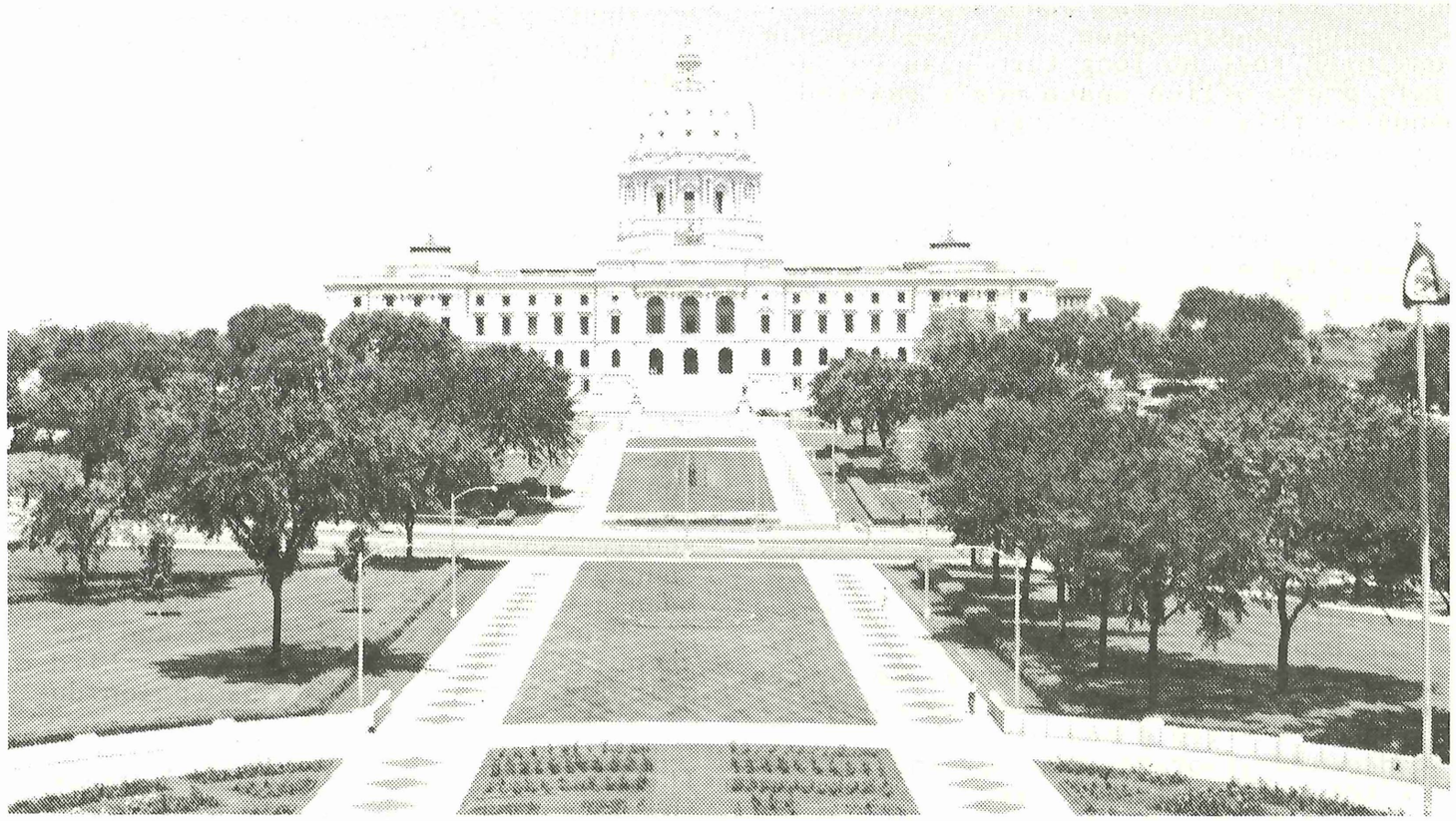
Another significant consideration regarding the analysis and provision of State office space relates to what has for many years been a parking shortage in the Capitol Complex area. For example, the Hiwayan Club comprised primarily of Department of Transportation workers currently rents three hundred parking spaces at the Sears Building.

Further motivation to review the parking situation is the ongoing activity of the Capitol Area Architectural and Planning Board which provided a March 1977 update of its own 1973 report regarding the lack of available State-owned facilities. The CAAPB currently is developing a new general plan for the Capitol Complex. Previous plans have suggested that a number of the main Capitol Complex streets be closed to vehicular traffic. This is an action that would remove a number of existing parking spaces. The CAAPB further recommends that surface parking within the Capitol Complex be minimized and that future parking requirements be satisfied by underground facilities or by parking ramps.

It is within this context that the 1978 Legislature mandated this "Minnesota State Facilities Master Planning Process."

B. PURPOSE, OBJECTIVES AND GENERAL METHODOLOGY

As suggested in the Introduction, the major purpose of this study is to provide the State with a Master Plan and alternative solutions to satisfy future space requirements. This Master Plan is to evaluate the State's most beneficial mode of acquiring additional space, be it continuation of



leases, purchase of existing properties, or construction of new facilities, and to identify future space and locational requirements for each department.

Whereas the mandating legislation discussed an analysis of office space needs for the next five years, a Master Plan, particularly one which considers the construction or purchase of new facilities, necessarily considers a much longer time frame. Rather than provide a static document which could be outdated shortly after its inception, this Master Plan is dynamic in nature and is to include the capability for annually updating projected space needs. As conceived, this Master Plan is to be compatible with current computer systems utilized by the Department of Administration in its monitoring, management and provision of State office space activities. The scope of this study is defined by its component parts. These four parts are defined as follows:

1. Analysis of State office space needs: The primary objective of this component is to assess the State office space needs through fiscal year 1984 and to develop a short term plan for satisfying space requirements through this time frame. Other important objectives are to provide the State with an initial data base, to provide a methodology for five year projections of State office space needs, and to evaluate existing State space standards and suggest revisions where appropriate.

2. Analysis of proximity requirements of State Agencies: This objective is to evaluate proximity requirements of various departments and agencies. Factors to be considered in this analysis include, among others, functional co-ordination, common clientele and public accessibility. This analysis will provide input into the decision making process for the appropriate location of individual agencies.

3. Long term economic advantages and disadvantages of alternative office space strategies: The primary objective is to define the economic advantages and disadvantages of alternative State office space strategies for satisfying space requirements through leasing, purchasing or constructing office space in one of seven Metropolitan Area locations. The result of this economic analysis will serve as the fiscal basis for the State's selection of a long term office space locational strategy.

4. Conclusions, recommendations and cost estimates: The identification of alternative solutions to satisfy future space requirements, the identification of evaluation criteria for selecting among the available office space strategies, and the estimation of associated costs is the objective of this fourth Study component.

C. APPROACH

The approach identified by the Consultant as most beneficial for the development of a realistic and workable Master Plan is a highly interactive one often referred to as a "charette" process. Utilizing this approach, a number of meetings and interim presentations were conducted with the Department of Administration and larger user agencies. This approach, which provides for several validation points throughout the study, yields three valuable benefits:

- Verification of the accuracy of data used in analysis;
- Informational input regarding policy questions and other relevant considerations which are specific to the client; and
- Enhanced credibility and support of the final report because affected user agencies have participated in the decision making process.

This interactive process was of significant value to the Consultant in providing meaningful input into this report. For without the contribution of larger user agencies, the Master Plan presented herein would lack the critical feature of being a Master Plan created by the State in contrast to one merely created for the State.

The scope of this study was initially defined by the State as limited to the analysis of Executive branch office space within the seven country metropolitan area. Furthermore, the study was not to be site specific in terms of particular building characteristics or Executive branch service delivery requirements. The State specifically excluded legislative and judicial agencies from the parameters of this study.

In developing this Master Plan, the Consultant received valuable input from the Capitol Area Architectural and Planning Board in conveying legislative concerns regarding future facility and space requirements.

The approach adopted by the Consultant in developing this facility Master Plan proceeded along the following eight sequential steps:

1. Develop an inventory of current staffing and space allocation patterns;

2. Project future staffing and space requirements through year 1990;

3. Compare projected staffing and space requirements to the current data base to calculate estimated future additional space requirements;

4. Identify space utilization improvement opportunities through cost effective remodeling.

5. Identify and evaluate alternative space acquisition strategies including lease, build or, purchase/renovate alternatives;

6. Analyze alternative space locational strategies;

7. Prepare an economic impact assessment of each space and locational strategy combination; and

8. Prepare final recommendations for the location and form of future space acquisition methodologies.

This report follows this approach from the cateloging of staffing and space requirements in Chapter IV through the presentation of final Master Plan recommendations in Chapter X.

D. METHODOLOGY

The study conducted by the Consultant involved a number of concurrent processes. Initial orientation meetings developed the scope of the study, identified those agencies to be included, and resulted in the selection of the most appropriate methodologies for gathering data. Questionnaires were formulated to address data requirements, including two forms for state agencies plus questionnaires designed to survey the experience of other states. Copies of these questionnaires are included in the appendix to this report under separate cover. The number of interviews required and questionnaire respondents were defined to most effectively group data for analytical purposes. Relevant printed documents and other data were collected and interview schedules established. More than 100 interviews were conducted with State agencies comprising more than 25 employees. These interviews were designed to confirm the Consultant's understanding of questionnaire responses, to view the agency's space and to ask additional questions which might impact future facility requirements. Telephone interviews were conducted with smaller agencies for similar purposes.

After completion of the interview process and review of previous studies, an

initial data base and preliminary findings of projected growth rates, space requirements and adjacency relationships were formulated to identify the magnitude of the potential space problem. Concurrently, buildings were toured by an architectural team to evaluate their suitability for future occupancy and need for potential renovation.

During the initial stages of the study, a list of participants for the "Planning and Decision Sessions," the interactive charettes previously mentioned, was developed. This list was formulated with the intent of gaining the participation of the heads of all major State agencies and other individuals who could provide input for the development of a comprehensive study.

The above mentioned data elements and the results of preliminary analyses were presented at Planning and Decision Session I. Valuable input regarding the accuracy of data gathered, the validity of preliminary conclusions and the identification of areas for further study was gained as a result. This interactive process later included additional Planning and Decision Sessions in October, November and December of 1979. At these sessions the results of preliminary analyses were distributed and areas for further study were identified. This process was effectively utilized to eliminate the possibility of expending time and effort in the analysis of information or concepts which were either not applicable within the specific Minnesota environment or were of such minimal signifance to not warrant further study.

Prototypical building solutions were presented in Session II along with an identification of relevant evaluation criteria. This led to a group consensus on the level of staff growth to be utilized as a planning framework in detailing five optional solutions.

Session III, in which potential future locations of specific agencies and major facilities were presented, resulted in the decision to further detail three of these optional planning solutions. These option details and other elements such as cost estimates and economic impacts are presented in Chapters XIII, IX, and X.

E. ASSUMPTIONS

As indicated above, this study was limited to Executive branch facilities located within the seven county metropolitan area. Identified in Exhibits II.1 - 11.4, pages 15 - 18 are the regions encompassed by the study. Exhibit II.1 details the seven county metropolitan area, Exhibit 11.2 shows the study area excluding the inner and outer Ring Suburbs and Exhibits II.3 and II.4 identify the St. Paul Central Business District and State Capitol Complex respectively.

A number of buildings housing Executive branch agencies were specifically excluded from the study. Some of these buildings are as follows:

- Historical Society - James J. Hill House, Fort Snelling Site,
- Economic Security - Metro Square service delivery location,
- Department of Administration - storage at Gillette Hospital,
- Storage at the William Mitchell College of Law,
- Metro State classroom at 1020 Marquette

EXHIBIT II. 1

SEVEN COUNTY METROPOLITAN AREA

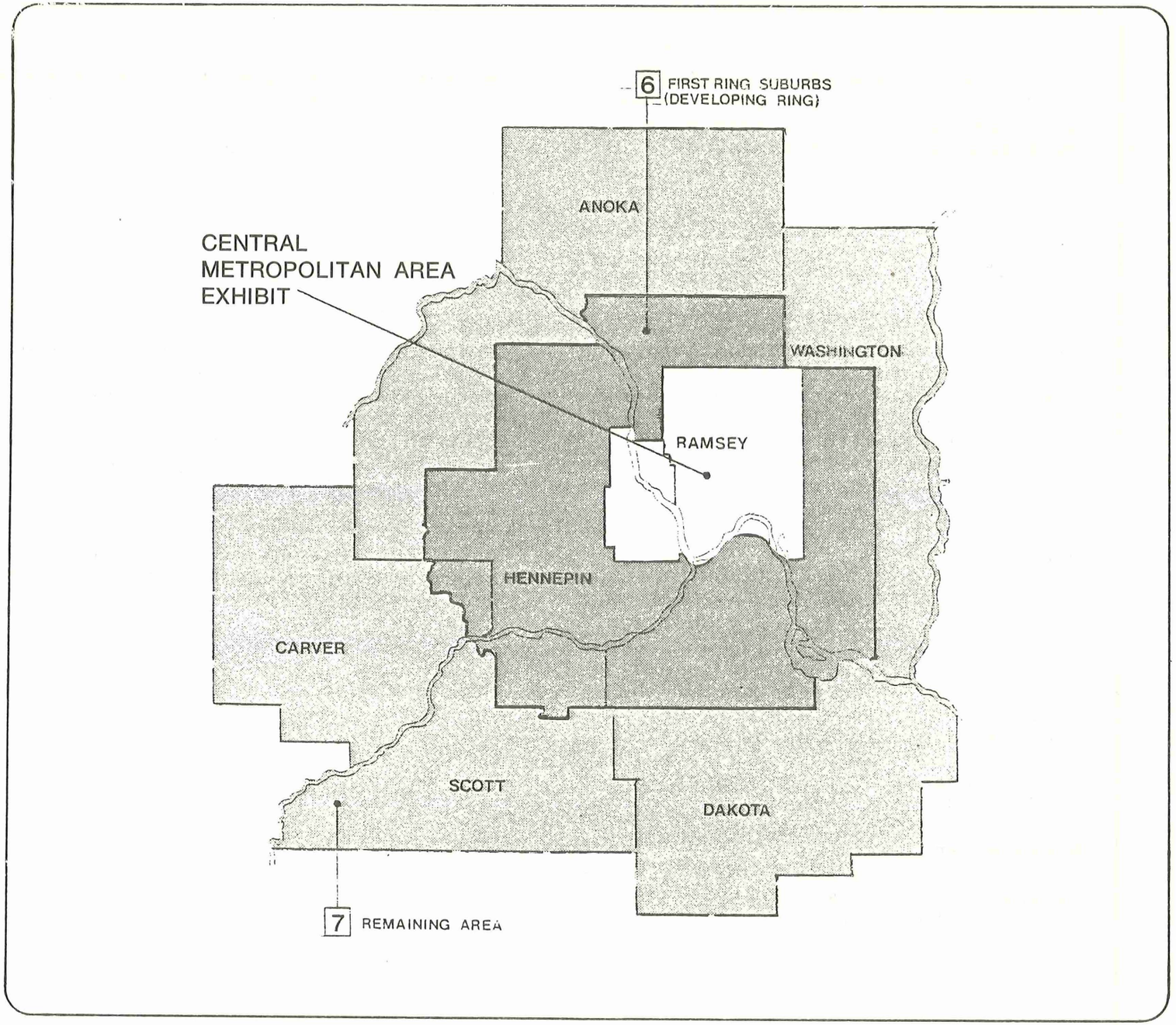
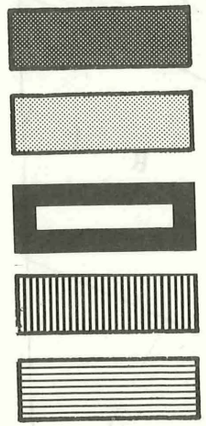


EXHIBIT II. 2

STUDY AREA

The study area is the seven county metropolitan area. As referred to in the text, the seven categories of locations are the Capitol Complex, St. Paul central business district, remainder of St. Paul, remainder of Ramsey County, Minneapolis, first ring suburbs, and the remainder of the seven county metropolitan area. Exhibit II.2 is a close up of the central metro area, the five most central locations of this study.



CAPITOL COMPLEX

ST. PAUL CBD

CITY OF ST. PAUL

BALANCE OF RAMSEY COUNTY

MINNEAPOLIS

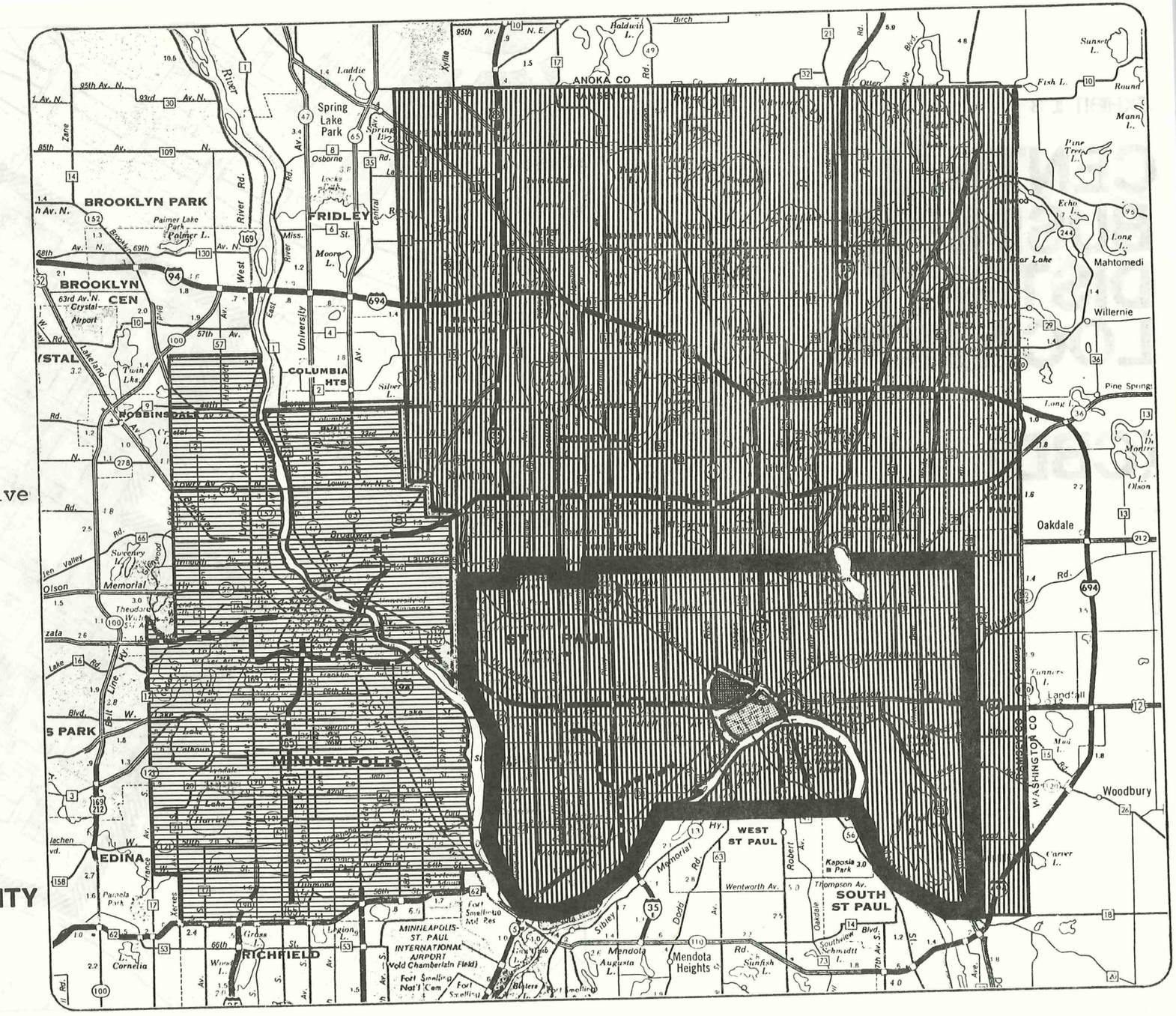


EXHIBIT II. 3

CENTRAL BUSINESS DISTRICT LOCATION

(CBD)

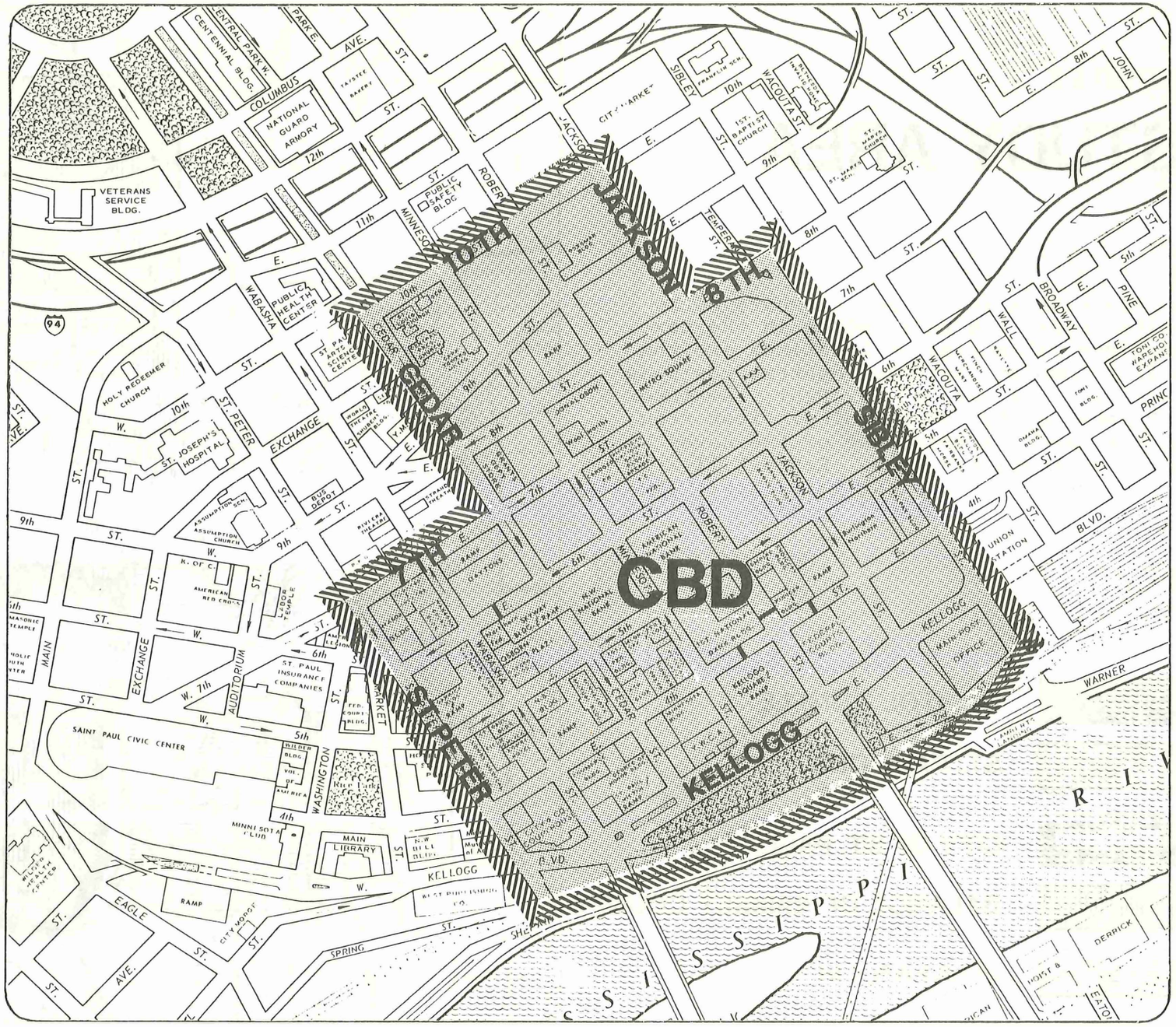
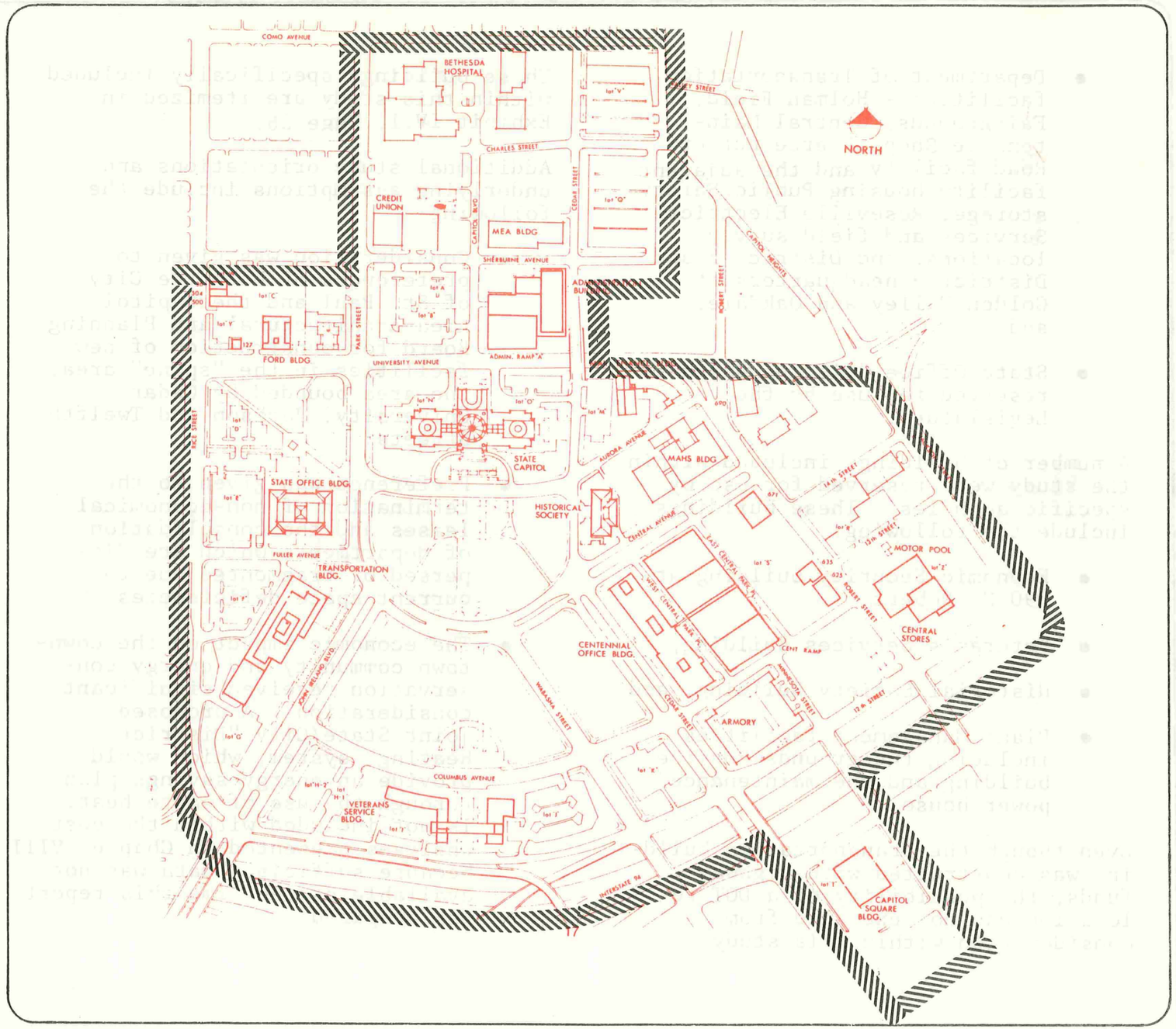


EXHIBIT II. 4

STATE CAPITOL COMPLEX

The State Capitol Complex is located just north of the St. Paul Central Business District and is bordered by Como Avenue on the north, Jackson Street on the east, Interstate 94 on the south (except for the Capitol Square Building which is located just south of Interstate 94 but is included in the State Capitol Complex area), and Rice Street on the west.



- Department of Transportation facilities - Holman Field, Fairgrounds, Central Maintenance Shop, Pierce Butler Road facility and the adjacent facility housing Public Safety storage, Roseville Electrical Services and field survey locations, and District 5 and District 9 headquarters at Golden Valley and Oakdale, and

- State Office Building which is reserved for use by the Legislature.

A number of buildings included within the study were reserved for use by specific agencies. These buildings include the following:

- Economic Security building at 390 N. Robert,

- Veteran's Services Building,

- Historial Society Building, and

- Plant Management facilities including the grounds service building and the maintenance/ power house.

Even though the Transportation building was constructed with highway funds, the possibility of a DOT relocation was not excluded from consideration within this study.

Those buildings specifically included within this study are itemized in Exhibit IV.1, Page 26.

Additional study orientations and underlying assumptions include the following:

- Consideration was given to preferences of both the City of St. Paul and the Capitol Area Architectural and Planning Board for construction of new facilities in the "spine" area, the area bounded by Cedar University, Jackson and Twelfth Streets.

- Preference was given to the termination of non-economical leases and the consolidation of departments which are dispersed or fragmented due to current space deficiencies.

- The economic impact on the downtown community and energy conservation received significant consideration. A proposed joint State/City "District Heating" system, which would provide an energy savings plan through the use of waste heat, is not included within the cost analyses presented in Chapter VIII because sufficient data was not available at the time this report was prepared.

- It is assumed the State will provide appropriate eating and parking facilities for each specific area considered within this report.

- The buildings on Rice Street should not be considered for long term occupation by the State

- The "Capitol Complex Space Inventory," a document published by the Department of Administration in May of 1979, was used as the source occupancy document except where occupancy changes have subsequently occurred. The Department of Transportation conducted an independent study which resulted in more detailed documentation of the space within its building and this data was utilized by the Consultant for analysis purposes.

- Growth rates quoted within the context of this report represent compound annual growth rates.

- Quoted square footages for both leased and owned facilities relate only to those Executive branch agencies included within this study. Therefore, these quantitative identifications may in some instances represent less than the total amount of space occupied by the State in a given building.

F. MASTER PLAN FLEXIBILITY

The facility Master Plan for the State of Minnesota should be viewed as a fluid document with inherent capacity to adjust to future political, socio-economic, and environmental changes. A Master Plan designed to accommodate the uncertainty of the future must not, by necessity, attempt to define and detail staffing and space requirements at the micro level. Rather, it's focus is to present directional guidelines for future space requirements which will enable the State to more effectively and efficiently plan for the continued growth and development of State government.

G. STATE SURVEY

In reviewing this Master Plan, the reader may derive benefit from a review of the experience of other states in the area of space and facility planning and management. To gather this information, the Consultant developed two questionnaires which were sent to each of the 50 states plus the territories of Guam and Puerto Rico. These Planning and Implementation Questionnaires were designed to capture information on how the various states project future government employment levels, how space needs and proximity requirements are identified. The relationship of space management policies and facility master plans to the political decision-making process, and to explore the concepts of centralization and decentralization in state government.

Seven states responded to the Planning Questionnaire, a response rate of 13 percent. Twenty-one states responded to the Implementation Questionnaire, a 40 percent response rate. Analysis of the individual state questionnaires yields the following general observations relative to state government involvement in space and facility planning and management activities.

There is a general trend for state governments to have formal facility master plans and space management policies which are used or at least referred to in the decision-making process relative to implementation of office space projects and the location of employees.

Those states which utilize such plans and policies in the decision-making process also tend to update personnel projections and space requirements on a regular basis, resulting in a general satisfaction with the existing planning process. Those states which do not make decisions relative to office space projects within a planning context express an almost universal dissatisfaction with the result.

For some states, once facility master plans and space management policies are created they tend to become static documents with little meaningful input into the decision-making process. Although intentions may be honorable for the development of comprehensive plans and planning processes, there appears to be a substantial chasm yet to be bridged for the effective transformation of plans into action.

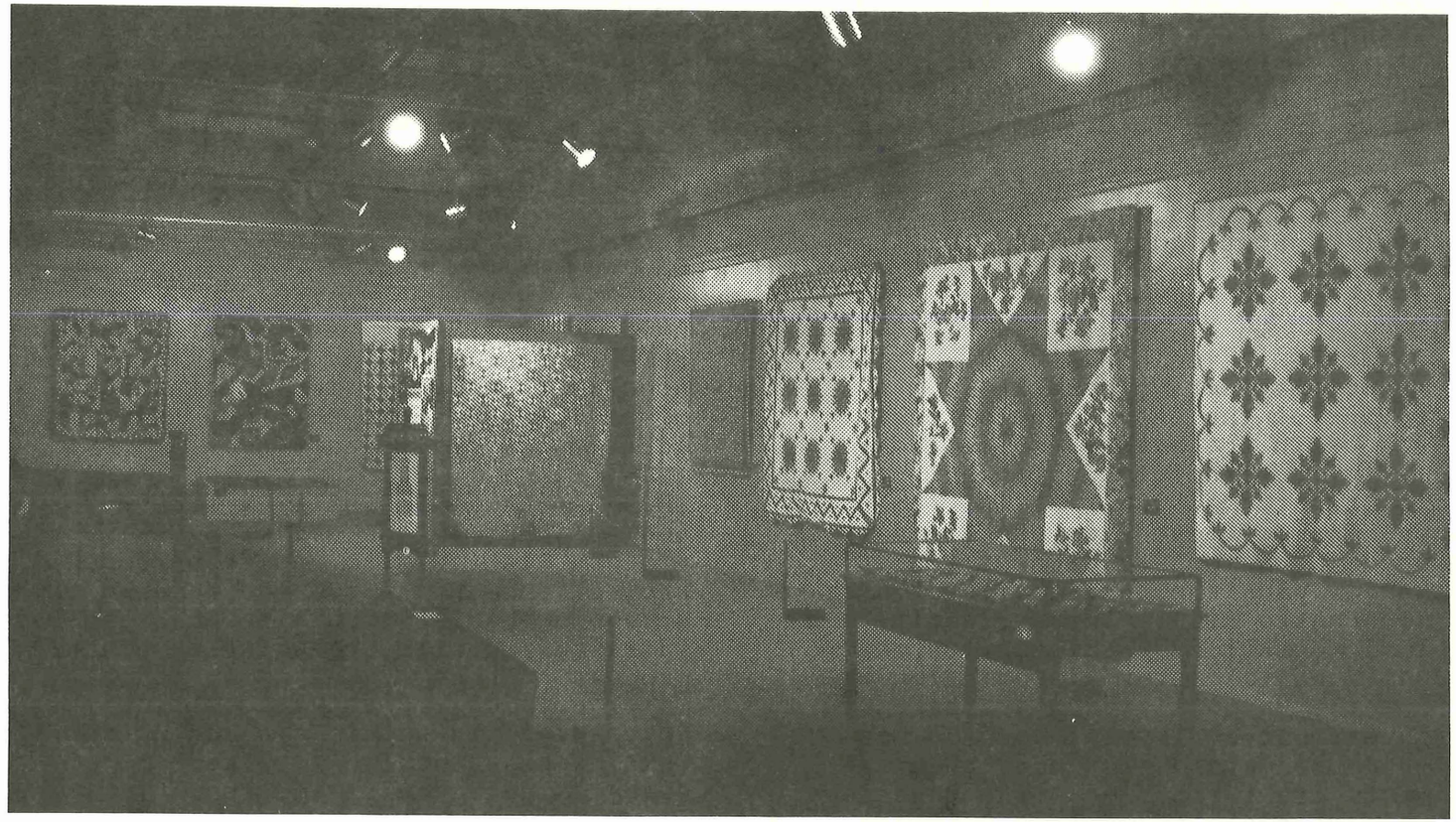
There does not appear to be any primary preference for providing additional office space for central administrative functions through purchase, construction or leasing. However, there is an apparent trend towards leasing because lease space is at times the only feasible alternative until need is sufficient to justify construction or purchase and legislative approval is obtained. Existing space for central administrative functions is primarily in state owned buildings within walking distance of the State Capitol Complex.

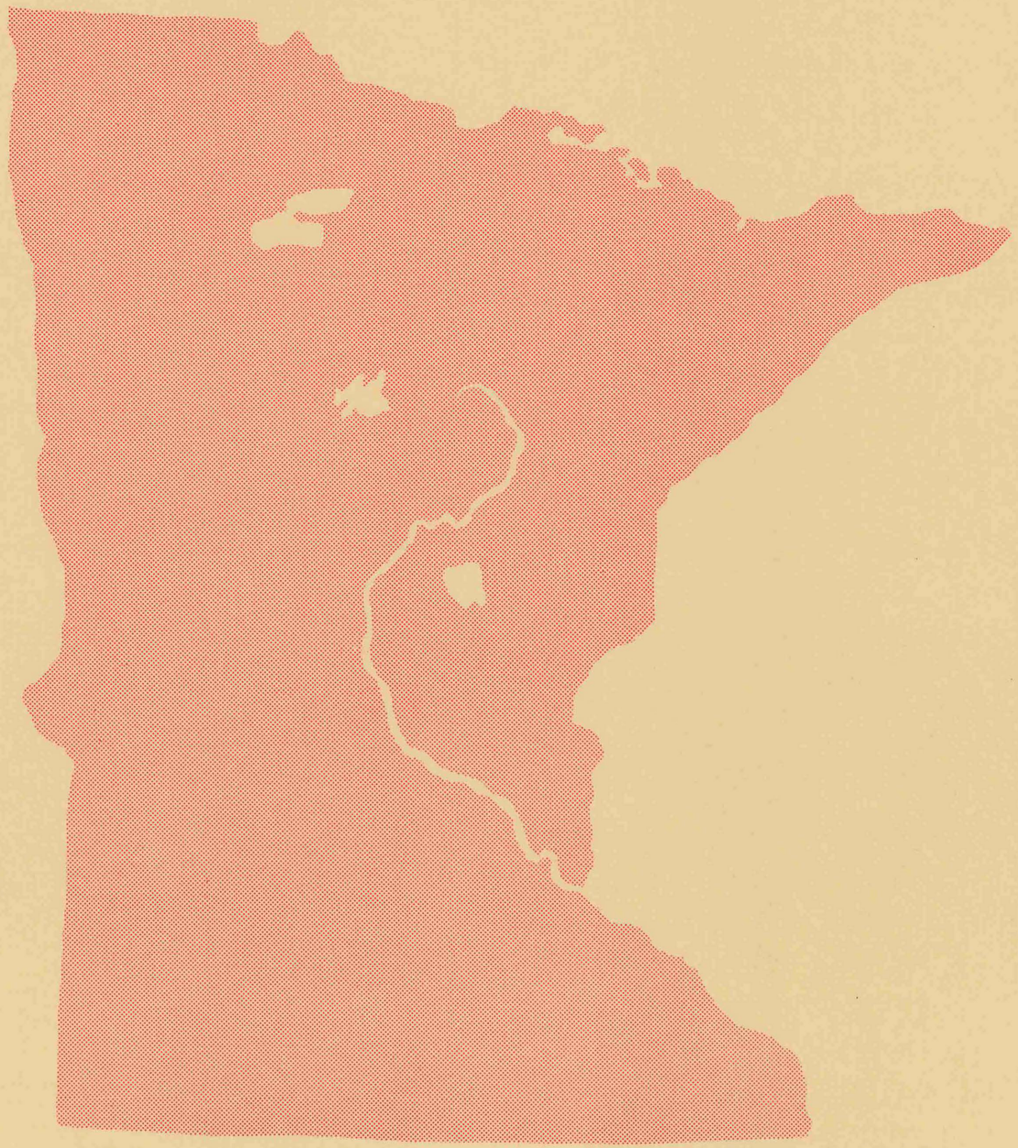
Although most central administrative functions are located within State Capitol Complexes, this is not typically a result of any definite policy with respect to the location of State owned office facilities. For those functions not within a Capitol Complex, the primary reasons for their remote location include the

unavailability of central space, the inappropriateness of locating certain functions in a central urban area, and historical locational patterns.

Major centralization or decentralization of state programs or departments have not typically been implemented. Those states which have undertaken such campaigns have done so on a very selective basis with neither significant success nor failure.

The Planning and Implementation Questionnaires and question-by-question summaries to the responses are included in the appendix to this report under separate cover.





POLICY ISSUES III

CHAPTER III

POLICY ISSUES

This chapter contains a discussion of a number of policy issues which the Consultant considered in data analysis and development of specific recommendations. It should be pointed out, however, that these orientations involve assumptions the Consultant made for planning purposes and do not necessarily represent policies the State of Minnesota has officially adopted.

A. CENTRALIZED LABORATORY FACILITIES

An analysis of the feasibility of centralization of laboratory facilities was conducted within the framework of determining whether sufficient function and facility commonality existed to realize space savings or efficiency improvements through consolidation of inter-agency laboratory facilities. Even though laboratories are not necessarily physically compatible with administrative office spaces, if functional or administrative interfaces suggest that they remain within administrative space, these considerations will for purposes of this analysis, override motivations to consolidate laboratory spaces merely because of their similar physical characterictics.

B. PARKING

An adequate number of parking spaces will be provided to satisfy employee requirements. This determination will be based on physical location of the work place, availability of public transit, carpooling opportunities and a projection of future driving patterns. Future parking requirements, as a percentage of the total number of employees at the work places are, however, assumed to be lower than those currently appropriate in a particular geographical location. In planning for the future, the State of Minnesota should assume that employees will follow the trend towards increased carpooling as currently advocated by the City of St. Paul.

For analysis purposes it is assumed by the Consultant that the State will not subsidize employee parking costs associated with new major buildings which may be constructed or purchased. All costs, including both operation and amortization of initial land and construction, will be borne by employees, and any pro-rata costs resulting from additional parking construction will be distributed equally to all State employees who pay parking charges. Parking is further discussed in Chapter X.

C. AGENCY CONSOLIDATIONS

The Consultant recommends that the State of Minnesota strive for consolidation of State agency space if functional and administrative relationships so suggest and such moves are economically justified based on operational and space utilization efficiencies. Agency consolidation should not necessarily be a goal if the dispersed units are of a relatively autonomous nature. Consolidations are discussed in depth in Chapter VI.

D. COST ANALYSIS

The Consultant recommends that comparative evaluation of the financial ramifications of varying facility and long range planning alternatives is best accomplished by evaluating the per person life-cycle cost basis of each option rather than by comparing either the initial or the total costs of the various options.

E. PUBLIC SCHOOLS

For purposes of this analysis, it is assumed that the State will consider occupation of abandoned public schools by administrative agency personnel if such action would satisfy a combination of factors. The most relevant factors are cost considerations and the ability of a specific site to satisfy functional and intra-agency proximity requirements. With regard to this study, a number of schools have been evaluated and are discussed in Chapter VIII.

No specific schools have been identified as being particularly attractive for potential State occupancy but certain schools, which may or may not be currently available, such as the Sheridan Jr. High School and the South St. Paul Jr. High School, were evaluated to ascertain required renovation and occupancy costs of typical schools. Mechanic Arts High School was evaluated more thoroughly because it is adjacent to the Capitol Complex and is State owned.

F. UNDERGROUND BUILDINGS

Although in the past a design competition was held for a building to be located underground south of the Capitol Building, this type of building is not specifically included within the Master Plan recommendations contained herein - not because it is a valid or invalid proposal, but because that level of specificity is beyond the scope of this study.

G. ENERGY CONSERVATION

The Consultant recommends that the State "lead by example" in the area of energy conservation. It is assumed for this analysis that State facilities will be designed and located with high priority given to internal energy use and employee transit costs associated with a given location.

H. DEVELOPMENT OF THE "SPINE" AND DOWNTOWN ECONOMIC VITALITY

It is recommended that the State carefully consider the potential effects of any facility location plan on the economic vitality of the City of St. Paul and the central business district. The State should recognize the Capitol Area Architectural and Planning Board and City of St. Paul preferences that should the State choose to construct a new building, new construction be within the geographical area known as the "spine" which connects the Capitol Complex to the downtown area.

I. STATE OFFICE BUILDING

This Master Plan is based on the assumption that the State Office Building is not available for occupancy by Executive branch agencies. The State specifically requested this building be excluded from the study because it is reserved exclusively for use by the legislature. Should this assumption be changed, the overall Master Plan options would benefit from reanalysis and new building projects would be reduced in scale.

J. FOOD SERVICE

This report assumes the State will assure that lunchtime meal service is readily available to State employees if large numbers of employees are concentrated within a building, or a complex of buildings, and commercial services are not available. Should the State choose to house employees in a remote facility not within convenient walking distance of full service commercial facilities, it is assumed the State will provide full service cafeterias. In less remote facilities, the State could provide small cafeterias serving hot dishes such as soup and sandwiches. This is similar to the facility currently contained within the Administration building. In a downtown location, where commercial food service is readily available, the State would need to only provide facilities such as vending machines for quick and minimal meal service.

The Consultant assumes the State, in providing food service facilities, will provide space and equipment but will not further subsidize employee meals. While the State should not attempt to be competitive with existing commercial food service establishments, it would be recognizing a responsibility to provide lunchtime dining facilities when they do not conveniently exist.

K. SEASONAL/TEMPORARY WORK STATIONS

It is assumed for purposes of this analysis that work stations for seasonal or temporary employees will be provided by the State, if required. Unless functional requirements suggest otherwise these work stations can be shared.

L. CONFERENCE SPACE

Conference and hearing space will be provided as required. Where possible, conference facilities should be shared by departments located within reasonable proximity to one another.

M. WORK STATION STANDARDS AND FURNITURE SYSTEMS

The Consultant recommends the State apply work station standards, including the provision of appropriate furniture systems, to maximize functional efficiency in light of life-cycle cost considerations. This subject is further discussed in Chapter VII.

N. ATTORNEY GENERAL CONSOLIDATION

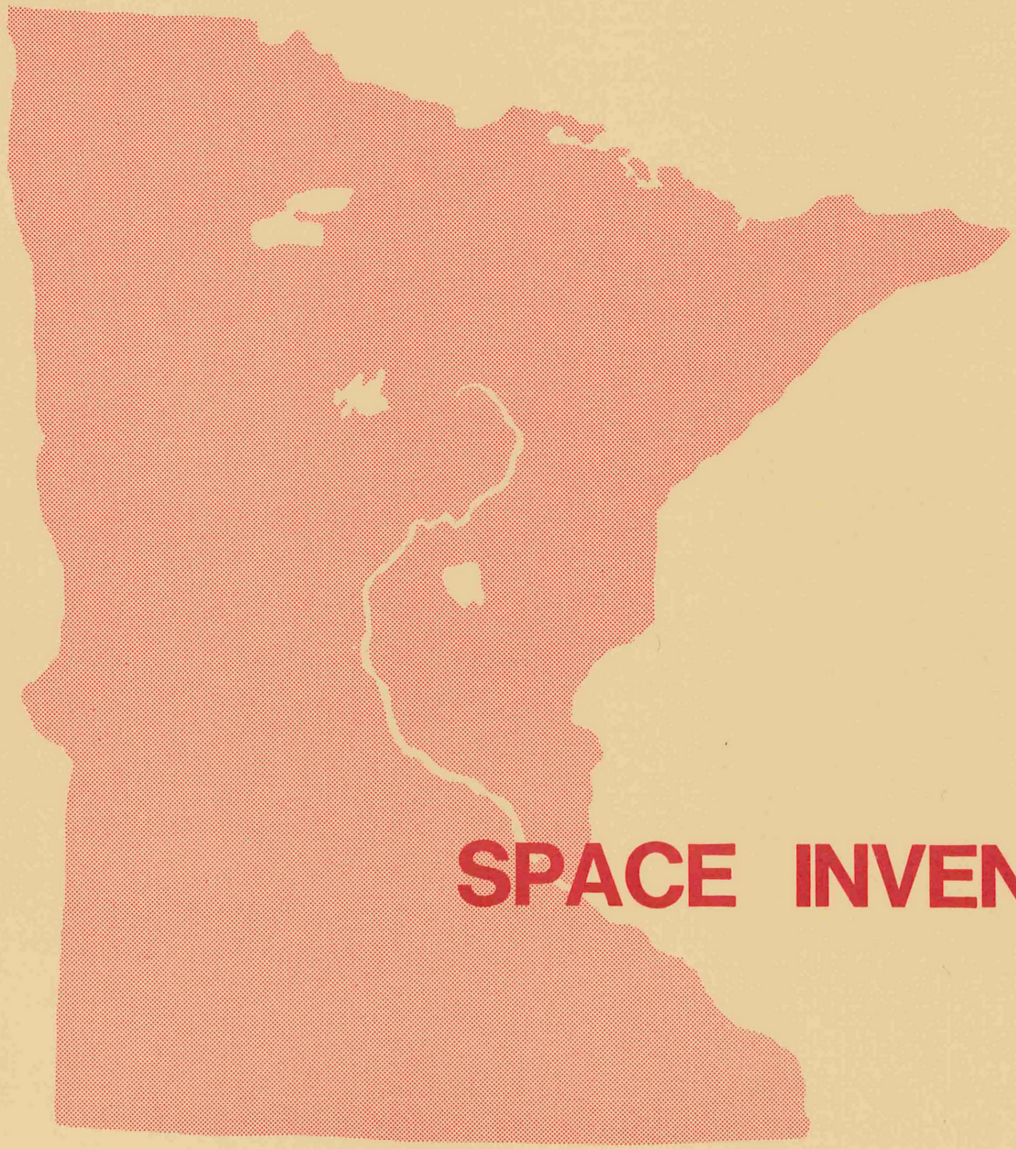
This Master Plan has been developed taking into consideration a number of potential Attorney General locations. Should the Attorney General decide at some future date to totally consolidate its functions, this decision would necessarily have a significant impact on the Master Plan recommendations contained herein.

O. 4% STAFFING REDUCTION

As discussed in Chapter V of this report, it is assumed for space planning purposes that the Personnel Law of 1979, calling for a 4% reduction of state funded positions, will be implemented. This reduction is incorporated into staff projections developed in Chapter V.

P. RECORDS RETENTION

This Master Plan does not assume any further consolidation of records retention functions. Currently the Department of Administration Records Center serves approximately one third of all Executive branch agencies. Major records storage facilities are also maintained by the Departments of Transportation, Public Safety, and Revenue.



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SPACE INVENTORY ANALYSIS IV

CHAPTER IV

SPACE INVENTORY ANALYSIS

This Chapter presents an analysis of State occupied space within the seven county area. The data discussed relates primarily to the objective characteristics of State occupied space. For example, how much space does the State occupy? Of this total space how much is State owned and how much is leased? What are average lease rates? What are the existing per person new area occupancy factors? Following this descriptive analysis, the qualitative or efficiency features of State occupied space is discussed in considerable detail.

A. SPACE INVENTORY AND ALLOCATION

State Owned Space

Currently, the State of Minnesota occupies 1,248,270 NSF in 21 locations throughout the seven county area. This total space is represented in Exhibit IV.1, Page 26 , and can be divided into three general locations:

- Capitol Complex area,
- Greater Metropolitan area, including the City of Minneapolis and
- Remaining Ramsey County areas

The Capitol Complex area is defined as that area bordered by Como Avenue on the north, Jackson Street on the east, Interstate 94 on the south,but including the Capitol Square Building located just south of Interstate 94 between Minnesota and Cedar Streets and Rice Street on the west. (Exhibit 11.4, Page 18). This area contains 1,003,502 NSF of State office space located in eighteen facilities and represents approximately 80% of total State owned space. Within the Metropolitan area the State occupies 112,430 NSF in the Health Building on the University of Minnesota campus, approximately 9% of State owned space, and the State occupies 132,338 NSF, or 11% of total State owned space, in the balance of Ramsey County. The summary of all leased and owned space is reflected in Exhibit IV.2, Page 29&30.

The Capitol Complex Area has the highest concentration of the major buildings. These buildings include the Transportation Building with approximately 250,000 NSF, the Centennial Building with about 240,000 NSF and the Capitol Square Building with about 175,000 NSF. Exhibit IV.1 summarizes the net space, excluding footage not included within this study, currently available in each of the major facilities inventoried.

Within the remainder of Ramsey County, the 132,338 NSF owned is comprised of the total space at 1246 University Avenue, occupied by the Department of Public Safety, and 1500 Mississippi Avenue, occupied by the Historical Society. As previously mentioned, all 112,430 NSF within the Metropolitan Area is the Health Building.

LEASED SPACE

The State currently occupies 706,645 NSF of leased space within the seven county area. This space is located in 23 separate buildings within four general areas. The St. Paul central business district houses the majority of leased space - 587,019 NSF or 83% of the total. Major central business district buildings include the American Center Building with approximately 87,000 NSF of State occupied space, the Metro Square Building with roughly 107,000 NSF and 390 North Robert with over 94,000 NSF. The Economic Security Building at 390 North Robert is not technically leased as it is operationally Federally funded space under State ownership. For purposes of the study, however, this space is classified as leased space.

Leased space within the Capitol Complex amounts to 35,673 NSF in three buildings, comprising 5% of total leased space. The remainder of Ramsey County includes 66,459 NSF or 9% of the total, and the Metropolitan area has 17,494 NSF or the remaining 2% of total leased space. Exhibit IV.3, Page 31, portrays lease rates and total lease costs of selected leases. As noted in this Exhibit, the average lease rate is $6.80 per NSF.

EXHIBIT IV.1

OWNED AND LEASED SPACE BY GEOGRAPHICAL AREA

CAPITOL COMPLEX

Building No.	Building Name/Location	NET SQUARE FEET Leased	NET SQUARE FEET Owned
1	Administration, 50 Sherburne		54,552
7	127 University Avenue		3,355
8	Capitol Building, Aurora Avenue		19,745
9	Capitol Square Building, 550 Cedar Ave.		174,819
10	Centennial Building, 658 Cedar		239,194
12	Champion, 610 N. Robert		35,858
13	DNR License Center, 625 N. Robert		4,814
14	Ford Building, 117 University Ave.		42,553
16	Grounds Services, 635 N. Robert		7,290
21	Historical Society Building, 690 Cedar Ave.		68,408
22	IBM Building, 690 N. Robert	21,821	
23	Maintenance/Power House - 9, 11 E. Aurora		24,619
24	Materials Management, 671 N. Robert		9,302
25	MEA Building, 55 Sherburne	6,352	
4	State Office Building, Fuller Avenue		20,149
32	Transportation, John Ireland Blvd.		248,802
33	Transportation Annex, 461 Rice	7,500	
34	Veterans Building, 20 W. 12th St.		40.039
38	500 Rice Street		3,857
39	504/506 Rice Street		4,406
40	505 Park Street		1,740
	SUBTOTAL	35.673	1,003,502

TOTAL SPACE IN CAPITOL COMPLEX 1,039,175

EXHIBIT IV. 1

OWNED AND LEASED SPACE BY GEOGRAPHICAL AREA

ST. PAUL CBD AREA

Building No.	Building Name/Location	NET SQUARE FEET Leased	Owned
2	Agriculture Building, Plato & Wabasha	64,000	
3	American Center Building, 160 E. Kellogg Blvd.	86,879	
5	Bremer Building, 419 Robert	14,590	
17	Hamm Building, 408 St. Peter	1,200	
18	Hanover Building, 480 Cedar Avenue	20,368	
26	Metro Square Building, 7th and Robert	106,947	
27	Nalpak Building, 333 Sibley	68,290	
30	Space Center Building, 444 Lafayette	126,013	
36	200 South Robert (Minnesota State Bank)	2,381	
37	390 North Robert	94,199	
41	555 Wabasha - Hillcrest Bldg.	1,312	
29	Rossmor Building, 500 North Robert	840	
	SUBTOTAL SPACE IN CBD	587,019	
	CUMULATIVE TOTAL SPACE IN CAPITOL COMPLEX/CBD...	622,692	1,003,502
RAMSEY COUNTY			
53	1843 W. County Road C	4,800	
6	Buetow Building, PCA	39,293	
15	Griggs Midway, 1821 University	3,322	
28	Produce State Bank Building, 521-529 Jackson	11.088	
46	1246 University		62,338
47	1266-1276 University	7,956	
48	1500 Mississippi		70,000
	SUBTOTAL SPACE IN RAMSEY COUNTY	66,459	132,338
	CUMULATIVE TOTAL SPACE IN RAMSEY COUNTY	689,151	1,135,840

EXHIBIT IV. 1

OWNED AND LEASED SPACE BY GEOGRAPHICAL AREA

METRO AREA

Building No.	Building Name/Location	NET SQUARE FEET Leased	NET SQUARE FEET Owned
19	Health Building, 717 Delaware		112,430
20	Hennepin Square Building, 2021 Hennepin	2,200	
44	1015 Currie Avenue	8,760	
52	2829 University Avenue	6,534	
	SUBTOTAL SPACE OUT OF RAMSEY COUNTY	17,494	112,430
	TOTAL SPACE OCCUPIED	706,645	1,248,270
	GRAND TOTAL LEASED & OWNED SPACE IN STUDY	1,954,915 (1)	

(1) Total includes approximately 61,717 NSF support, cafeteria, janitorial, etc. (3.2%)

EXHIBIT IV. 2

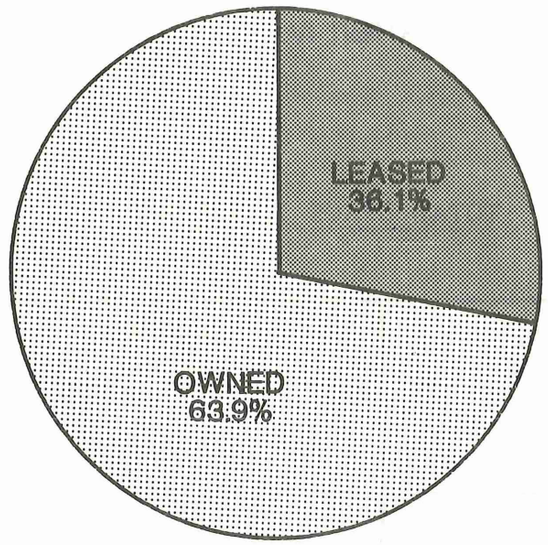
TOTAL SPACE INVENTORY

Location	OWNED			LEASED			TOTAL		
	No. of Bldgs	Net Square Footage	% of Total	No. of Bldgs	Net Square Footage	% of Total	No. of Bldgs	Net Square Footage	% of Total
Capitol Complex	18	1,003,502	51.3	3	35,673	1.8	21	1,039,175	53.2
St. Paul CBD	-	-	-	12	587,019	30.0	12	587,019	30.0
Remaining Ramsey County	2	132,338	6.7	5	66,459	3.4	7	198,797	10.2
Remaining Metropolitan Area	1	112,430	5.8	3	17,494	0.9	4	129,924	6.6
SUBTOTALS	21	1,248,270	63.9	23	706,645	36.1	44	1,954,915	100.0

EXHIBIT IV. 2

STUDY GROUP SPACE INVENTORY

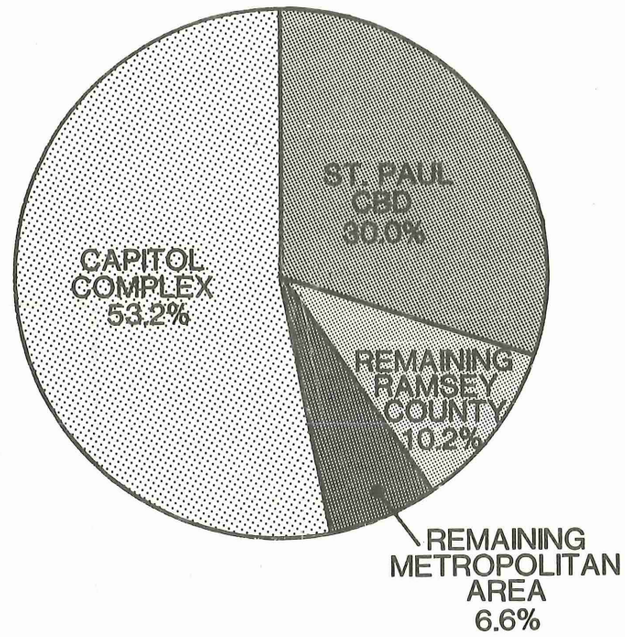
A profile of typical space would show a majority of State occupied space as owned and located within the Capitol Complex. As seen in Exhibit IV.2, that is indeed the case. The second most prolific type space, again detailed in Exhibit IV.2, is leased space located within the St. Paul Central Business District.



TOTAL OWNED AND LEASED

OWNED: 1,248,270 NSF

LEASED: 706,645 NSF



LOCATIONAL PERCENTAGES

CAPITOL COMPLEX:	1,039,175 NSF
ST. PAUL CBD:	587,019 NSF
REMAINING RAMSEY COUNTY:	198,797 NSF
REMAINING METROPOLITAN AREA:	129,924 NSF

Space Summary

In summary, while the total number of buildings are almost evenly divided between owned and leased, 21 versus 23, the State occupies 64% or 1,248,270 NSF of its total space in State owned property and 36% or 706,645 NSF in leased space, (see Exhibit IV.2, page 29). In total, the State occupies 1,954,915 NSF in 44 buildings.

State owned space in the Capitol Complex, 1,003,502 NSF, accounts for 51.3% of all State occupied space. The Metropolotian and remaining Ramsey County areas together comprise 12.5% of the total State owned space.

Leased space, totalling 706,645 NSF, accounts for 36.1% of the total space inventory. The majority of this leased space, 587,019 NSF or 83% of the total, is located in the St. Paul central business district. The typical lease is for one or two years at a cost of $6.50 to $7.00 per square foot. It should be noted at this point that, with the exception of the five year Agriculture lease, State law limits leases to a maximum of two years.

EXHIBIT IV. 3

SAMPLE LEASE DATA SUMMARY

Agency/Location	Square Feet Leased	Term of Lease		Annual Cost of Space	
				Per Sq.Ft.	Total Cost
DNR/Space Center	6,400	2 years	11/30/81	$6.36	$40,704.00
DNR/Space Center	4,145	2 years	10/31/81	$6.36	$26,362.20
PCA/Buetow Building	44,436	1 year	10/31/80	$8.14	$361,600.08
Econ. Secur./Space Center	1,323	1 year	8/31/80	$6.10	$8,070.30
Agriculture/Agriculture Building	64,000	5 years	6/30/85	$8.06	$515,840.00
Corrections/Metro Square	18,086	2 years	9/15/80	$5.75	$103,995.40
TOTAL AVERAGE LEASE COST (per square foot)				$6.80	

B. SPACE UTILIZATION

A detailed analysis of existing space was conducted in three modes: quantity, quality and location. Quantity was viewed in terms of office and special area space actual square footage. Quality was determined by actual physical conditions as well as an analysis of the efficiency of specific buildings. These three modes of analysis were conducted by Consultant tours of existing space, efficiency analysis of space utilization, and continuous occupancy analysis of State owned property.

During the early stages of the study, the Consultant toured major State owned and leased space in the seven county area. The Consultant then developed detailed area factors, the net area occupied by the average employee. The Consultant identified those excessively restrictive spaces requiring expansion for maximum efficiency, and those over-allocated spaces for which contraction would be appropriate. Net area factors were adjusted to compensate for any inefficient allocation of available space.

Exhibit IV.4, Page 33 , illustrates current staffing, space, and area factors for individual departments or departmental groupings. As discussed in Chapter V, in preparing space projections for the year 1985 adjustments were made in some instances to compensate for the inclusion of special areas and other atypical space within those departments and also for existing space utilization inefficiencies. For example, space tours by the Consultant resulted in the realization that the Departments of Labor & Industry and Public Safety were "tight." Extra square footage was therefore added to the existing inventory before projections were made. Conversely, for the Department of Commerce, where space allocation was excessive, a reduction of approximately 20% was applied to provide a more efficient fit between occupants and required space.

Analysis of the 1,954,915 NSF existing State owned and leased building inventory indicates the current staff allocated to those spaces occupies an average of approximately 192 NSF per person. Deleting miscellaneous spaces such as cafeterias and common areas not assigned to a department, results in an-adjusted space inventory of 1,893,198 assignable NSF. This represents 186 NSF per person.

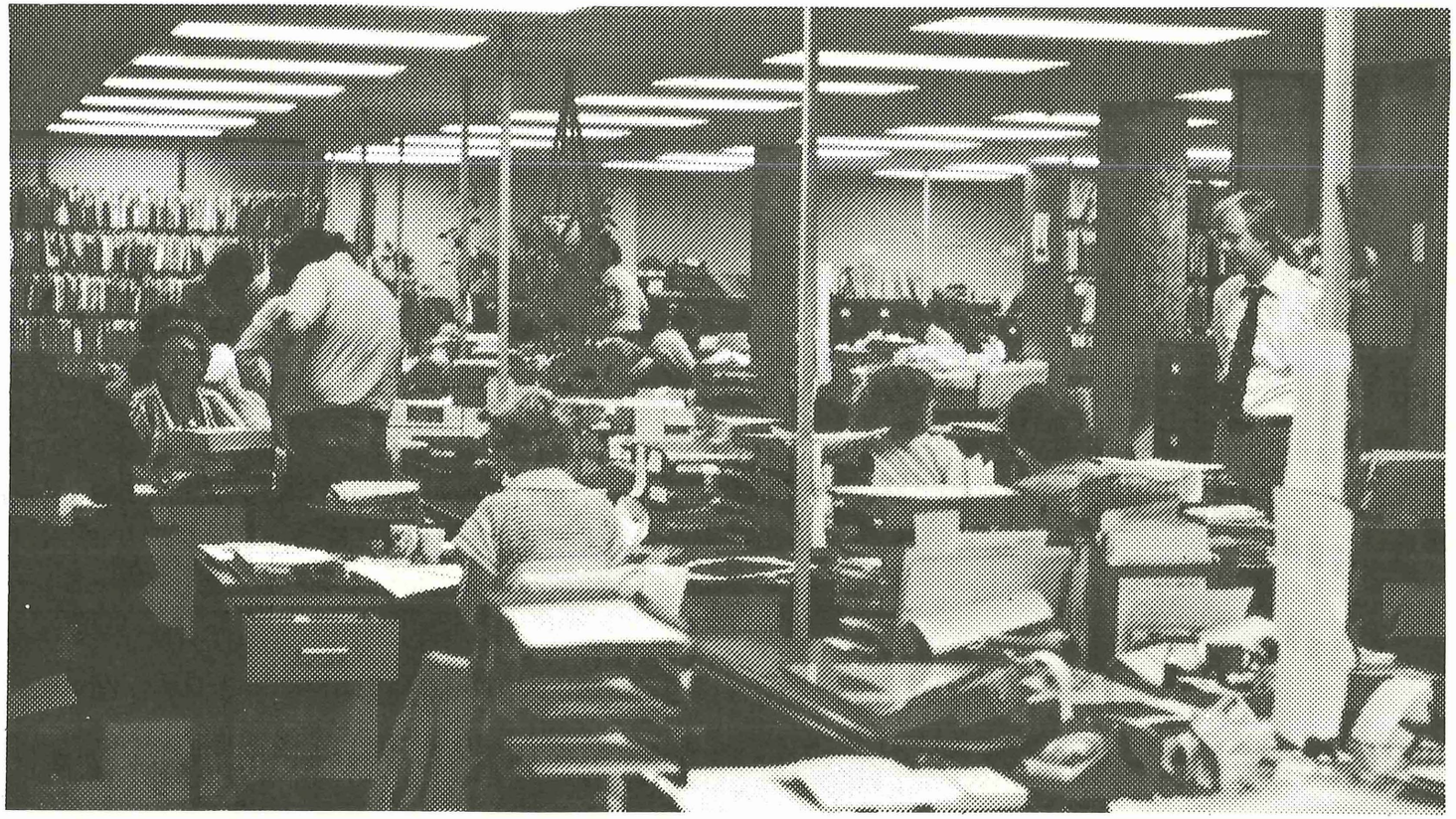


EXHIBIT IV. 4

Unadjusted Data Base

DEPARTMENT	(A) CURRENT STAFF	(B) CURRENT SPACE	(C) B÷A CURRENT TOTAL (1)NAF	(D) 1985 STAFF	(E) 1985 SPACE	(F) E÷D 1985 NAF	(G) 1990 STAFF	(H) 1990 SPACE	(I) H÷G 1990 NAF
ALL ELECTED OFFICIALS	132	25,263	191	157	30,720	196	163	30,686	188
DOA - TOTAL	1,052	220,807	210	1,066	228,153	214	1,071	229,238	214
AGRICULTURE	208	64,000	308	224	66,560	297	239	68,960	289
ATTORNEY GENERAL	244	51,761	212	300	53,582	179	331	59,007	178
COMMERCE	160	46,566	291	180	36,202	201	207	40,738	197
ALL NON-HEALTH BOARDS	231	44,989	195	249	47,674	191	275	52,702	192
CORRECTIONS	209	25,931	124	200	32,000	160	200	32,000	160
ECONOMIC DEVELOPMENT	50	13,649	273	52	9,360	180	69	11,730	170
ECONOMIC SECURITY	924	134,618	146	935	138,131	148	938	138,518	148
EDUCATION	482	85,219	177	569	94,152	165	588	97,495	166
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FINANCE	127	16,217	128	141	19,410	138	141	19,410	138
HEALTH	569	113,568	200	584	122,342	209	591	123,532	209
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HISTORICAL SOCIETY	99	138,990	1,405	114	138,966	1,219	107	138,966	1,299
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OMBUDSMAN FOR CORRECTIONS	10	2,088	209	10	2,090	209	11	2,189	199
PERSONNEL	112	24,415	218	137	26,227	191	144	27,424	190
POLLUTION CONTROL	312	41,551	133	380	54,118	142	395	55,978	142
PUBLIC SAFETY	801	120,212	146	952	141,684	149	1,040	146,724	145
PUBLIC SERVICE	85	31,045	365	96	29,260	305	108	32,340	299
PUBLIC WELFARE	650	76,019	117	735	108,900	148	850	125,000	147
RETIREMENT SYSTEMS	144	24,508	170	157	27,265	174	163	28,253	173
REVENUE	709	122,847	173	798	138,780	174	867	147,760	170
STATE PLANNING	179	28,498	159	225	35,318	157	225	35,318	157
TAX COURT	6	1,819	303	7	1,386	198	7	1,386	198
TRANSPORTATION	1,165	171,922	148	1,278	221,917	174	1,311	224,917	172
VETERANS SERVICES	107	26,024	243	131	29,873	228	145	32,585	225
SUBTOTAL	10,178	1,893,198	186.0	11,301	2,119,737	187.6	11,908	2,203,066	185.5
MISC. SPACES (Support)		61,717	(3.2%)						
TOTAL BUILDING SPACE		1,954,915							

(1)Net area factor

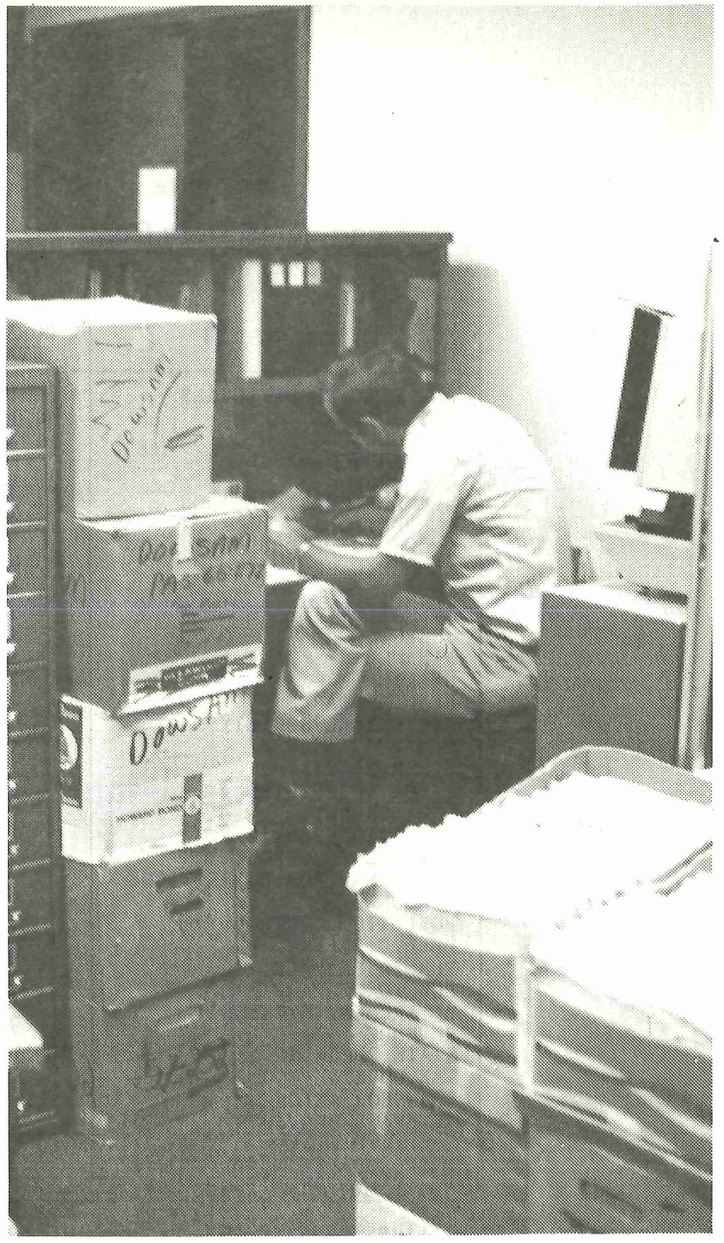
The current assignable NSF area factor varies from department to department and building to building, depending on the degree of existing space utilization and each department's specific needs. Current area factors for most departments vary from lows of 133 NSF for Pollution Control, 135 NSF for Housing Finance, 128 NSF for the Finance Department, 133 NSF for the Department of Energy, 124 NSF for the Department of Corrections and 146 NSF for Economic Security to highs of 291 NSF for Commerce, 273 NSF for Economic Development, 246 NSF for Human Rights, 365 NSF for Public Service, and 243 NSF for Veterans' Services. These high NSF area factors, it should be noted, include some special areas and unique conditions.

Although future projections per department will be developed to indicate a relative continuation of a net area factor in the 170 to 190 NSF range, the opportunity currently exists to substantially improve space utilization. This can be achieved by remodeling existing space, rearranging internal spaces, decreasing the density of private offices and adjusting space and furniture components allocated to each individual to conform to standards recommended within this study. Space utilization can also be improved by consolidating functions, employing a higher degree of shared common use facilities, locating related departments in major facilities, providing more unobstructed floor space and extensive use of open office planning concepts consistent with functional requirements.

Analysis of existing space plus previous studies by the Consultant of similar large government space uses confirms the assertion that increased space utilization efficiency can be obtained. This would result in area factor of 170 to 175 NSF per person. This should be contrasted to the current NSF area factor of 185 to 190 NSF. Analysis of the existing space inventory also indicates that only those State owned facilities of a relatively general purpose office nature are susceptable to cost effective remodeling for improved space utilization and the achievement of life cycle cost savings. This space totals approximately 800,000 NSF.

A reduction in the NSF area factor from the current 186 NSF to a realistic 170 NSF represents space utilization improvement of approximately 10%. Applying this 10% to the total 800,000 NSF will reduce future construction or leasing requiremtnts by an equivalent 80,000 NSF. The present value life-cycle cost savings accruing to the State as a result of "avoiding" the operation and the acquisition or construction of 80,000 NSF over a 30 year time frame is within the $10,000,000 to $15,000,000 range.

During the course of the study, the Consultant toured and analyzed existing special areas. Special areas are defined as specific rooms or areas



where space requirements are not directly related to the number of employees who work within that space. These areas include file rooms, supply rooms, record centers, motor vehicle maintenance areas, gallery space, museum space, training centers, laboratories, and significant reception and waiting areas. In developing detailed space programming data, departmental special area requirements were first quantified as needs separate from general office space. For example, the questionnaire provided information concerning the number and duration of meetings and conferences for each department interviewed. This information enabled the Consultant to analyze potential interdepartmental time sharing arrangements for improved space utilization efficiency.

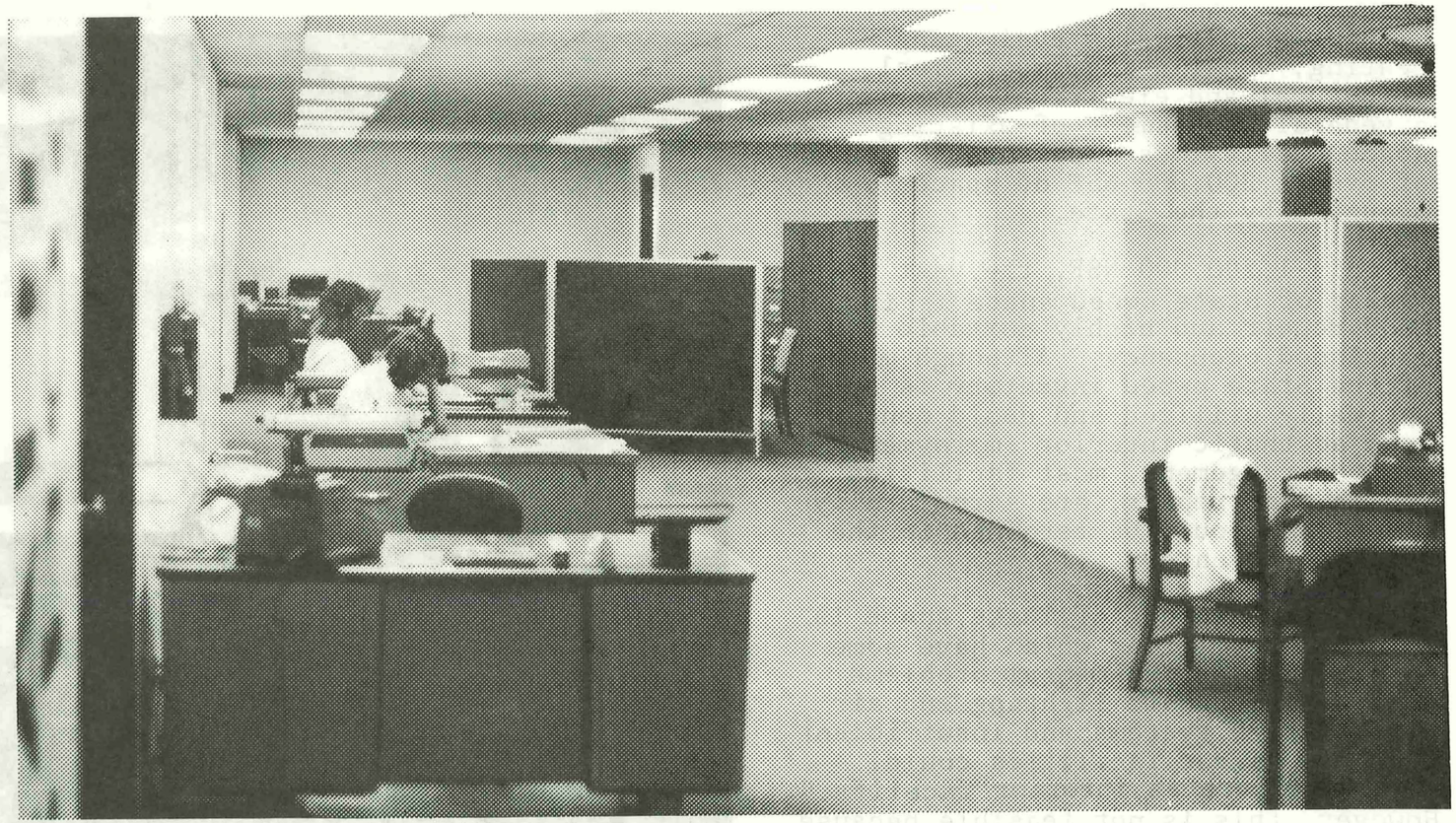
Special consideration was also given to other shared use facilities such as libraries, vaults, and special storage areas. In the case of the Department of Finance and the State Treasurer, common usage of the facilities located in the State Administration Building suggests that these departments remain in their current locations to avoid unnecessary relocation or future re-construction of those facilities.

Area requirements for all special areas were calculated and incorporated into the data base. The development of future departmental space and locational assignments were sensitive to these special area requirments.

C. QUALITY OF SPACE

In terms of physical conditions, all state occupied spaces are sound and do not appear to have structural weaknesses. The internal office space utilization, however, is in some cases not of maximum efficiency. This is due to the integration of full height partitions, private offices and the "open office" system within a single office area.

Previous studies developed for other large governmental space users indicate that significant economic and work efficiency savings can be attained by utilizing contemporary open office planning concepts in the development of interior space. An open planning philosophy can reduce the net area factor required for each person in comparison with those area factors associated with conventional planning. Also, both construction and subsequent operating costs of an



open plan interior are lower than those of more conventionally developed full height partition offices.

Approximately 10% of all office space projected for the future will require full height partitioning or total enclosure. Therefore, substantial work efficiency and economic savings associated with the use of open office planning are possible for the remaining 90% of projected future office space.

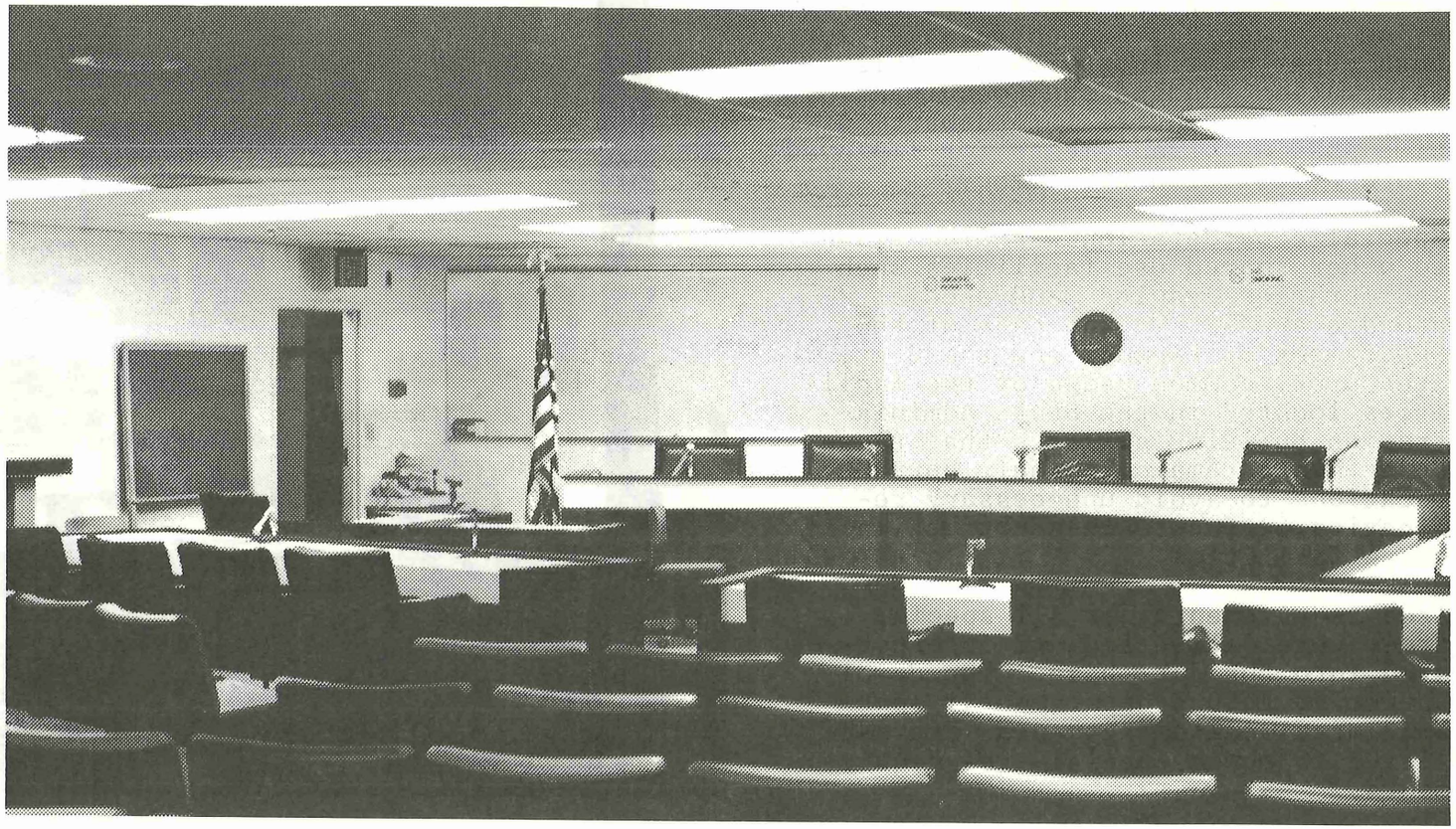
Without specifically evaluating heating, ventilating, mechanical, structural and electrical systems, a general assessment of existing space quality was made through tours of over 1,200,000 NSF of space occupied by the State.

Of this 1,200,000 NSF, the vast majority of State owned space is in good repair and highly suitable for continued occupancy. Although much of the State owned inventory is not optimally utilized and could benefit from aesthetic interior improvments and rearrangement, most facilities are in good repair, are structurally sound and should be retained in the building inventory.

A large percentage of lease space is in older facilities which have some significant environmental problems such as inadequate lighting and air distribution systems and insufficient windows. These facilities could, therefore, use an interior "facelift." However, this is not feasible because it is less than cost effective for the State to invest large sums of money to refurbish lease space and the short lease terms do not encourage landlords to complete appropriate improvements.

It is recommended that in implementing this Master Plan the State of Minnesota place considerable emphasis on improving the quality of existing and future space. This will not only produce a more aesthetically pleasing environment but will also result in direct economic benefits of improved work efficiency. In those leased spaces recommended for continuation, consideration should be given to securing interior improvements from the landlord upon lease renewal.

Currently, it is cost effective for the State to continue location in inexpensive leased space. For planning purposes, therefore, some departments have been fixed in their current locations in all Master Plan



options. Other departments have been consolidated into State owned space, again for all growth options. The criteria applied for those departments to be consolidated in State owned space are as follows:

- Was consolidation required for functional reasons?
- Was the department or unit occupying less than 5,000 NSF?
- Was the department projecting a growth greater than 20% of their current space?
- Was adjacency preferred with departments located in State owned space?

The results of the application of these criteria are presented in Exhibit IV-5, Page 38. While one of the considerations was cost effectiveness of leased verses owned space, it was discovered that all current leases with the exception of the Pollution Control Agency lease in the Buetow Building and the new Agriculture lease, are for less than $8.00 per NSF. Viewed solely from an economic perspective, these leases therefore merit continuation. Additionally, all leases under $7.00 per NSF per year are definitely economical Above $8.00 per NSF, the leases should be considered for discontinuance upon expiration.

D. CONCLUSIONS AND SUMMARY

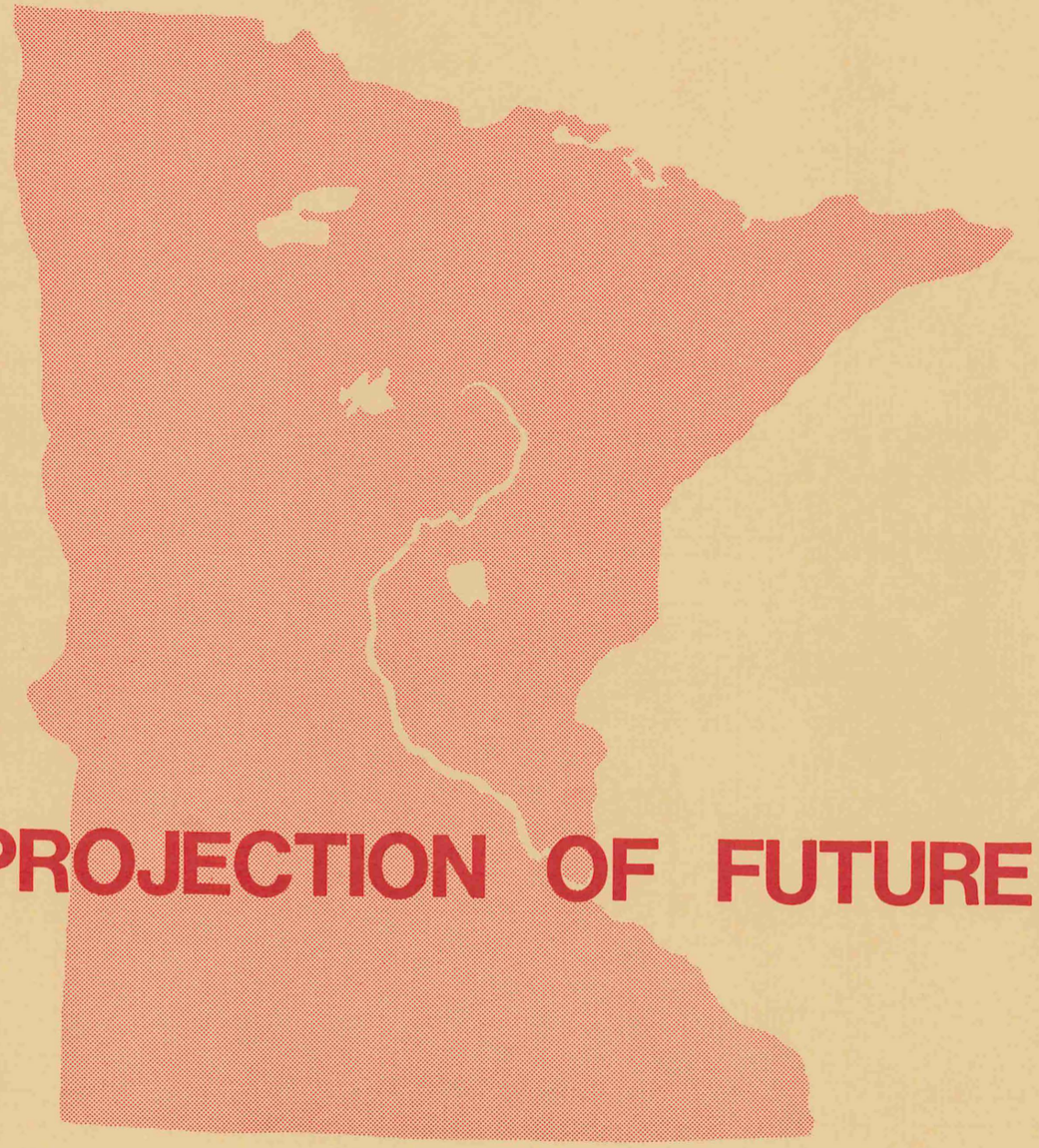
In summary, there is a high concentration of State occupied space in the Capitol Complex and St. Paul central business district areas. Over 83% of the Metropolitan area State occupied space is located within this 3 square mile area. This concentration is presently viable because of the economic feasibility of current leased space in the down-St. Paul area. However, as growth occurs over the next ten years, it becomes important to evaluate future occupancy plans. This will be especially important if lease rates increase in the future to such an extent that they are no longer economically feasible.

In Chapter VI, this evaluation of future occupancy plans will be from the perspective of adjacency and locational requirements. This Chapter will discuss in detail the recommended priorities for locational strategies in the Capitol Complex area.

EXHIBIT IV. 5

PRIORITY LEASE SPACE CONSOLIDATIONS

AGENCY/DEPARTMENT - LOCATION	SQUARE FOOTAGE LEASED	REASON FOR CONSOLIDATION CANDIDATE: GROWTH GREATER THAN 20%	LESS THAN 5,000 SQ.FT.	CONSOL-IDATIONS REQUIRED	ADJA'CY PREFER.	DOWN TOWN LOC'TN	CAP. COMPL. LOC'TN	# OF PERS-ONNEL
1. Agriculture - Agriculture Bldg.	64,000				●		●	208
2. Metro State University - Metro Sq.	13,639			●				41
3. Pollution Control - Buetow	41,551			●				312
4. State Auditor - 390 N. Robert	186		●	●				1
5. P.O.S.T.	1,662		●	●				6
6. Water Resources BD. - 555 Wabasha	1,312		●					3
7. DOA - Energy Conservation - MEA	1,458	●	●	●			●	9
8. DOA - State Register - Hamm Bldg.	1,200	●	●					1
9. DOA - Bldg IISAC - Hanover	181			●			●	24
10. DOA - Bldg Coe - Metro Square	6,046	●						14
11. DOA - Bd. of Electricity - Griggs Midway	2,273			●				13
12. MOIS - Amer. Center	2,180	●	●					10
13. Council on Handicapped - Metro Square	1,645			●		●		129
14. Economic Security - American Center	28,288			●		●		46
15. Economic Security - Space Center	13,589			●				1
16. Education - Hanover	3,024		●	●				1
17. Education - Rossmor	840		●		●			2
18. Higher Ed. Facility Authority - Metro Sq.	1,200	●	●					7
19. Indian Affairs Intertribal Bd - Griggs - Midway	1,049		●					19
20. Livestock Sanitary Bd. - Metro Square	4,430	●	●				●	27
21. Investment Bd. - MEA	4,894	●	●				●	11
22. Law Examrs/Lwyrs. Pro.Respn.Bd. - 200 S. Robert	2,381		●					2
23. Personnel Bd. - Space Center	221		●					4
24. Municipal Bd. - Metro Square	1,100	●		●				38
25. Minnesota St. Retirement -521-529 Jackson	5,700			●				255
26. Natural Resources - Space Center	35,661	●		●				2
27. Public Safety - American Center	652		●	●				15
28. Public Safety - Hanover	3,514		●					10
29. Ombudsman for Corrections - Nalpak	2,088	●	●	●				18
30. Public Employees Relat. Bd. - Space Center	198		●					1
31. Public Welfare - Metro Square	4,943	●	●	●				25
32. Revenue - Nalpack	12,776			●			●	10
33. Revenue - 1266-1276 University	7,956			●			●	35
34. Transportation - Trans. Annex.	7,500			●			●	51
35. Transportation (Maint.) - 521-529 Jackson	5,388			●			●	32
36. Tax Court - Space Center	1,819		●					6
37. Public Welfare - 690 N. Robert	21,821			●				168
38. Attorney General - Space Center	4,707		●		●			26
39. Personnel - Space Center	24,415			●				112
TOTAL AMOUNT OF LEASE SPACE TO BE TERMINATED	337,487	65200	43,958	237496	69547	29933	108583	1695
% OF TOTAL (per cent of 337,487 s.f.)		19.3	13.0	70.4	20.6	8.9	32.2	



PROJECTION OF FUTURE REQUIREMENTS V

CHAPTER V

PROJECTION OF FUTURE REQUIREMENTS

This chapter contains projections of future staffing and space requirements derived from data collected through the questionnaire and interview process. The analysis begins by defining an acceptable range of projected growth rates as based on historical and projected staffing and state population growth rates.

A. HISTORICAL DATA AND DEMOGRAPHIC PROJECTIONS

Historical and projected population data provided by the State enabled the Consultant to calculate compound annual growth rates through the year 1990. This data is presented in the following table.

Year	Population	Growth Rate Between Years
1970	3,810,000	.60
1975	3,920,000	.73
1978	4,010,000	.78
1980	4,070,000	.65
1985	4,200,000	.59
1990	4,330,000	

Statewide population, which increased at a .67% annual growth rate from the year 1970 through the 1980 estimate, is projected to increase at a slightly lower rate of .62% from the year 1980 through 1990. This projected rate reflects a rate of 93% applied to the actual growth rate from the year 1970 through 1980.

The Metropolitan Area population increased at approximately a 1.59% annual growth rate since the year 1970 and is projected to increase at a 1.55% annual growth rate from the year 1980 through 1990. As with the Statewide population projection, a 93% factor was applied in developing this 1980 through 1990 growth rate.

Total employment of the State Executive branch of government, by geographical area, reflects the following increases and annual growth rates since the year 1975:

	EXECUTIVE BRANCH EMPLOYMENT		ANN'L INCR.
	1975	1979	
7 County Metro Area	13,766	14,545	1.59%
Central Metro Area	11,689	12,539	2.03%
Ramsey Co.	9,069	9,947	2.68%
State Pop.	3,921,000	4,039,300	.75%

The following conclusions can be drawn from this data.

- Executive branch employment increased at a rate two to three times greater than State population in all geographical areas between the years 1975 and 1979;
- Executive branch employment in Ramsey County has increased at a rate approximately 50% greater than has Executive branch employment in the seven county area;
- The proportion of total Executive branch employees located within Ramsey County increased from 65.8% in the year 1975 to 68.4% in 1979, a trend that is likely to continue and exhibits a trend line growth rate of 1% per year which, if continued, would show an employment concentration in Ramsey County in year 1990 of 75%;
- Executive branch employment in Region XI increased at a rate 2.1 times greater than the State population;
- **Executive branch employment in the Central Metro area increased at a rate 2.7 times greater than the State population;**
- Executive branch employment in Ramsey County increased at a rate 3.6 times greater than the State population; and

- Executive branch employment in the Study Group increased at a rate 2.3 times greater than the State population.

The above population data for the years 1975 and 1979 provided the basis for the development of another set of compound annual growth rates utilizing linear projection techniques. The following table presents these projections of weighted averages of relevant workload data provided by State agencies. In preparing this data, projections for the year 1990 are based on a current study group staffing level of 10,178 employees.

If Executive branch employment continues to increase at a rate that is two to three times greater than the state population rate, the projected annual compound staff growth rate for the Executive branch will be between 1.2% and 2.1% for the year 1990. Furthermore, it is anticipated that Ramsey County Executive branch employment will continue to increase faster than will the urban and seven county areas since most of the additional employees will be for administrative staff or central support services. It is anticipated that this centralization trend will continue in the future.

ALTERNATIVE STAFF PROJECTIONS

Basis of projection	Ann'l % Incr.	1990 Emply. Proj.
a) Linear to 7 County area	1.47%	11,950
b) Linear to Central Metro Area	1.88%	12,492
c) Linear to Ramsey County	2.48%	13,326
d) Workload Projections based on 1985 rates	2.13%	12,834
e) Workload Projections based on 1990 rates	1.60%	12,120
f) Study group historical growth rates	1.70%	12,252

B. DEPARTMENTAL PROJECTIONS

Based on the questionnaire and interview process, current staff levels and space assignments were identified for each agency included within the study. The majority of this space was toured by the Consultant and both current space deficiences, as identified by user representatives, and space occupancy patterns, whether current space is either too restrictive or excessive, were identified. Exhibit V.I, Page 41, "Unadjusted Data Base," Columns A and B, presents current staffing levels and space requirements for each agency. The data presented in this Exhibit was compiled from physical space tours by the Consultant and data sheets provided by the Department of Administration. As a result, the space identifications may in some instances vary from other listings prepared by the State.

Column C of Exhibit V.1 identifies the Current Total Net Area Factor (NAF) for each agency and consolidated group. This column is calculated by dividing the total current space, in terms of net square feet (NSF) by the total number of staff. This current total space was adjusted by the Consultant to more appropriately reflect the space required to efficiently house each agency if it were not confined to its present location. This adjustment was necessary because a number of large net area factors did not necessarily reflect an inefficient use of space. Rather, in a number of cases, the inclusion of "special areas" resulted in a net area factor distortion unrelated to the efficiency of space utilization.

EXHIBIT V. 1

Unadjusted Data Base

DEPARTMENT	Ⓐ CURRENT STAFF	Ⓑ CURRENT SPACE	Ⓒ B÷A CURRENT TOTAL (1) NAF	Ⓓ 1985 STAFF	Ⓔ 1985 SPACE	Ⓕ E÷D 1985 NAF	Ⓖ 1990 STAFF	Ⓗ 1990 SPACE	Ⓘ H÷G 1990 NAF
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OMBUDSMAN FOR CORRECTIONS	10	2,088	209	10	2,090	209	11	2,189	199
PERSONNEL	112	24,415	218	137	26,227	191	144	27,424	190
POLLUTION CONTROL	312	41,551	133	380	54,118	142	395	55,978	142
PUBLIC SAFETY	801	120,212	146	952	141,684	149	1,040	146,724	145
PUBLIC SERVICE	85	31,045	365	96	29,260	305	108	32,340	299
PUBLIC WELFARE	650	76,019	117	735	108,900	148	850	125,000	147
RETIREMENT SYSTEMS	144	24,508	170	157	27,265	174	163	28,253	173
REVENUE	709	122,847	173	798	138,780	174	867	147,760	170
STATE PLANNING	179	28,498	159	225	35,318	157	225	35,318	157
TAX COURT	6	1,819	303	7	1,386	198	7	1,386	198
TRANSPORTATION	1,165	171,922	148	1,278	221,917	174	1,311	224,917	172
VETERANS SERVICES	107	26,024	243	131	29,873	228	145	32,585	225
SUBTOTAL	10,178	1,893,198	186.0	11,301	2,119,737	187.6	11,908	2,203,066	185.5
MISC. SPACES (Support)		61,717	(3.2%)						
TOTAL BUILDING SPACE		1,954,915							

(1) Net area factor

It was these adjusted space assignments which served as the basis for developing each agency's future space projections. This space identification and adjustment process is defined within each organizational "agency profile" previously provided to the Department of Administration under separate cover.

Utilizing the adjusted net area factors, future space requirements are identified in Columns E and H for the 1985 and 1990 planning years. The projected net area factors in Columns F and I indicate that future space allocations will generally be at a slightly lower net area factor than is characterized by current space occupancy patterns. Comparing the net area factors in Column C, F, and I provides an indication as to whether future space allocations will be more efficient than is currently experienced. In reviewing this data, it must be kept in mind that some of the net area factor reductions are due to the exclusion of "special areas" from the future space allocations. The resulting reduction does not, therefore, necessarily correlate with improved efficiency of space utilization. Rather, in some cases is merely reflects the reclassification of existing space.

At this point it should be noted that the net area factor for the year 1985 is greater than that currently experienced due to adjustments by the Consultant for current space deficiences. An absolute reduction, however, is projected for the year 1990 due to the lower incremental net area factors utilized. It should also be noted that these area factors do not assume significant conversion to open office space which could save additional space. Open planning is briefly discussed in Chapter VII and in more detail in the Space Management package under separate cover.

Exhibit V.1 indicates that the current study population of 10,178 employees is projected to increase to 11,301, a 1.8% annual growth rate, by the year 1985 and to 11,908 a 1.4% annual growth rate, by the year 1990. The unadjusted staffing projections developed in conjunction with the departments indicate an annual growth rate of 1.1% between the years 1985 and 1990. Staffing projections for the year 1990 are considered to be less reliable than those for the year 1985 primarily because many user representatives displayed a tendency to minimize incremental staffing requirements beyond the year 1985 in recognition of the inherent difficulty of projecting the characteristics of an environment so far into the future. Finally, Exhibit V.1 indicates that total unadjusted space requirements will increase from the current 1,890,000 NSF to 2,120,000 NSF in the year 1985, a 2% annual growth rate, and to 2,200,000 NSF, a 1% annual growth rate, in the year 1990.

Exhibit V.2, Page 43, details Department of Administration personnel and space requirements which include many specialized functions in numerous localities. Separate detail is necessary to present a more accurate picture of the staffing and space projections for this complex department. Exhibit V.3, Page 45, illustrates the unadjusted annual growth rates of selected agencies through the year 1985. Review of this data indicates the Energy Agency will experience the largest growth rate at 6.27%.

C. PROJECTED EMPLOYMENT DATA BASE

Development of future staffing levels requires recognition of the 1979 Personnel Law which mandates up to a 4% reduction of the total number of State funded positions authorized as of July 1, 1981. This law, which is to be implemented during the 1981 - 1983 biennium, affects "every department and agency in the Executive Branch of State Government having more than 40 state funded positions, but not including the constitutional officers, the state university system, the community college system nor the University of Minnesota." The required reductions are to be distributed evenly among full-time salaried positions in proportion to the total number of employees within each agency. Positions not subject to reduction include those providing custodial

EXHIBIT V. 2

DEPARTMENT OF ADMINISTRATION UNADJUSTED DATA BASE

Division/Section	Building	Current		1985		1990	
		Staff	Space	Staff	Space	Staff	Space
Commissioner	Admin.	14	4,007	14	4,007	14	4,007
Bureau of Management	Admin.	59	7,771	56[2]	8,040	56[2]	8,040
Architecture & Engineer.	Admin.	28	4,640	27	5,450	27	5,450
Plant Management	Admin.	12	1,773	12	1,773	12	1,773
Real Estate Mgmt.	Admin.	21	2,004	22	2,511	22	2,511
Procurement	Admin.	50	7,301	50	7,450	50	7,450
Telecommunications	Admin.	24	3,366	29	4,294	32	4,669
Employees Suggestions	Admin.	3	408	3	408	3	408
SUBTOTAL		(211)	(31,270)	(213)	(33,933)	(216)	(34,308)
Governor's Office Vol.Svc	127 University	4	780	6	780	8	980
Building Code	Metro Square	24	6,046	30	6,800	30	6,800
State Register	Hamm	8	1,200	8	1,200	8	1,200
Energy Conservation	MEA	9	1,247	14	2,083	16	2,333
Cable Communication	500 Rice	11	2,517	10	2,000	12	2,250
IISAC	Hanover	1	181	1	181	2	362
Board of Electricty	1954 University	14	2,272	17	2,772	20	3,276
SUBTOTAL		(71)	(14,243)	(86)	(15,816)	(96)	(17,201)
Materials Management	671 Robert	14	9,302	21	9,302	21	9,302
Records Management	Nalpak						
Files/Forms		9	20,549	11	21,249	11	21,249
Micrographics		17	5,438	18	4,538	24	5,138
SUBTOTAL		(26)	(25,987)	(29)	25,787	(35)	26,387

EXHIBIT V. 2

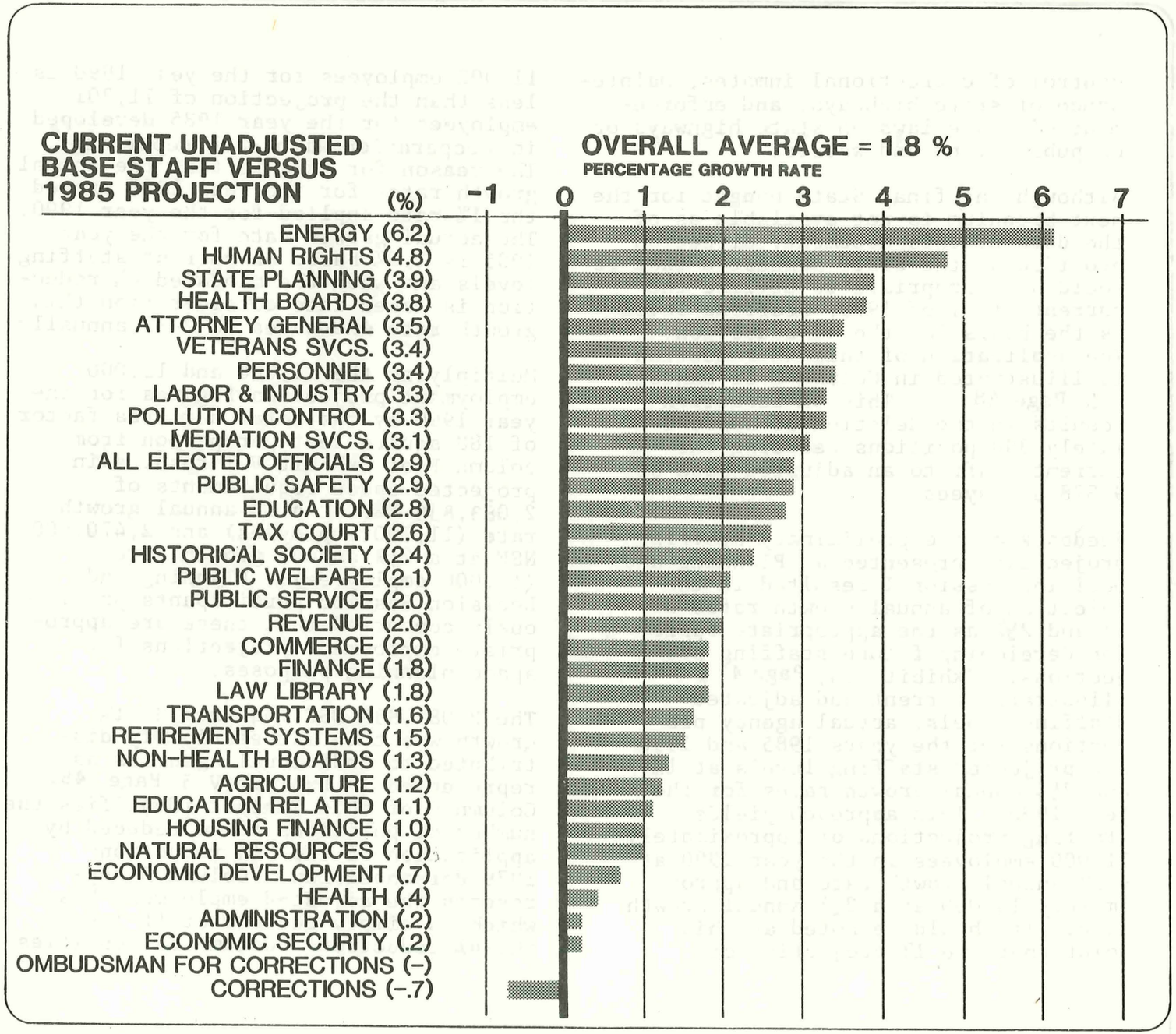
DEPARTMENT OF ADMINISTRATION UNADJUSTED DATA BASE

Division/Section	Building	Current		1985		1990	
		Staff	Space	Staff	Space	Staff	Space
Information Services	Centennial	384[3]	38,842	348[3]	37,892	319[3]	36,617
Central Stores		12	13,255	12	13,255	12	13,255
Motor Pool		18	22,603	22	22,603	24	22,603
SUBTOTAL		(30)	(35,858)	(34)	(35,858)	(36)	(35,858)
Publication/Gen. Svc.	Capitol Sq.	5	1,500	5	1,500	5	1,500
Publication/Gen. Svc.	Centennial	4	2,200	4	2,200	4	2,200
Publication/Gen. Svc.	Transportation	16	4,840	19	4,840	19	4,840
Publication/Gen. Svc.	Ford	26	14,764	28	14,764	28	14,764
SUBTOTAL (Pub/G.S.)		(51)	(23,304)	(56)	(23,304)	(56)	(23,304)
Documents	Ford	10	4,948	10	4,948	10	4,948
Office Machine Repair	Ford	11	3,404	14	3,404	17	3,404
SUBTOTAL (Ford)		(47)	(23,116)	(52)	(23,116)	(55)	(23,116)
Plant Management	Maint/Power	144	24,619	155	24,619	165	24,619
Plant Management	635 Robert		(7,290		(7,290		(7,290
Plant Management	505 Park		1,740[4]		6,000[4]		6,000[4]
	Various	100	-	100	-	100	-
SUBTOTAL		(244)	(33,649)	(255)	(37,909)	(265)	(37,909)
TOTAL		1052	220,807	1066	228,153	1071	229,238

1. Excluding the Governor's Office of Volunteer Services
2. Excludes CETA (to go to Economic Security - 1231 square feet), (also excludes dispersed staff.
3. Includes intermittents; 80 current and in 1985, 60 in 1990.
4. Storage Total

EXHIBIT V.3

ANNUALIZED GROWTH RATE OF AGENCIES STAFF



control of correctional inmates, maintenance of state highways, and enforcement of state laws on state highways or on public land and waters.

Although the final State budget for the next biennium is not available as of the date of this document, direction provided by the State suggested that it would be appropriate to utilize the current, fall of 1979, staffing level as the basis for the 4% reduction. The application of this 4% reduction is illustrated in Column C of Exhibit V.5, Page 48. This 4% reduction results in the deletion of approximately 300 positions reducing the current staff to an adjusted base of 9,878 employees.

Feedback on the preliminary staffing projections presented at Planning and Decision Session I resulted in the selection of annual growth rates of 1% and 2½% as the appropriate basis for developing future staffing projections. Exhibit V.4, Page 47, illustrates current and adjusted staffing levels, actual agency projections for the years 1985 and 1990 and projected staffing levels at 1% and 2½% annual growth rates for the year 1990. This approach yields staffing projections of approximately 11,000 employees in the year 1990 at a 1% annual growth rate and approximately 13,000 at a 2½% annual growth rate. It should be noted at this point that the 1% projection of 11,002 employees for the year 1990 is less than the projection of 11,301 employees for the year 1985 developed in cooperation with each department. The reason for this is that the actual growth rates for the year 1985 exceed the 1% rate applied for the year 1990. The actual growth rate for the year 1985 is 1.8% based on current staffing levels and when the mandated 4% reduction is taken into consideration this growth rate increases to 2.3% annually.

Multiplying the 11,000 and 13,000 employment projection figures for the year 1990 by the total net area factor of 188 square feet per person from column F of Exhibit V.1 results in projected space requirements of 2,083,838 NSF at a 1% annual growth rate (11,000 employees) and 2,470,000 NSF at a 2½% annual growth rate (13,000 employees). Planning and Decision Session participants previously concurred that these are appropriate employment projections for space planning purposes.

The 2,083,838 NSF required at 1% growth was then mathematically distributed to individual agencies as represented in Exhibit V.5, Page 48. Column C of this Exhibit identifies the number of positions to be reduced by application of the "4% reduction" 1979 Personnel Law. Column D represents the adjusted employment base which is simply current staff less the 4% reduction. Column E identifies the unadjusted departmental projections for the year 1990 and is presented for reference purposes only. Column G reflects the 1% staffing level for the year 1985 and is calculated by subtracting Column C, the 4% reduction, from column F, the year 1985 unadjusted projection. This calculation is given mathematical validity because the 1% projection of 11,000 employees for the year 1990 is almost identical to the year 1985 unadjusted total personnel projection of 11,301 less the 300 position reduction required by the 1979 Personnel Law shown in Column C. Column I, the net space requirement, results from multiplying the 1% staffing level, column G, by the net area factor for the year 1985 as shown in column H.

Space requirements for the 2½% annual growth rate were derived through more involved mathematical calculations than were required for the 1% growth rate. The 2½% staffing and space requirements are illustrated in Exhibit V.6, Page 49. Column B totals 11,577 employees and is a mathematically "adjusted" staffing level which results from subtracting the 4% reduction, Column C of Exhibit V.5, from the unadjusted staffing projections of 11,908, Column E of Exhibit V.5. Column C identifies the change between the current adjusted base and the adjusted staffing level for the year 1990. Column D, which

EXHIBIT V. 4

PERSONNEL PROJECTION ALTERNATIVES

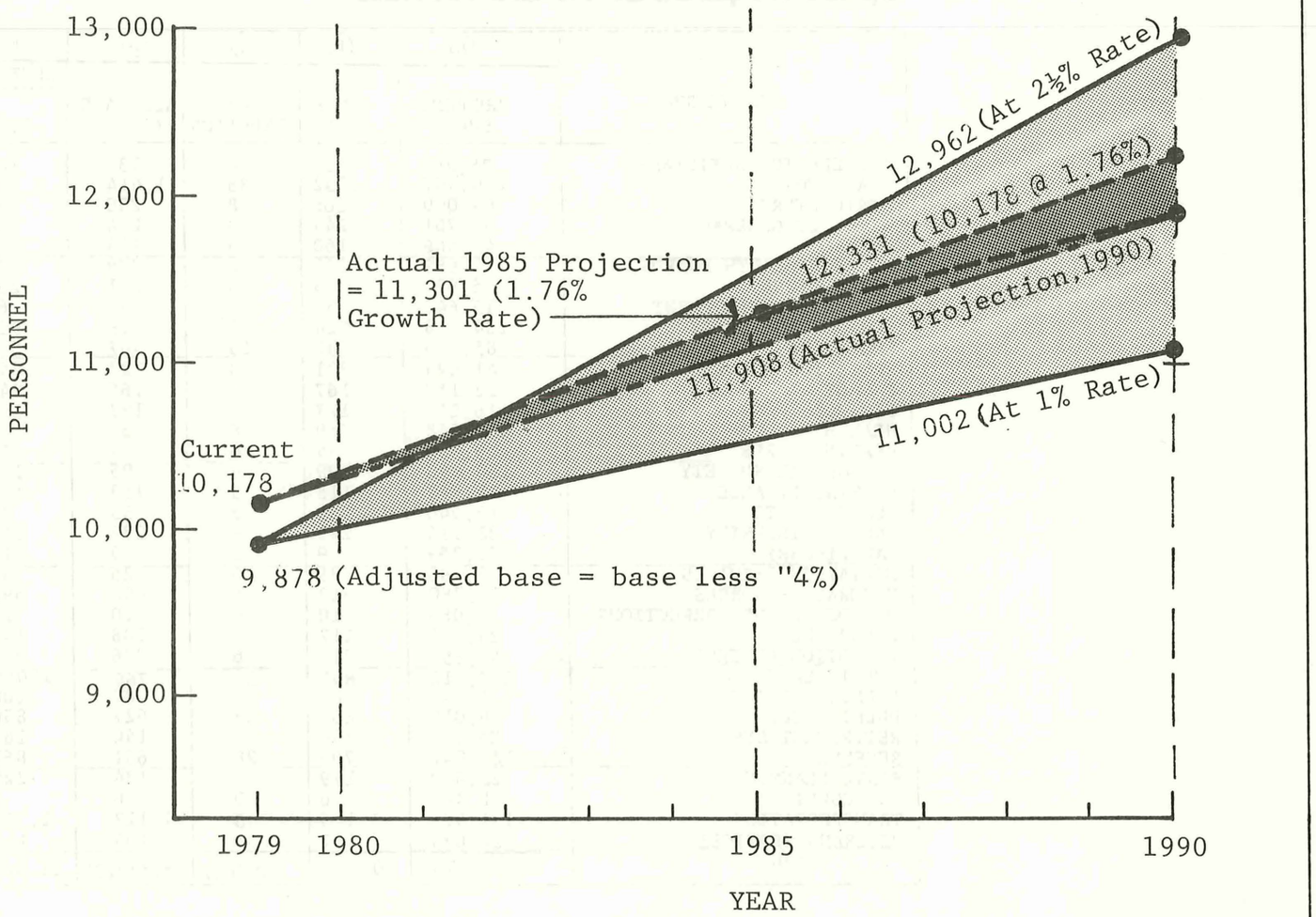


EXHIBIT V. 5

Space Required at 1% Growth Rate

DEPARTMENT	(A) CURRENT SPACE	(B) BASE STAFF	(C) 4% REDCTION	(D) ADJ BASE (B-C)	(E) DEPT. PERSONNEL PROJECTIONS 1990	(F) 1985	(G) 1985-1% (F-C)	(H) TOTAL 1985 NAF	(I) NET SPACE (GxH)
ALL ELECTED OFFICIALS.	25,263	132	0	132	163	157	157	196	30,720
DOA - TOTAL	220,807	1,052	38	1,014	1,071	1,066	1,028	214	212,891
AGRICULTURE	64,000	208	8	200	239	224	216	297	65,280
ATTORNEY GENERAL	51,761	244	0	244	331	300	300	179	53,700
COMMERCE	46,566	160	6	154	207	180	174	201	34,974
ALL NON-HEALTH BOARDS	44,989	231	2	229	275	249	247	191	48,195
CORRECTIONS	25,931	209	8	201	200	200	192	160	30,720
ECONOMIC DEVELOPMENT	13.649	50	2	48	69	52	50	180	9,000
ECONOMIC SECURITY	134,618	924	5	919	938	935	930	148	137,640
EDUCATION	85,219	482	15	467	588	569	554	165	91,410
EDUCATION RELATED	41,699	231	3	228	253	246	243	177	43,011
ENERGY	22,153	167	2	165	240	240	238	121	28,798
FINANCE	16,217	127	5	122	141	141	136	138	18,768
HEALTH	113,568	569	8	561	591	584	576	209	120,944
HEALTH BOARDS	5,350	44	0	44	62	55	55	130	7,150
HISTORICAL SOCIETY	138,990	99	4	95	107	114	110	1,219	133,966
HOUSING FINANCE	15,979	118	5	113	140	125	120	149	17,880
HUMAN RIGHTS	13,540	55	2	53	79	73	71	173	12,283
LABOR & INDUSTRY	38,114	245	9	236	314	297	288	156	44,928
LAW LIBRARY	21,259	9	0	9	11	10	10	2,126	20,460
MEDIATION SERVICES	4,798	25	0	25	32	30	30	178	5,340
NATURAL RESOURCES	77,780	517	21	496	591	548	527	186	98,022
OMBUDSMAN FOR CORRECTIONS	2,088	10	0	10	11	10	10	209	2,090
PERSONNEL	24,415	112	4	108	144	137	133	191	25,403
POLLUTION CONTROL	41,551	312	6	306	395	380	374	142	53,108
PUBLIC SAFETY	120,212	801	32	769	1,040	952	920	149	137,080
PUBLIC SERVICE	31,045	85	3	82	108	96	93	305	28,365
PUBLIC WELFARE	76,019	650	23	627	850	735	712	155	110,360
RETIREMENT SYSTEMS	24,508	144	4	140	163	157	153	174	26,622
REVENUE	122,847	709	28	681	867	798	770	174	145,640
STATE PLANNING	28,498	179	5	174	225	225	220	157	38,540
TAX COURT	1,819	6	0	6	7	7	7	198	1,386
TRANSPORTATION	171,922	1,165	48	1,117	1,311	1,278	1,230	174	214,020
VETERANS SERVICES	26,024	107	3	104	145	131	128	228	29,184
TOTAL	1,893,198	10,178	299(3)	9,879(3)	11,908	11,301	11,002(2)	190	2,083,838

(2) 1% growth - 11,021 personnel approximated by 11,002 personnel.
(3) The figure of 299 employees was rounded to 300 for planning purposes, the figure of 9,879, an adjusted base, is quoted throughout the report as 9,878 employees.

EXHIBIT V. 6

Space Required at 2½ % Growth Rate

DEPARTMENT	(A) CURRENT ADJUSTED BASE	(B) ADJUSTED 1990 STAFF	(C) CHANGE (B-A)	(D) PROJECTED (Cx1.7)	(E) 2½% STAFF (A & D)	(F) PROJ. 1990 NAF	(G) SPACE (ExF)	(H) ANN. GROWTH RATE
ALL ELECTED OFFICIALS	132	163⑦	31	9 ①	167 ②	188	31,396	2.2
DOA - TOTAL	1,014	1,033	19	32	1,046	214	229,238 ⑨	.3
AGRICULTURE	200	231	31	53	253	289	73,117	2.2
ATTORNEY GENERAL	244	331	-- ④	-- ④	331	--	59,007	2.8
COMMERCE	154	199	45	77	231	197	45,507	3.8
ALL NON-HEALTH BOARDS	229	273	43	73	303	192	60,495	2.5
CORRECTIONS	201	192	--	--	192	--	30,720	- .4
ECONOMIC DEVELOPMENT	48	67	19	32	80	170	13,600	4.8
ECONOMIC SECURITY	919	933	14	24	943	148	139,564	.2
EDUCATION	467	573	106	180	647	166	107,402	3.0
EDUCATION RELATED	228	250	12	30 ③	258 ③	177	45,666	1.1
ENERGY	165	238	73	124	289	121	34,969	5.2
FINANCE	122	136	--	--	136	--	18,785	1.0
HEALTH	561	583	--	--	583	209	121,847	.4
HEALTH BOARDS	44	62	--	--	62	--	8,060	3.2
HISTORICAL SOCIETY	95	103	--	--	103	--	138,408	.1
HOUSING FINANCE	113	135	22	37	150	148	22,200	2.6
HUMAN RIGHTS	53	77	--	--	77	--	13,167	3.5
LABOR & INDUSTRY	236	305	69	117	353	154	54,362	3.7
LAW LIBRARY	9	11	--	--	11	--	21,259	1.8
MEDIATION SERVICES	25	32	7	12	37	178	6,586	3.6
NATURAL RESOURCES	496	570	74	126	622	184	114,448	2.1
OMBUDSMAN FOR CORRECTIONS	10	11	--	--	11	--	2,189	.9
PERSONNEL	108	140	32	54	162	190	30,780	3.8
POLLUTION CONTROL	306	389	--	--	389	142	55,238	2.2
PUBLIC SAFETY	769	978	209	355	1,010	145	146,450	2.5
PUBLIC SERVICE	82	105	23	39	121	299	36,179	3.6
PUBLIC WELFARE	627	827	200	340	967	147	142,149	4.0
RETIREMENT SYSTEMS	140	159	19	32	172	173	29,756	1.9
REVENUE	681	839	158	269	950	170	161,500	3.1
STATE PLANNING	174	220	46	78	252	157	39,564	3.4
TAX COURT	6	7	--	--	7	--	3,016	1.4
TRANSPORTATION	1,117	1,263	145	247	1,365	172	234,780	1.8
VETERANS SERVICES	104	142	--	--	142	225	31,950	2.9
SUBTOTAL	9,878	11,577			12,422	185.4	2,303,354	2.1
DEPT. X	--	--			578	288	166,646	--
TOTAL	9,879	11,577	--	--	13,000	190	2,470,000	2.5

FOOTNOTES

① 1.7 applied only to Auditor.

② Not equal to A & D because the 1.7 was not applied to all component agencies.

③ 1.7 not applied to Community College.

④ Where blanks appear, no adjustments were made due to very large or small unadjusted growth projections.(E = B)

⑤ 1.7 times C, where data is seen as changing or no change from 1990 projection for stable departmental projections.

⑥ A & D or adjusted 1990 projection in Column B.

⑦ With 4% reduction

⑧ Unadjusted projection minus "4% reduction".

⑨ Actual 1990 projection.

represents staff to be added to the current adjusted base, results from multiplication of Column C by 1.7. This factor of 1.7 is explained below. Space projections at the 2½% growth rate are derived by multiplying the unadjusted net area factor for the year 1990, Column F, by the 2½% staffing levels in Column E. Adjusted annual growth rates are illustrated in Column H.

It should be noted that at the bottom of Exhibit V.6 an agency called Department "X" appears. This department is identified as having 578 employees occupying approximately 166,646 NSF. This represents a currently non-existent department which may be created in the future. Recognizing the inherent uncertainty associated with the future, the Consultant allocated 5% of the adjusted staff level of 11,577 to this unknown department(s) and assigned a liberal net area factor of 288. This results in expanding the 2,303,354 NSF subtotal of Column G to the 2,470,000 NSF planning basis.

The multiplier utilized in column D, 1.7, is the result of a mathematical derivation to identify a constant which would yield mathematically consistent total staffing projections. After subtracting Department X's 578 staff from 13,000, excluding those departments displaying very large or small unadjusted growth projections, and dividing the remaining column E total by the remaining Column C total yields a multiplier of 1.7

Exhibit V.7 on Page 51 identifies current space occupancies and future space requirements at both the 1% and 2½% growth rates and shows the relative distribution of space, and actual growth in space to support future staff levels at the two growth rates.

D. SPACE SHORTFALLS

In Chapter IV, Exhibit IV.5, Page 38, identified current lease spaces which are prime candidates for termination and consolidation with existing or new State owned space. The remaining existing leases are thus recommended for continuation because of their size, functional adequacy and/or cost-effectiveness. Exhibit V.9 presented on Page 53 identifies these leases, indicates they currently total 371,398 NSF and projects them to grow by 56,148 NSF at the 1% annual growth rate and by a total of 106,782 NSF at the 2½% growth rate by the year 1990. It should be noted that in Exhibit V.9 a line item is shown for Economic Security without any identification of current space. The Department's two current leases in the Space Center and American Center Buildings, totaling approximately 40,000 NSF, should be vacated due to the Department's desire for total consolidation within one block of each other. These spaces would, however, be replaced by other "fixed" lease space in downtown St. Paul. A total of 43,441 NSF is required to satisfy the 1% growth rate. This would require only the addition of 12,707 NSF of new lease space. Exhibit V.9 indicates that 61,417 NSF of additional lease space would be required in order to support a 2½% annual growth rate

Exhibit V.8, Page 52, graphically portrays potential shortfalls of space due to space utilization improvement and departmental expansion. The largest portion of space, that shown at the bottom of the graph in dark shading, represents the current inventory of state owned buildings included within this study as detailed in Exhibit V.1, Page 41. Adding the two categories of leased space noted above yields the current total space inventory of 1,893,198 NSF. The dotted lines extending from left to right to the year 1990 identify total space requirements of 2,083,838 NSF and 2,470,000 NSF at the 1% and 2½% annual growth rates respectively. These are detailed in Exhibit V.5 and V.6, Pages 48 and 49. Exhibit V.8 indicates that in order to provide for the minimum 1% growth by 1990, approximately 190,000 additional NSF would be required without

EXHIBIT V. 7

SPACE REQUIREMENTS BY AGENCY

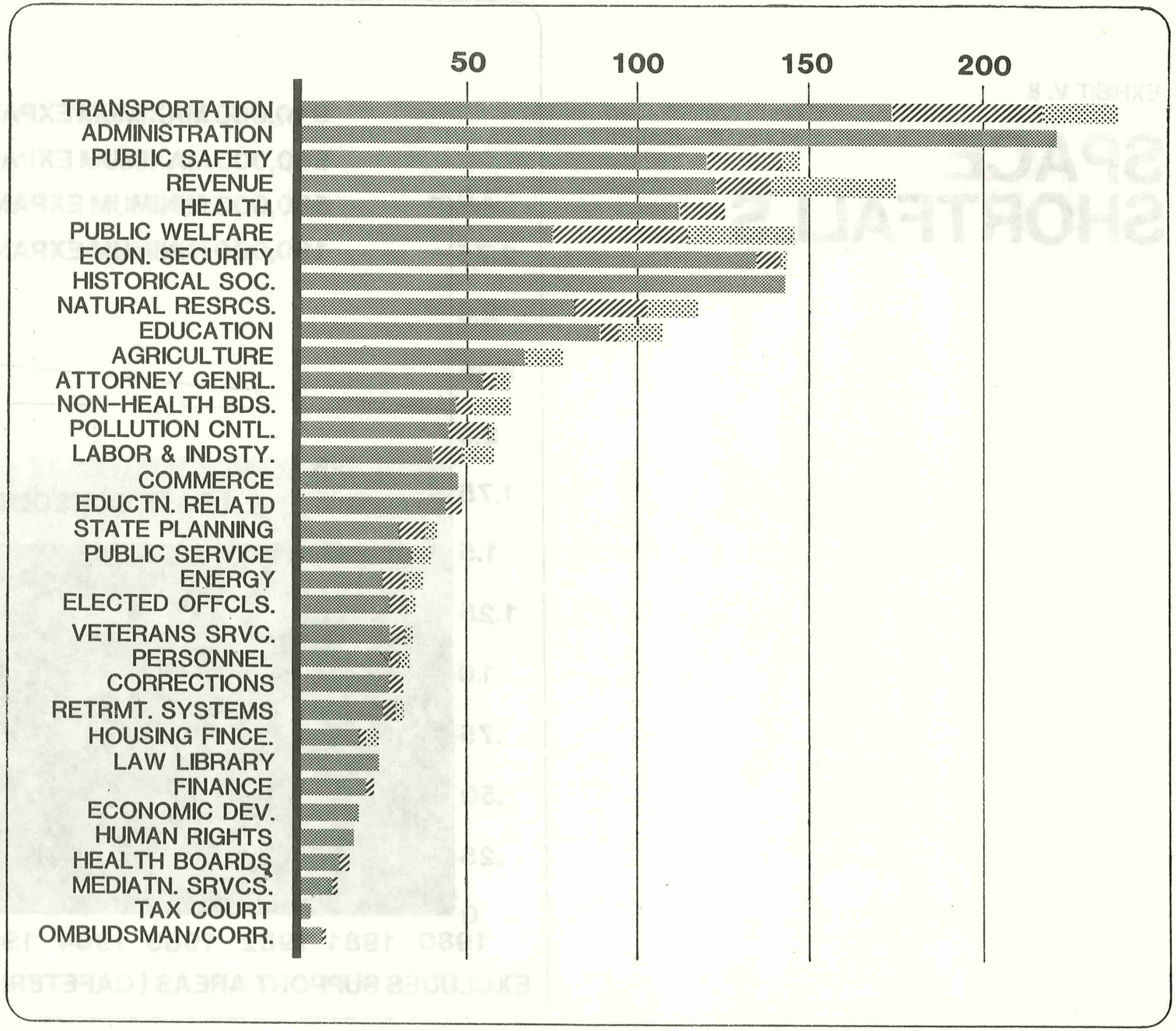
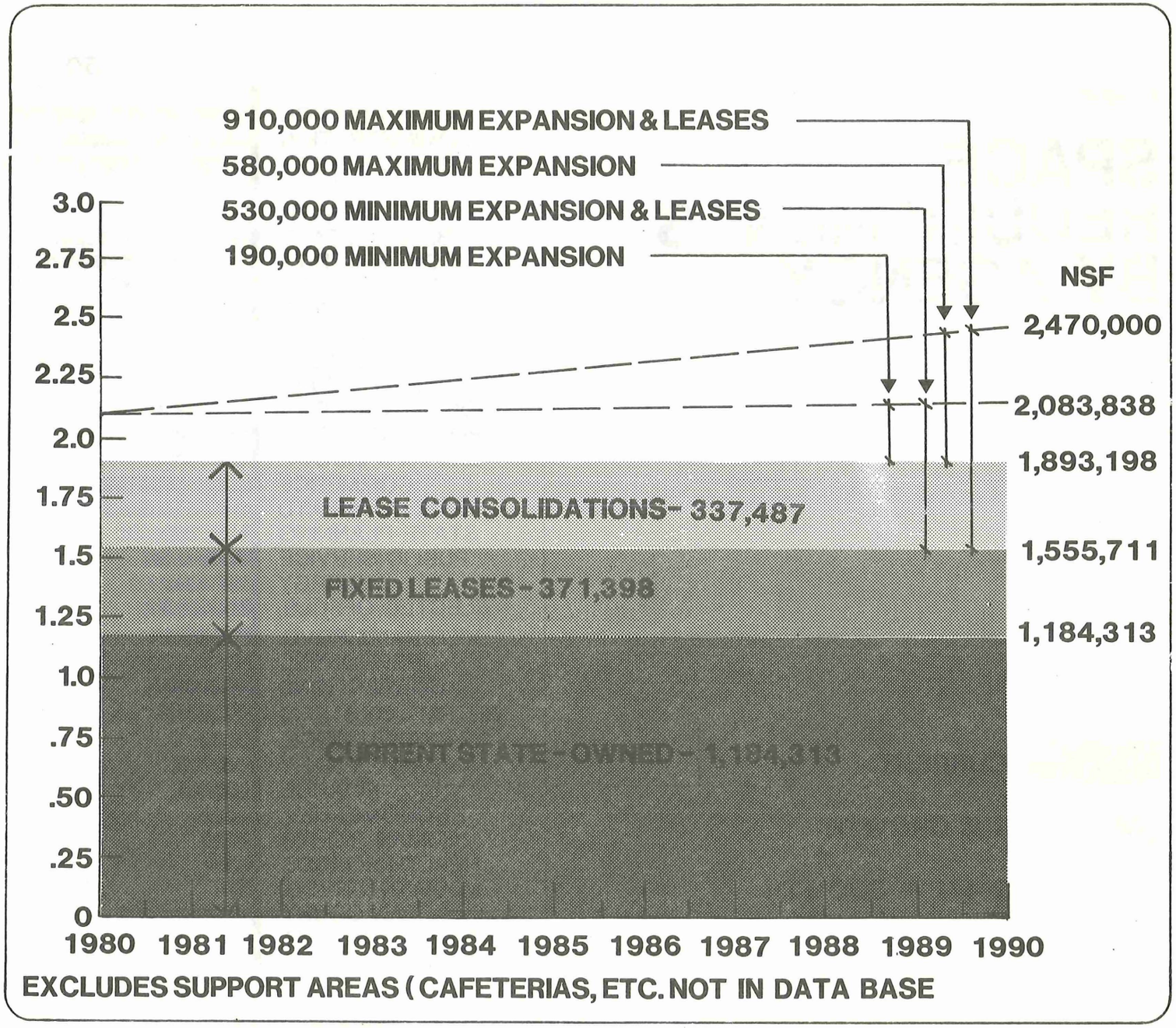


EXHIBIT V. 8

SPACE SHORTFALLS



terminating any leases and roughly 530,000 NSF would be required in order to consolidate the leases identified in Exhibit IV.5, Page 38. In order to provide for growth at the 2½% rate by the year 1990, additional space requirements with and without lease consolidation would be approximately 580,000 and 910,000 NSF respectively. Total growth from 1% to 2½% growth rate levels would add 380,000 NSF by the year 1990.

Exhibit V.10, Page 54, identifies the "total" net space requirements at 1% and 2½% without lease consolidations. This "total" net space includes provision for food service space at 8 NSF per person plus a 4% building services allowance.

The food service allowance is developed in Exhibit V.11, Page 54, and is based on the current Transportation Building food service space. The building services allowance includes space for such items as conference rooms, storage areas, and janitor closets. The nominal 4% is similar to the 3.2% "miscellaneous spaces" identified at the bottom of the "Unadjusted Data Base," Exhibit V.1, Page 39. Thus, total net area requirements under these conditions would be approximately 188,000 and 623,000 NSF for 1% and 2½% growth rates. Exhibit V.12, Page 55, illustrates net space requirements with and without lease consolidations.

Exhibit V.12, Page 55, presents a graphical summary of personnel and space requirements at 1% and 2½% growth.

EXHIBIT V. 9

FIXED LEASES AND CURRENT PROJECTED SPACE	LEASE SPACE AREA		
	CURRENT	1%	2½%
State Planning - Metro Square	4,000	4,000	4,000
DOA (Records Mgmt.) NALPAK	25,987	25,787	26,387
Attorney General - American Ctr.	11,321	11,693	12,849
Attorney General - Bremer Arcade	1,050	1,085	1,192
Attorney General - Metro Square	3,226	3,332	3,661
Commerce - Metro Square	35,501	34,974	45,507
Commerce Related Bds. - Metro Square	5,286	8,081	9,709
Crime Control Planning Bd. - Space Ctr.	10,023	8,586	9,720
Corrections - Metro Square	25,931	30,720	30,720
Economic Security - 390 N. Robert	94,199	94,199	94,199
Economic Security	*	43,441	45,365
Economic Development - Hanover	13,649	9,000	13,600
Energy - American Center	22,153	28,798	34,969
Health - Hennepin Square	2,200	2,200	2,200
Health - 2829 University	6,534	6,534	6,534
Housing Finance - NALPAK	15,979	17,880	22,200
Human Rights - Bremer Arcade	13,540	12.283	13,167
Labor and Industry - Space Center	38,114	44,928	54,362
Public Service - American Center	22,285	19,605	27,419
Public Service - 1015 Currie	8,760	8,760	8,760
Revenue - NALPAK	11,660	11,660	11,660
TOTAL LEASE SPACE	371,398	427,546	478,180
Extra Space Needed		(56,148)	(106,782)
Minus New Econ. Security Lease		43,441	45,365
Total Extra Lease Space Required		12,707	61,417

*Space for Economic Security is currently in leased space at the American Center and Space Center.

EXHIBIT V. 10

EXPANSION SPACE	SPACE SHORTFALL WITHOUT LEASE CONSOLIDATION ANNUAL GROWTH RATE 1%	SPACE SHORTFALL WITHOUT LEASE CONSOLIDATION ANNUAL GROWTH RATE 2½%
Current Personnel.....	10,178	10,178
Less "4% attrition".....	300	300
Adjusted base personnel.....	9,878	9,878
Personnel.....	11,002	12,961
Round to	11,000	13,000
Space Required	2,033,838	2,470,000
Less Current Space.....	1,893,198	1,893,198
Shortfall due to growth.....	190,640	576,802
Additional "office" space required	190,640	576,802
Plus 8 NSF per person for food services.....	6,576	22,576
Subtotal.....	197,216	599,378
Plus 4% building services...	7,889	23,975
TOTAL NET AREA	205,105	623,353

EXHIBIT V. 11

CAFETERIA ANALYSIS

Percentage of Transportation Building occupants who utilize cafeteria (1).....	62%
Total meals served per day (2).....	1200
Number of lunches served to building occupants (90% of total).....	1080
Number of seats required.....	650
Effective capacity (85% of total seats).....	553
Turn ratio (total meals served divided by effective capacity).....	2.17
Footage required per person served (cafeteria space of 14,280 divided by 1080).....13.2 NSF	
Cafeteria space required for building employees (62% x 13.22 square feet per person.....	8.2 NSF

[1]Per questionnaire
[2]Per food service manager

EXHIBIT V. 12

SHORTFALL OF SPACE

SPACE SHORTFALLS	NET AREA	ASSIGNABLE AREA (1)	GROSS AREA (2)
Minimum to support growth at 1%	190,000	211,807	245,000
Maximum to support growth at 2½%	580,000	623,252	715,000
Minimum plus lease consolidation	530,000	567,632	650,000
Maximum plus lease consolidation	910,000	979,178	1,125,000

(1) Assignable adds 8 NSF/person for food services and 4% for building services.
(2) Gross area adds 15% to convert from net to gross in urban area (10% in suburban/rural).

SPACE SHORTFALLS AT 1% AND 2½%

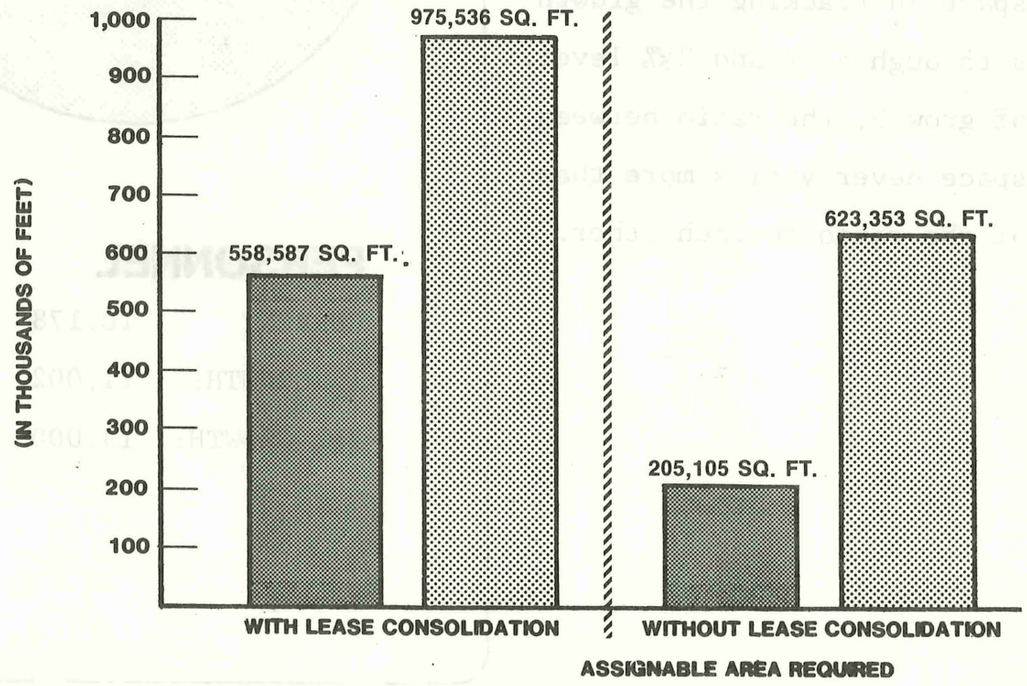
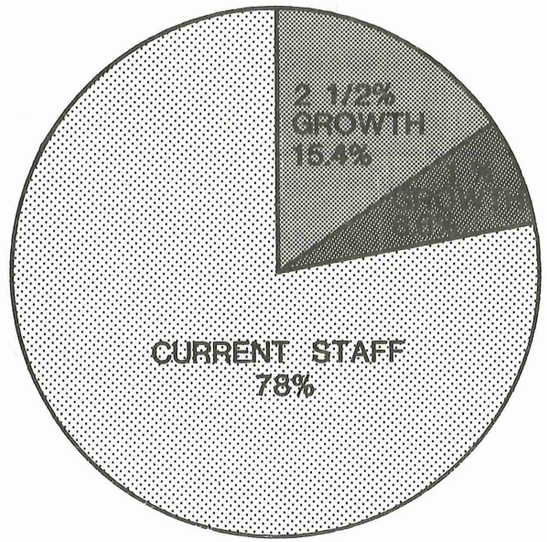
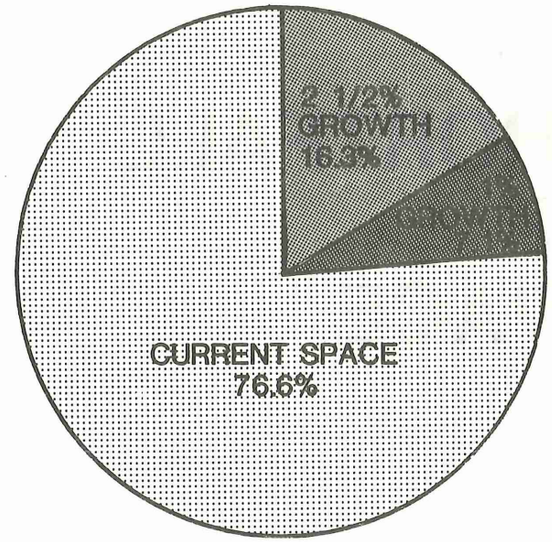


EXHIBIT V. 13

PROJECTED STAFF/SPACE NEEDS

There is a high correlation between both personnel and space in tracking the growth of both factors through a 1% and 2½% level. In all phases of growth, the ratio between personnel and space never varies more than 1.4% in terms of the ratio to each other.





PERSONNEL

CURRENT:	10,178
1% GROWTH:	11,002
2½% GROWTH:	13,000

SPACE

CURRENT:	1,893,198 NSF
1% GROWTH:	2,083,838 NSF
2½% GROWTH:	2,470,000 NSF

E. DEFINITION OF GROSS VERSUS NET SQUARE FEET

The following information is presented for reference purposes to develop an understanding of the net square footage (NSF) definitions used in work space related evaluations in later chapters.

Net area for a typical work station to be added (including circulation around the immediate work area).....	145 NSF
Plus support equipment space at 15% (including photocopy, conference space, etc.).....	25 NSF
Plus building circulation at 10-20%.....	20 NSF
Plus cafeteria and building support services allowances.....	10 NSF
Total Net Area....	200 NSF
Plus building core allowance at 15-20%.....	30-40 NSF
Total Gross Area...	230-240 GSF

Thus, the space requirements for each employee are defined as 200 NSF (net square feet) and 230-240 GSF (gross square feet).

For reference purposes, Exhibit V.14,A, Page 58, illustrates space definitions resulting in an efficiency rating calculated by dividing the net square foot total by the gross area. Utilizing the first floor of the Administration Building as an example, an effieiency rating of 73% is reflected. In comparison to most office building spaces, this is a low efficiency rating. However, it is at least part explained by the fact that a lunch room, a large conference room, and a significant corridor area are included. Exhibit V.14B identifies a more typical efficiency of 82% which would be displayed if these non-typical areas were excluded. Building efficiences are referred to later in this report in order to define the gross buildable amount of space required to satisfy net departmental area requirements.

F. FLEXIBILITY AND OPTIONS

It should be recognized that although the charts presented in this Chapter are mathmatical derivations and include specific projections of space requirements, the Consultant does not intend that they be viewed literally as a firm definition of space requirements but rather as a "best guess" as to the potential magnitude of future space needs for each department. The variability of the projected data relates to a multitude of unknowns which can affect future staffing levels and associated space requirements. These include not only the inherent politics under which the State functions but also other external factors such as demographics, emphasis of lobby groups, energy and transportation issues, levels of social programs provided, potential changes in the application and content of tax laws, pressures to centralize or decentralize, and state of the art advances in communications, maintenance, planning, and analysis.

The development of a Master Plan should be viewed as a "plan" rather than as an attempt to define and detail small components for final implementation. It is the magnitude and direction of the facility planning concepts presented in this report which should be critically reviewed.

EXHIBIT V. 14

STATE ADMINISTRATION BUILDING

FIRST FLOOR PLAN

	A	B
NET	15,000	12,332
GROSS	20,549	15,000
EFFICIENCY	73 %	82 %

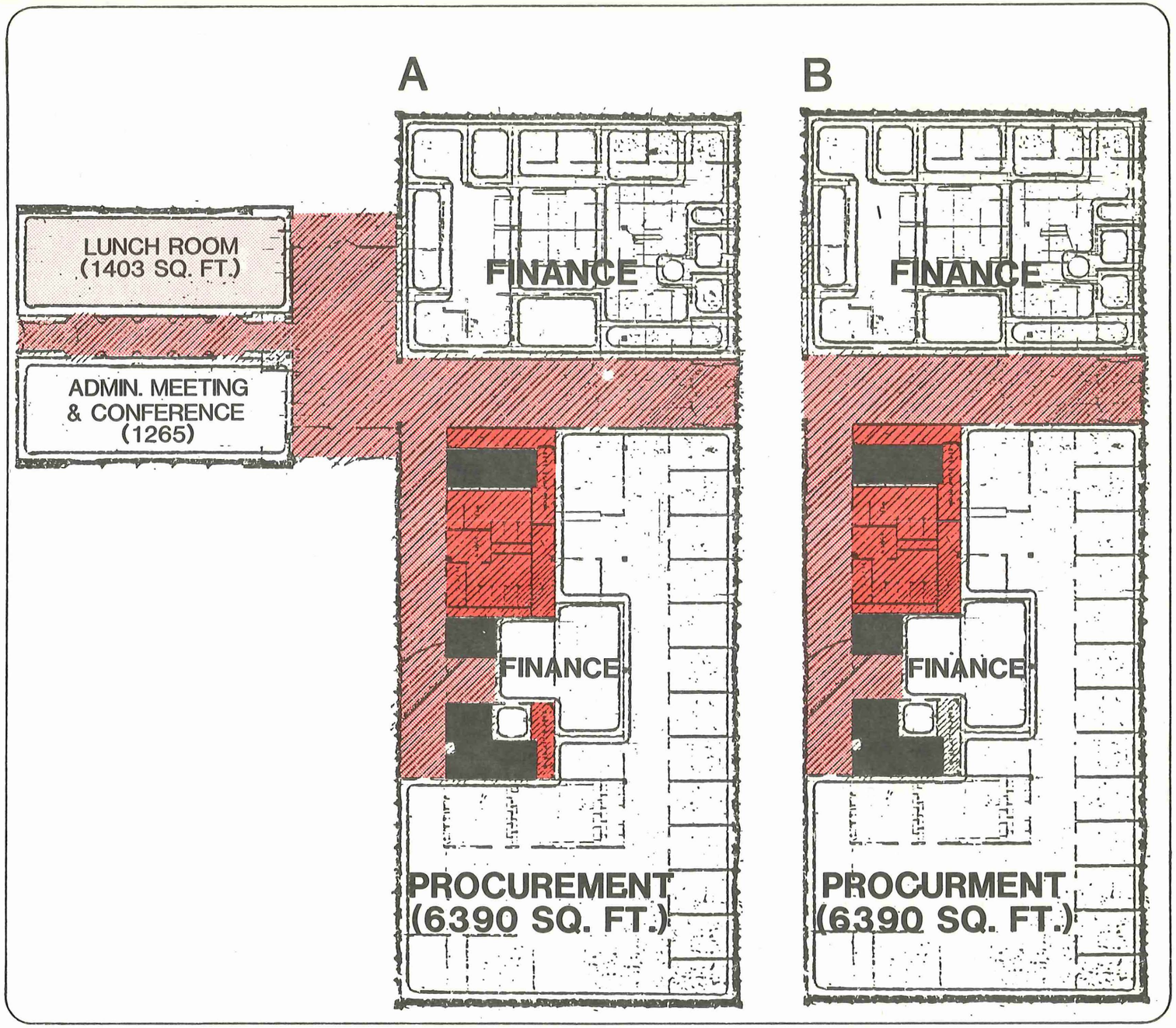
NET ASSIGNABLE SQUARE FEET

NET SUPPORT SPACE (EXCLUDED)

HORIZONTAL CIRCULATION (CORRIDORS, LOBBIES)

BUILDING SUPPORT (RESTROOMS, MECHANICAL)

VERTICAL CIRCULATION (STAIRS, ELEVATORS)



By the time the major components are approved, defined and completed - building construction, purchase of properties, or commitment to major leases-significantly more will be known regarding specific requirements than is possible at an early point in the planning process. At this later date, definitive space requirements should be identified within the framework of agency space and staff recommendations. It should be realized that if "build" or "purchase and renovate" rather than "lease" options are chosen to satisfy space needs, the space occupancy plans presented in this report will most likely be outdated before construction is completed. Thus, a dynamic future planning environment must be established - one that is flexible and responsive to change.

Flexibility and the ability to provide for expansion must be provided in final occupancy plans for the selected Master Plan option. As presented in Exhibit V.5, Page 48, each department displays its own characteristic growth pattern, including the relationship between its staffing and space growth projections. Energy staffing, for instance, is projected to grow proportionately faster than other major agencies - 43% larger at the "1%" level than at present. Elected Officials staff, 19%, and the Attorney General, 23%, also display relatively high proportionate staff increases whereas Health, 1%, Natural Resources, 2%, and Transportation, 6%, display relatively low proportionate increases. The Department of Administration, which is "overhead" oriented, displays a total 3% decrease in staffing. These percentages are not annual growth rates but are comparisons of projected staff levels to current levels.

Changes in space requirements are not necessarily at the same proportion as staffing changes. This is due to either adjustments in current space required to change space utilization or to correct for current space deficiences, or because necessary space additions are of a "special use" nature.



Attorney General space only increases approximately 4% due to space savings from consolidation. Administration space increases 3% even though there is a 3% staff reduction. This is primarily due to the requirement for an additional 6,000 NSF of storage space. Historical Society space does not increase because staff additions can be adequately housed in the current special use space. The Transportation proportion of additional space required, 23% higher than current levels is four times higher than the 6% staff additions primarily due to a need for significantly more laboratory space.

The 1% and 2½% growth alternatives provide the State a sufficient amount of planning flexibility. In the future, as more definitive growth patterns emerge, if it appears that the 1% solution will not satisfy space requirements a more rapid implementation of Phases II and III, expansion toward the "2½% solution," may be appropriate. Additional description of Phases II and III are included in Chapter X, "Master Plan Recommendations". Greater flexibility can be achieved by utilizing additional leased space until construction or renovation is completed and selective remodeling can improve space utilization as discussed in Chapter VII.

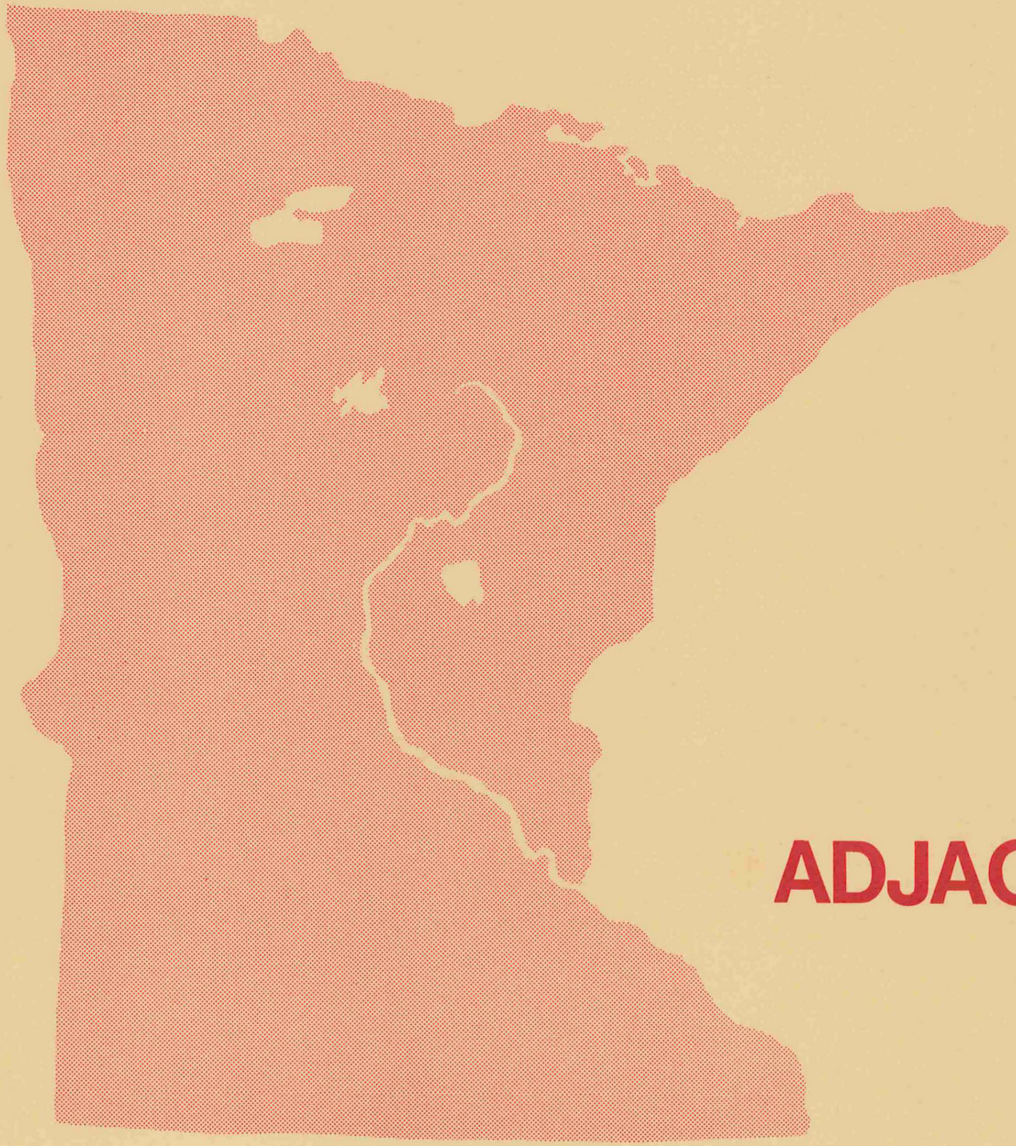
On the other hand, should the State choose to implement the 2½% solution and actual growth is not that high, additional leases, compared to those terminations suggested in Chapter IV, could be terminated so all newly constructed or renovated space would be fully occupied.

With regards to the specific placement of each department, flexibility and expansion requirements dictate that two potentially fast growing, large agencies not be placed in contiguous space since future expansion would then require a major relocation. Smaller, stable agencies can be placed between larger growth departments to occupy "buffer" space until it is required. This approach minimizes potential relocation expenses and disruption. Smaller agencies without critical adjacencies represent approximately 20% of the space recommended for new buildings in Chapter X. Thus, these agencies could be relocated outside the buildings to allow the remaining 80% to expand up to 25%. This approach would provide enough space to accommodate an annual growth rate of approximately 2½% without requiring any major relocations.

G. CONCLUSION

This chapter has established a range for future space requirements between 2,100,000 NSF and 2,470,000 NSF to house between 11,000 and 13,000 employees as compared to a current space inventory of 1,893,198 NSF housing 10,178 employees. The projected range represents a compound annual staff growth rate of 1% to 2½%.

In Chapter VI, specific departmental adjacency requirements which will result in the development of five optional Master Plans in Chapter VIII will be discussed. Chapter X will then detail the three recommended options.



ADJACENCY ANALYSIS VI

CHAPTER VI

ADJACENCY ANALYSIS

A. INTRODUCTION

The Adjacency Analysis phase of this study was designed to inventory current State agency locations, to assess the functionally required and desired agency and departmental adjacencies and to identify and recommend potential adjacency links crucial to the effective productivity of State Government. In the development of a long range space utilization plan for the State, a primary goal is to place departments which have regular and significant interfaces with one another in the closest possible proximity.

One constraint on the optimal end product of this process is the strongly expressed desire by a majority of the larger State departments for their total consolidation in one location. While it was often possible to accommodate both the consolidation of a department and its adjacency requirements, there were situations where this was not possible due to constraints in assigning departments to existing State-owned property. These were, however, primarily secondary adjacencies and were for that reason not of major significance or detriment to the overall conclusions and recommendations contained within this Master Plan.

B. ADJACENCY RELATIONSHIPS

Three considerations were used in establishing the analysis criteria for determining departmental interface needs: government operations, public accessibility and common clientele.

Government Operations involve the day-to-day interface that State departments have with one another. This includes such items as paperwork transactions, shared-use facilities and information exchanges requiring face-to-face interaction.

Accessibility is the degree to which a specific agency is visited by or has other direct contact with the general public. Question number 29 on the questionnaire stated, "Please indicate the quantity of public visitors who come to your work unit each day. What is/are the principal purposes for the visits, and what is the average duration of these visits?"

Responses to this question resulted in the identification of those departments with a high degree of public contact. (See Exhibit VI.I, Page 62 , of this chapter.) The following departments had more than 50 visitors daily:

	Visitors/Day
• Public Safety	482
• Transportation	251
• Legislature/ Elected Officials	200
• Attorney General	200
• Natural Resources	197
• Economic Security	190
• Administration	187
• Personnel	122
• Public Welfare	100
• Labor and Industry	60
• Education	58
• Agriculture	50

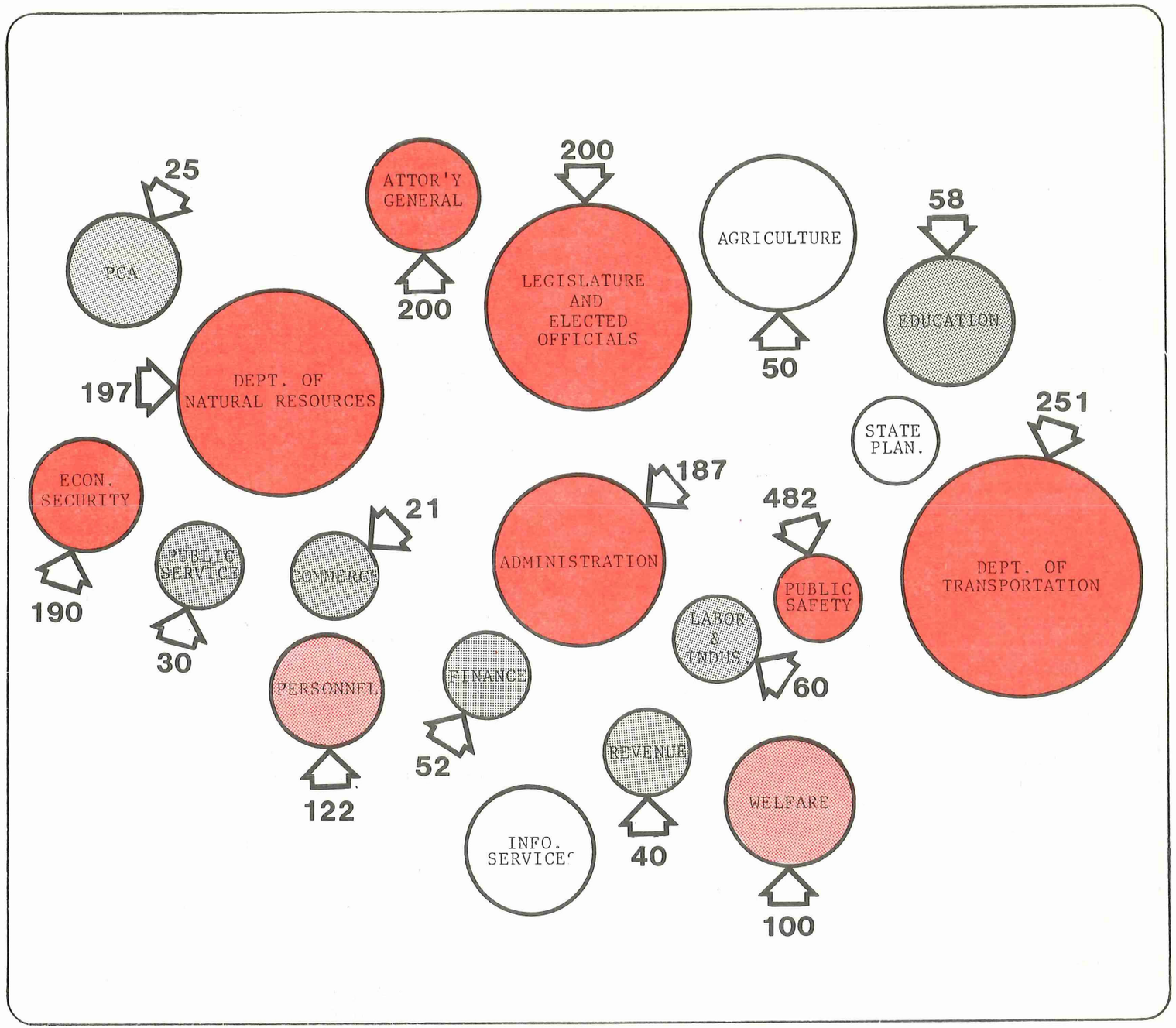
The Driver and Vehicle Services Division of the Department of Public Safety, responsible for issuing drivers' licenses and motor vehicle registrations, accounts for a sizable portion of the 482 daily visitors. A high access location which is centrally located along a high access road with substantial parking would be recommended for this Division. The Department of Transportation also has many daily visitors.
The public seeking permits and road design workers comprise the bulk of the DOT's visitor load with no one division emerging as the primary source of daily visits. The magnitude of the Department itself, the State's largest agency, contributes to the high visitor volume. While high access and available parking are important to the Department, centrality is, albeit desirable, not necessarily vital for efficient functioning.

Visitor access needs of the Legislature, other elected officials and the Department of Administration are accommodated by their "fixed location" in the Capitol Complex which is an ideal

EXHIBIT VI. 6

MAJOR ADJACENCY RELATIONSHIPS

DAILY VISITOR LOAD



HEAVY

MEDIUM

LIGHT

centralized location. The Attorney General accommodates its visitor needs through decentralized offices in a number of locations throughout the seven county area. These locations are often with the departments served by the Attorney General. Economic Security has a downtown location and is generally able to accommodate visitors, although parking is occasionally at a premium.

Natural Resources draws its largest number of visitors through the License Bureau which is responsible for the issuance and renewal of fish, game, snowmobile, boats, and arms permits and licenses. While currently located in a separate facility on North Robert Street, consolidation with the balance of the Department would require a high access location, although not necessarily a central one due to numerous visitors.

Common clientele, if it were of a significant magnitude, could impact decisions as to placement of individual departments. It was hoped that questionnaire and interview generated data plus feedback from the three Planning and Decision Sessions would provide a quantification of clientele who likely have need to see more than one department during a particular visit. Data was, however, sparse and inconclusive. Interviewees could not elaborate on the topic beyond an unsure "best guess" position. During Planning and Decision Session II, participants concurred that there were insufficient common clients to outweigh other adjacency and economic considerations. Specific quantification of the small numbers of common clients would require expensive surveys conducted at building entrances. This approach was evaluated as not cost effective and fruitless in light of the availability of more relevant proximity data. Surveys thus were not conducted by the Consultant.

C. THE PROCESS

A four step process was employed to document adjacency requirements.

1. Questionnaire Responses

In the questionnaire that was distributed to State agencies (see Appendix under separate cover) six questions addressed adjacency requirements. Questions 27 and 28, concerning governmental operations, were as follows:

> Question 27:
>
> "Please list other Minnesota State Departments or organizational units, in order of importance, that your organizational unit regularly goes to see or meets with. List the approximate number of times per week that anyone, and everyone, in your unit goes to visit the other organizational unit. If you have 20 people in your unit and you feel that each makes an average of 3 visits per week to Department "X", then the magnitude of the interface is 60. Please list only those visits for which an average of more than ten actual trips per week are incurred."
>
> Question 28:
>
> "Please list those organizational units that regularly come to visit your work area. Again, list only those other organizational units that visit more than ten times per week."

Question 29 addressed the public accessibility issue. Questions 30 and 31 asked for a subjective response, in rank order of importance, relative to which departments should be located in the same building or complex. Finally, Question 32 addressed the locational issue by asking each agency to express their need, if any, to be located in or near the State Capitol Complex.

2. Interaction Matrix

An interaction matrix, Exhibit VI.2, Page 64, was generated from the responses to the governmental operations questions, Questions 27 and 28. The matrix identifies interfaces numbering at least ten per week. Each cell within the matrix results from four categories of information:

EXHIBIT VI. 2

INTERACTION MATRIX

KEY

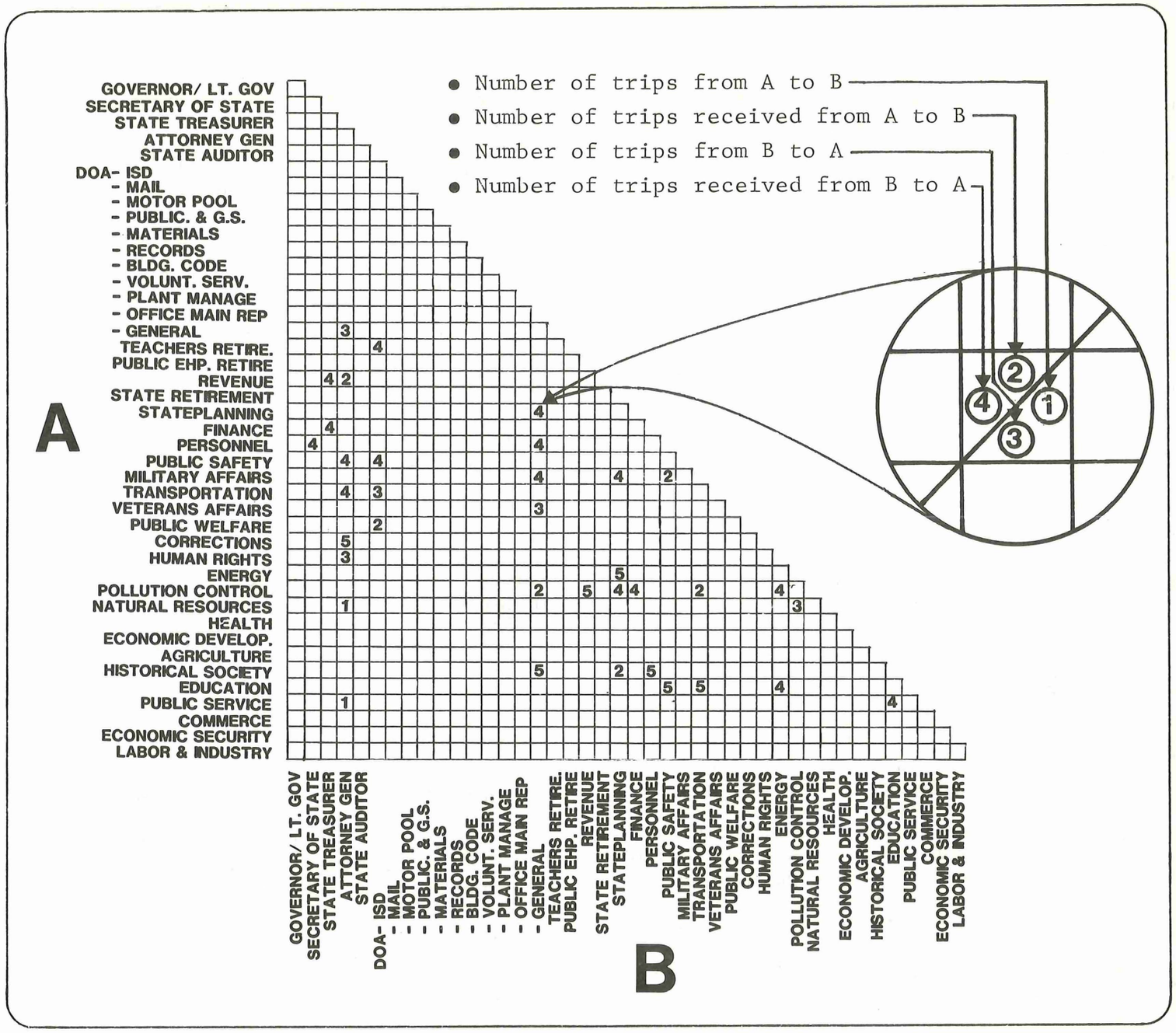
1 = MORE THAN 75 TRIPS PER WEEK

2 = 51 TO 75 TRIPS PER WEEK

3 = 26 TO 50 TRIPS PER WEEK

4 = 10 TO 25 TRIPS PER WEEK

5 = LESS THAN 10 TRIPS PER WEEK



(1) number of trips reported from "A" agency to "B" agency,

(2) number of trips reported by "B" agency from "A" agency,

(3) number of trips from "B" agency to "A" agency, and

(4) number of trips received by "A" agency from "B" agency.

Categories (1) through (4) in each "cell" were totaled and divided by two to estimate the total number of trips between specific departments each week. These totals were then weighted on a graduated scale from 1, corresponding to the greatest number of generated trips per week (more than 75), to 5, corresponding to the lowest number of generated trips per week (less than 10).

The following is a raw data listing of those departments reporting a significant number of weekly interactions:

	Trips/Week
• Public Service/Att. Gen.....	106
• Natural Resources/Att. Gen....	89
• Public Welfare/DOA-ISB.....	65
• Transportation/Pblc. Safety...	65
• Natural Resources/DOA-ISB.....	58
• Revenue/Att. Gen.....	54
• Education/State Plnng.....	50
• Human Rights/Att. Gen.....	48
• Welfare/Administration.....	38
• Administration/Att. Gen.....	38
• Transportation/ISB.....	20
• Natural Resources/State Plnng.	16

This raw data was subjectively refined and modified during the first Planning and Decision Session as the consensus of the participants was that such data was not appropriate for planning purposes. This modification resulted in the development of a subjective major adjacency relationships bubble diagram.

3. Bubble Diagrams

The bubble diagram discussed above reflected adjacency linkages in degrees of strength: primary, secondary, tertiary, and other weaker linkages. This bubble diagram was further modified as a result of feedback received from the second Planning and Decision Session. The final diagram is reflected in Exhibit VI.3, Page 66. Additional bubble diagrams were generated from those questions relating to departmental preferences for adjacency locations with other departments in the same building or same complex and desires for a Capitol Complex location. These were presented at the second Planning and Decision Session. The final diagrams as modified via feedback, collected at that Session, are represented by Exhibits VI.4, 5, and 6. Pages 67,68 & 69.

Utilizing feedback and comments from the three interactive Planning and Decision Sessions, information gained by the Consultants in the interview stages was further refined to portray a more representative picture of the many interface relationships. For example, information received in PDS #2 and PDS #3 identified a strong and essential link between the Department of Finance and the State Treasurer. Their daily adjacency requirements demand a "same building" location for their efficient and mutually dependent daily operations.

A note should be made about those agencies not included in the bubble diagrams. Only those agencies with expressed adjacency requirements were included. That is, if a department expressed a view of themselves as one of autonomy, then their adjacency relationships were depicted as weak and not of primary importance. Therefore, these departments were not graphically presented.

D. THE PRODUCT

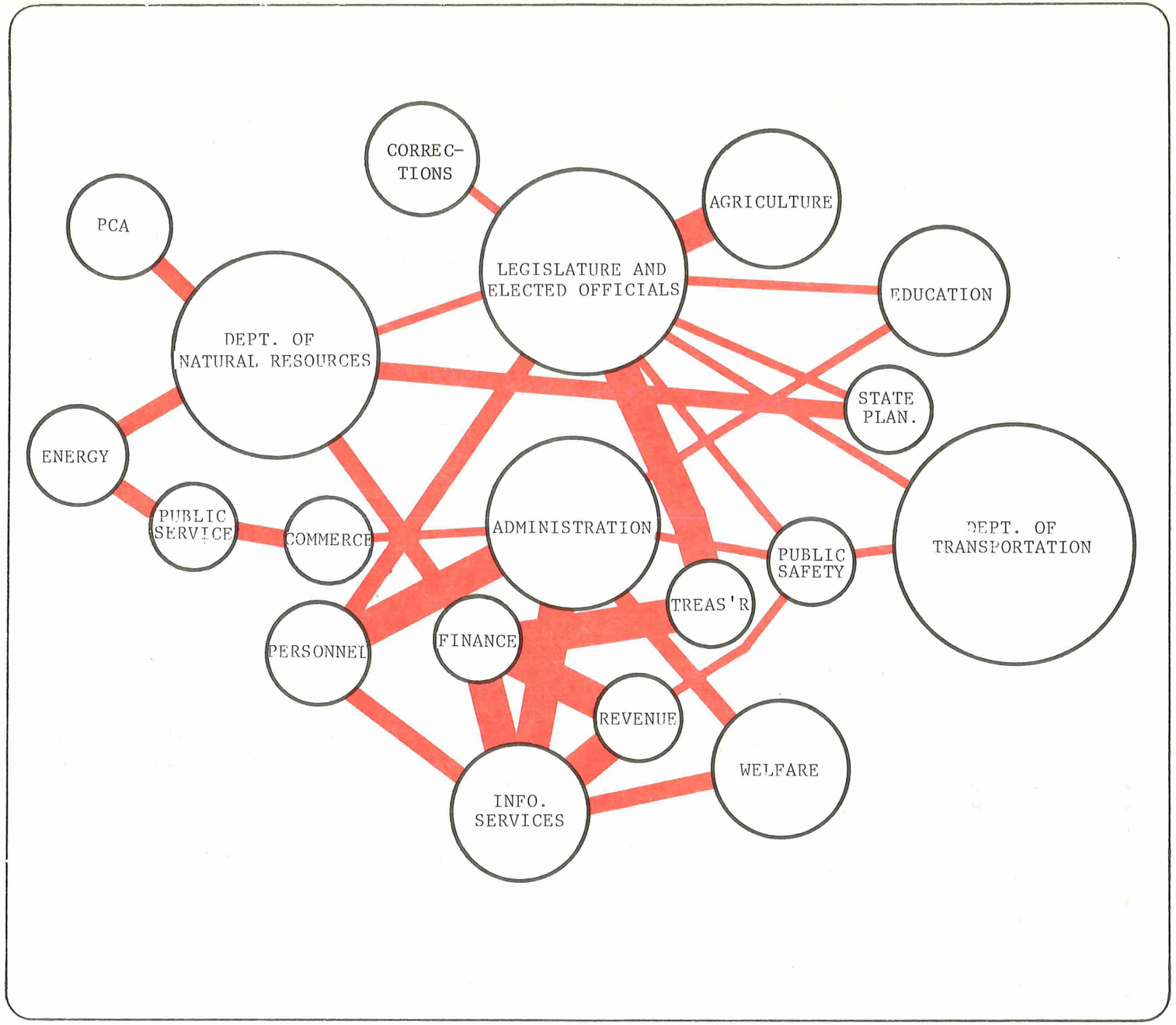
1. Fixed Locations

The analysis of the data resulted in documenting adjacency requirements, establishing certain "fixes" and rank ordering criteria for subsequent decision making relative to establishing space and building requirements. In the process of defining adjacency requirements, it was first determined that there were some agency "fixes"; that is, some departments are fixed in their location for various reasons. These reasons include: special improvements, tradition, special access to other areas, and unique facilities. The departments identified as having such fixed locations are as follows:

EXHIBIT VI.3

MAJOR ADJACENCY RELATIONSHIPS

INTERACTIONS PER WEEK



HIGH

MEDIUM

LOW

EXHIBIT VI. 4

MAJOR ADJACENCY RELATIONSHIPS

SAME BUILDING DESIRE

HIGH PRIORITY

SECONDARY PRIORITY

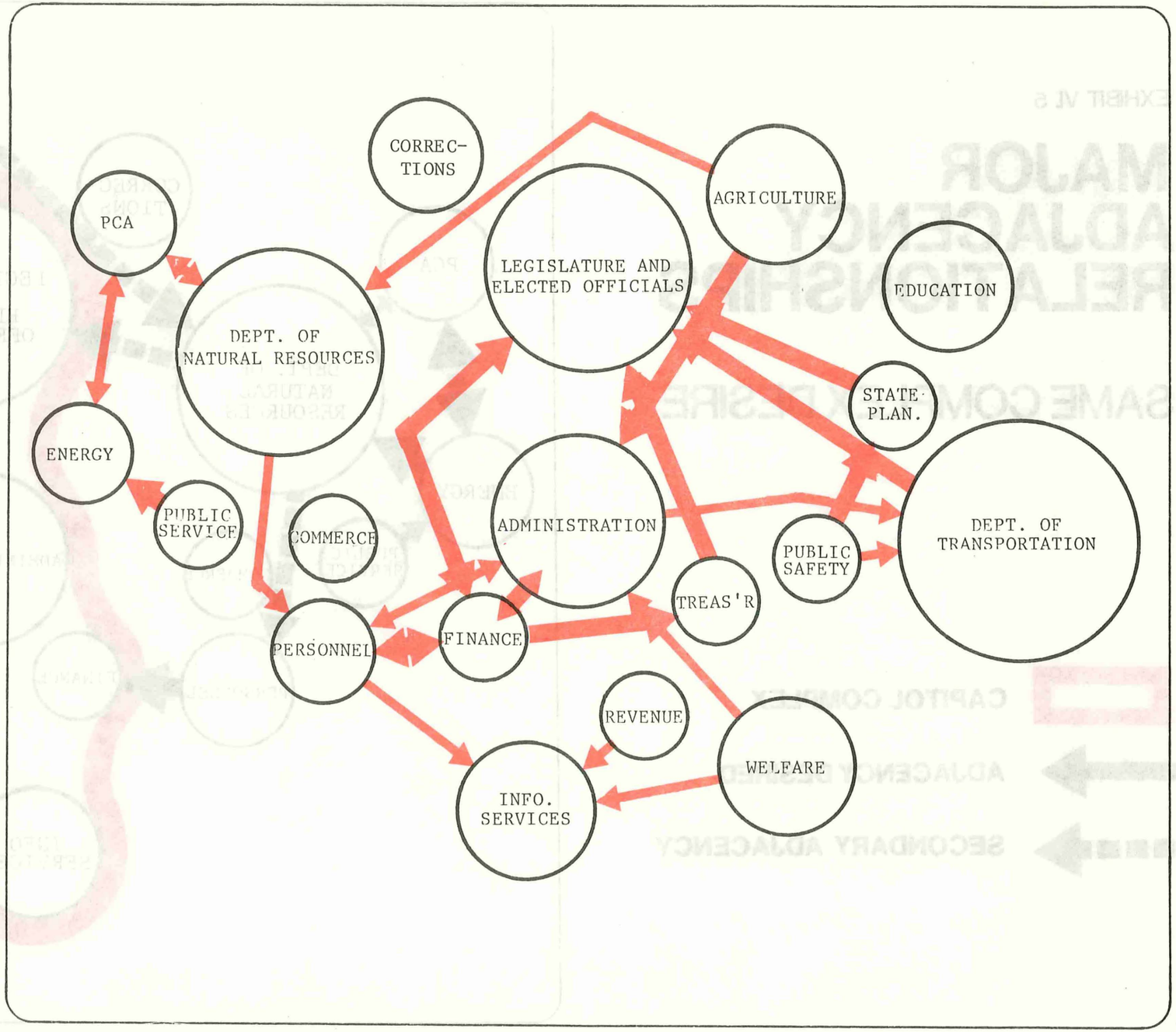
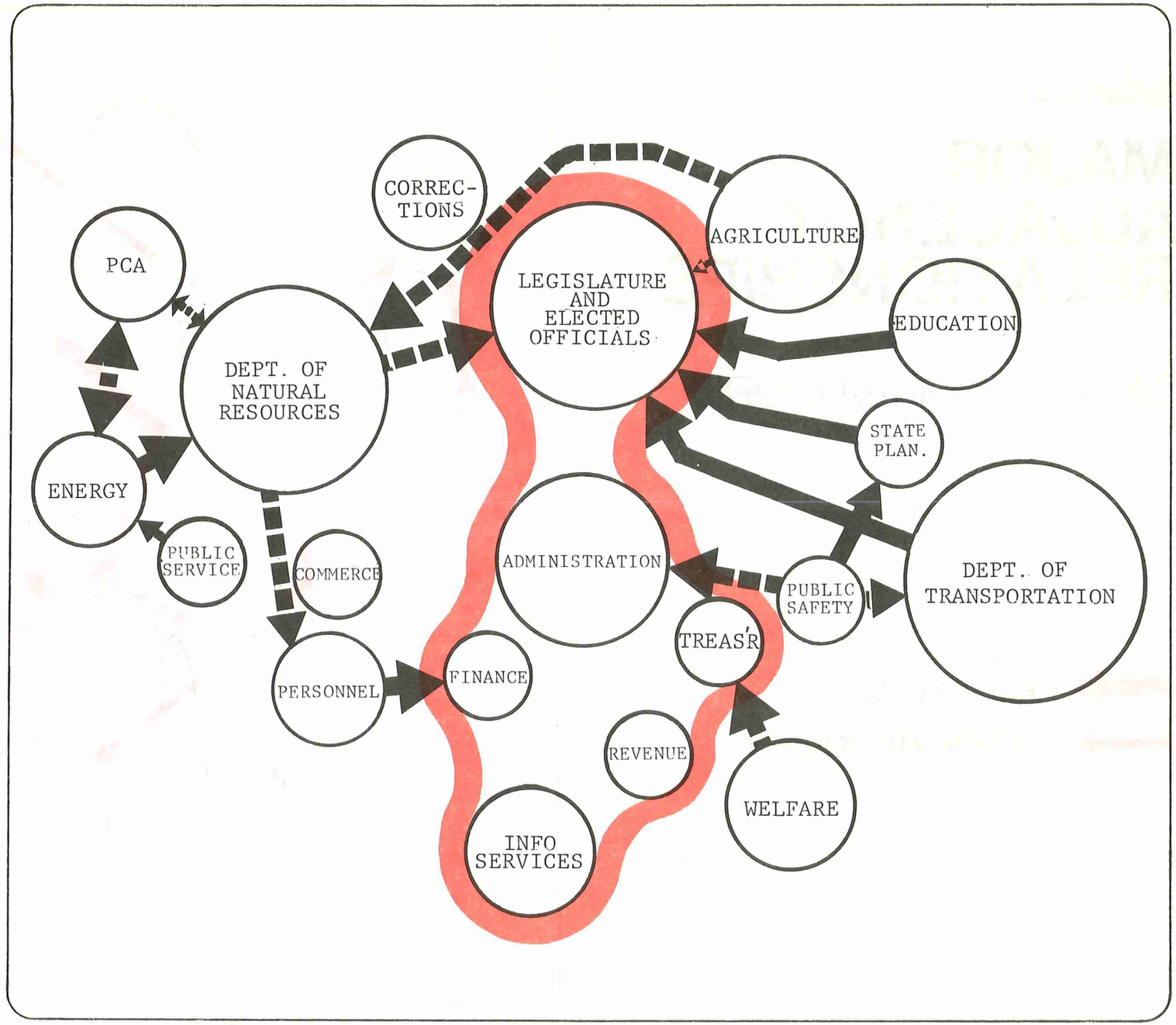


EXHIBIT VI. 5

MAJOR ADJACENCY RELATIONSHIPS

SAME COMPLEX DESIRE



CAPITOL COMPLEX

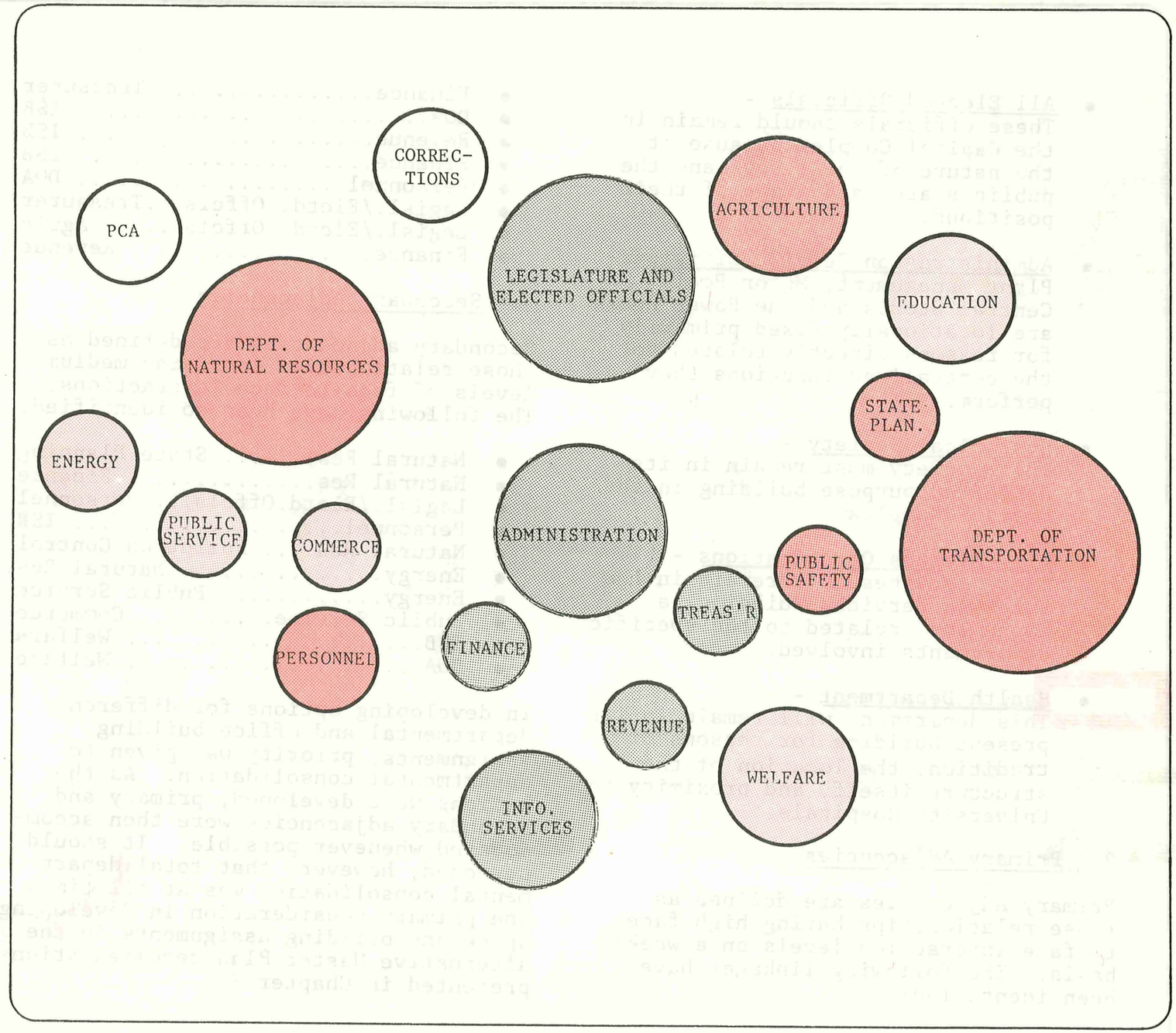
ADJACENCY DESIRED

SECONDARY ADJACENCY

EXHIBIT VI.6

MAJOR ADJACENCY RELATIONSHIPS

CAPITOL COMPLEX LOCATION



GIVEN

PRIORITY LEVEL ONE

PRIORITY LEVEL TWO

PRIORITY LEVEL THREE

- All Elected Officials -
These officials should remain in the Capitol Complex because of the nature of their work and the public status and image of their positions.

- Administration Service Divisions-
Plant Management, Motor Pool, Central Stores and the Power House are locationally fixed primarily for reasons directly related to the centralized functions they perform.

- Historical Society -
This society must remain in its dedicated purpose building in the Capitol Complex.

- All Veterans Organizations -
These services must remain in the Veterans Services Building, a "monument" related to the specific departments involved.

- Health Department -
This department will remain in its present building for reasons of tradition, the location of the structure itself, and proximity to University Hospitals.

2. Primary Adjacencies

Primary Adjacencies are defined as those relationships having high face-to-face interaction levels on a weekly basis. The following linkages have been identified:

- Finance..... Treasurer
- DOA..... ISB
- Revenue..... ISB
- Finance..... ISB
- Personnel..... DOA
- Legisl./Elctd. Offcls...Treasurer
- Legisl./Elctd. Offcls..... Agric
- Finance..... Revenue

3. Secondary Adjacencies

Secondary adjacencies are defined as those relationships involving medium levels of face-to-face interactions. The following have been so identified.

- Natural Res..... State Planning
- Natural Res..... Finance
- Legisl./Elctd.Offcls... Personnel
- Personnel..... ISB
- Natural Res.... Pollution Control
- Energy..... Natural Res.
- Energy..... Public Service
- Public Service..... Commerce
- ISB..... Welfare
- DOA..... Welfare

In developing options for different departmental and office building assignments, priority was given to departmental consolidation. As the options were developed, primary and secondary adjacencies were then accommodated whenever possible. It should be noted, however, that total departmental consolidation was at all times the primary consideration in developing space and building assignments in the alternative Master Plan recommendations presented in Chapter X.

E. LOCATIONAL CONSIDERATIONS

1. Capitol Complex Location

In addition to those agencies previously identified as locationally fixed (Legislative/Elected Officials, Administration Service Divisions, Historical Society, all Veterans' Related and the Health Department) numerous other departments have certain locational requirements that must also be met. Taking into consideration the aforementioned locational "fixes", departmental adjacency needs and preferences, accessibility requirements and daily visitor volumes, the Consultant recommends the following departments be located within the State Capitol Complex:

FIXED ASSIGNMENTS	NSF REQUIRED TO SUPPORT 1% GROWTH THROUGH 1990
• Legisl./Elctd. Offcls. (incl. State Treas.).....	30,720
• Administration (incl. Information Sys.)...	161,604
• Finance.....	18,768
• All Veterans Related.....	29,184
• Historical Society.....	68,966
• Revenue.....	133,980
Total Fixed Area Req'd..	443,222
Available Space.....	973,350
Surplus Space.....	530,128

These departmental locational requirements are treated as "givens" in each of the options presented in this report.

Priority One Assignments

The second locational assignment category is Priority Level One. The agencies included in this category, that have a marked but not vital need to be within the Capitol Complex, are as folllows:

	NSF REQUIRED TO SUPPORT 1% GROWTH THROUGH 1990
• State Planning.....	34,540
• Public Safety (excl. Bureau of Crim. Appr.)...	74,742
• Agriculture.....	65,280
• Transportation.....	214,020
• Natural Resources.....	98,022
• Personnel.....	25,403
Total Priority One.....	512,007
Total (Priority One plus Fixed).....	955,229
Available Space.....	973,350
Surplus Space.....	18,121

Whenever possible, these locational needs were addressed in the development of all alternatives.

Priority Two Assignments

The next locational assignment category, Priority Level Two, includes those agencies not displaying an immediate need to be within the Capitol Complex. These departments, however, do have significant contact with the departments located within the Capitol Complex. Priority Level Two includes the following agencies for which a St. Paul CBD location is feasible:

- Education
- Commerce (St. Paul Central Business District location desired)
- Public Service
- Energy
- Welfare

2. Outer St. Paul or "Suburban" Locations

Two agencies prefer a location other than within the immediate Capitol Complex/St. Paul Central Business District. They are:

- Pollution Control - A suburban site location is desired for reasons of accessibility and visitor parking requirements.

- Bureau of Criminal Apprehension (Public Safety) - The special nature and recent remodeling of labs currently housed at 1246 University requires this bureau remain at its present location.

F. ECONOMIES OF RELOCATION AND CONSOLIDATION

Throughout the development of the Minnesota State Facilities Master Plan recommendations, it is of paramount importance to consolidate those agencies having components located in different facilities. A common location will improve organizational effectiveness and will ultimately reduce life cycle operating costs through productivity increases enhanced by improved communication. Whenever possible, agencies will be consolidated when meaningful and highly desirable results can be attained. A number of suggested lease consolidations are noted in Exhibit VI.7, Page 72.

Additionally, a number of potentially uneconomical or inefficient leases will be recommended for termination wherever a cost breakeven or reduction is possible as a result of vacating such leases and consolidating in State-owned facilities.

Relocation to Improve Adjacency Relationships

Another type of agency movement or "shift" is in response to the relocation of a department or subgroup to another facility to support particular adjacency requirements with other agencies.

This type of relocation, as opposed to a rearrangement within existing buildings or quarters, can only be justified if future operational cost savings exceed the increased cost to be incurred as a result of this relocation. Thus, it is first necessary to determine the possible range of costs that might be encountered in relocating a significant number of personnel from one

EXHIBIT VI. 7

PRIORITY LEASE SPACE CONSOLIATIONS

AGENCY/DEPARTMENT - LOCATION	SQUARE FOOTAGE LEASED	REASON FOR CONSOLIDATION CANDIDATE						
		GROWTH GREATER THAN 20%	LESS THAN 5,000 SQ.FT.	CONSOL-IDATIONS REQUIRED	ADJA'CY PREFER.	DOWN TOWN LOC'TN	CAP. COMPL. LOC'TN	# OF PERS-ONNEL
1. Agriculture - Agriculture Bldg.	64,000				●		●	208
2. Metro State University - Metro Sq.	13,639			●				41
3. Pollution Control - Buetow	41,551			●				312
4. State Auditor - 390 N. Robert	186		●	●				1
5. P.O.S.T.	1,662		●	●				6
6. Water Resources BD. - 555 Wabasha	1,312		●					3
7. DOA - Energy Conservation - MEA	1,458	●	●	●			●	9
8. DOA - State Register - Hamm Bldg.	1,200	●	●					1
9. DOA - Bldg IISAC - Hanover	181			●			●	24
10. DOA - Bldg Coe - Metro Square	6,046	●						14
11. DOA - Bd. of Electricity - Griggs Midway	2,273			●				13
12. MOIS - Amer. Center	2,180	●	●					10
13. Council on Handicapped - Metro Square	1,645			●		●		129
14. Economic Security - American Center	28,288			●		●		46
15. Economic Security - Space Center	13,589			●				1
16. Education - Hanover	3,024		●	●				1
17. Education - Rossmor	840		●		●			2
18. Higher Ed. Facility Authority - Metro Sq.	1,200	●	●					7
19. Indian Affairs Intertribal Bd - Griggs - Midway	1,049		●					19
20. Livestock Sanitary Bd. - Metro Square	4,430	●	●				●	27
21. Investment Bd. - MEA	4,894	●	●				●	11
22. Law Examrs/Lwyrs. Pro.Respn.Bd. - 200 S. Robert	2,381		●					2
23. Personnel Bd. - Space Center	221		●					4
24. Municipal Bd. - Metro Square	1,100	●		●				38
25. Minnesota St. Retirement -521-529 Jackson	5,700			●				255
26. Natural Resources - Space Center	35,661	●		●				2
27. Public Safety - American Center	652		●	●				15
28. Public Safety - Hanover	3,514		●					10
29. Ombudsman for Corrections - Nalpak	2,088	●	●	●				18
30. Public Employees Relat. Bd. - Space Center	198		●					1
31. Public Welfare - Metro Square	4,943	●	●	●				25
32. Revenue - Nalpack	12,776			●			●	10
33. Revenue - 1266-1276 University	7,956			●			●	35
34. Transportation - Trans. Annex.	7,500			●			●	51
35. Transportation (Maint.) - 521-529 Jackson	5,388			●			●	32
36. Tax Court - Space Center	1,819		●					6
37. Public Welfare - 690 N. Robert	21,821			●				168
38. Attorney General - Space Center	4,707		●		●			26
39. Personnel - Space Center	24,415			●				112
TOTAL AMOUNT OF LEASE SPACE TO BE TERMINATED	337,487	65200	43,958	237496	69547	29933	108583	1695
% OF TOTAL		19.3	13.0	70.4	20.6	8.9	32.2	

building, whether owned or leased, to an alternative facility. This is very important if the relocation is only in response to improving adjacency locational satisfaction rather than in promoting desires for agency consolidation.

Frequency of Actual Trips to Fulfill Adjacency Requirements

Approximately 8,000 personnel are contained in more than 80 organizational units expressing some degree of adjacency relationship with other departments. Personnel assigned to the various departments who have no adjacency relationships based on an analysis of their work classification are specifically deleted from the inventory of personnel. The average work group is thus approximately 100 personnel.

Based on previous calculations of the frequency of inter-departmental direct personal interface, it was calculated that between one half and one trip per week per employee occurred within the highly interactive departments. Overall average interface levels, for all departments, were less than one half trip per employee per week.

Case Study Evaluation

If a stable space inventory and, for the moment, no economic differences associated with occupying leased space or State owned facilities is assumed, the relocation of a typical 100 person group would require the remodelling or rearrangement of approximately 19,000 NSF of space at an area factor of 190 NSF per person.

Remodelling costs for such a relocation and remodelling program could be as low as $4 per NSF if the new space is relatively open in nature, is in good condition, and if special areas or unique improvements are not required by the new occupant. Costs of up to $8 per NSF could be encountered for complete renovation of the new quarters, with even higher costs incurred if more than minimal modification of the HVAC, structural, ceiling and lighting systems is required.

For purposes of further calculation, an expected remodelling and rearrangement cost of $6 per NSF is assumed. In addition, costs will be encountered on a per employee basis simply for packing boxes, moving furniture and materials, changing telephones, and other activities directly associated with the relocation of an employee from one building to another.

Assuming an employee relocation cost of $150 per employee, the hypothetical 100 person relocation entails additional costs of $15,000.

Additionally, an expected remodelling cost of $6 per NSF applied to a 19,000 net square foot space indicates a construction budget of $114,000. Thus, total remodelling and rearrangement costs for 100 personnel, occupying 19,000 net square feet approaches $129,000. From this cost, any cost savings enjoyed by the new department as a result of improved adjacencies, decreased travel time, and increased productivity must be subtracted.

Over a 50 week year, contact frequency levels indicate between 2,500 and 5,000 actual trips between the two interfacing departments if each contains 100 personnel. Assuming a minimum 10 minute time expenditure to complete a round trip between different buildings, when applied to between 2,500 and 5,000 actual trips per year, between 25,000 and 50,000 minutes of employee time would be expended in movement from one department to another over an annual period.

This equates to between 417 hours and 833 hours of time during the year. At an average labor rate of $12 per hour, this indicates an annualized inter-departmental transit cost of between $5,000 and $10,000.

It is further assumed this $12 labor cost will inflate in future years at a rate equal to the discount rate. Thus, over a 30 year time frame, the cost savings associated with relocating a typical work group of 100 personnel to alternative quarters, assuming the new location is sensitive to adjacency relationships and the 10 minute per trip time expenditure savings is realized, would be between $150,000 and $300,000.

Break-Even Analysis

It is evident from the foregoing analysis that a relocation program involving departments with adjacency needs will produce life cycle cost savings in excess of the cost of completing the remodelling and relocation program. (Cost savings = $150,000 to $300,000. Remodelling and relocation costs = $129,000)

An actual break-even situation exists when each employee makes .43 trips per week to a different department. It is these .43 trips which will be reduced in time by ten minutes for each round trip.

Conclusions

The average length of time required for an employee to make a round trip from the downtown CBD area to the State Capitol, in and out of buildings, is over 30 minutes, while the average time to walk from one Capitol Complex facility to another is within a round trip time frame of 10 minutes. Rearrangement of departments within the State Capitol Complex for reasons only of improving adjacency relationships are probably less than cost effective, at least from an increased productivity perspective.

The relocation of groups of personnel located in outlying or Central Business District areas having the strong adjacency relationships with departments located in the Capitol Complex will result in a significant time savings. Over the next 30 years, this will produce savings or reduce operating costs by an amount far in excess of the cost incurred in remodelling and relocating a space. However, if significant differentials exist in facility related costs for example, maintenance and operation, construction, or leasing costs, such a relocation cannot be justified based solely on the economics of transit and remodelling.

It is further recognized that any opportunity to remodel space and relocate another department into it will result in a space utilization improvement of at least 5% and possibly as much as 20%. This improvement is possible with the proper application of open office planning principles and possible utilization of furniture systems.

Applied only to the 19,000 square feet used in the previous case study evaluation, this 5% space utilization improvement factor results in reducing the requirement to lease or construct space by 950 NSF.

Analyses provided in Chapter VIII of this report indicate the present value life-cycle cost to lease or construct new space, and to maintain and operate that space over the next 30 years, is between $150 and $200 per NSF. At a $7 per square foot lease cost, the actual present value life-cycle cost of one square foot of leased space is $172.91.

A 5% space utilization improvement, saving 950 NSF, thus indicates a present value life-cycle cost savings of between $142,500 and $190,000.

Again, the indicated range of potential space utilization improvement savings, resulting from remodelling existing space and relocating other departments into it, vastly exceeds the cost of that remodelling which was previously calculated at $129,000.

Finally, assuming that remodelling existing space and relocating another department into that space will improve space utilization by 5%, then, regardless of the cost savings or effect on adjacency requirements resulting from that relocation, the additional cost of remodelling the space and relocating personnel is more than off-set by the present value life-cycle cost savings attributable to the 5% space utilization improvement.

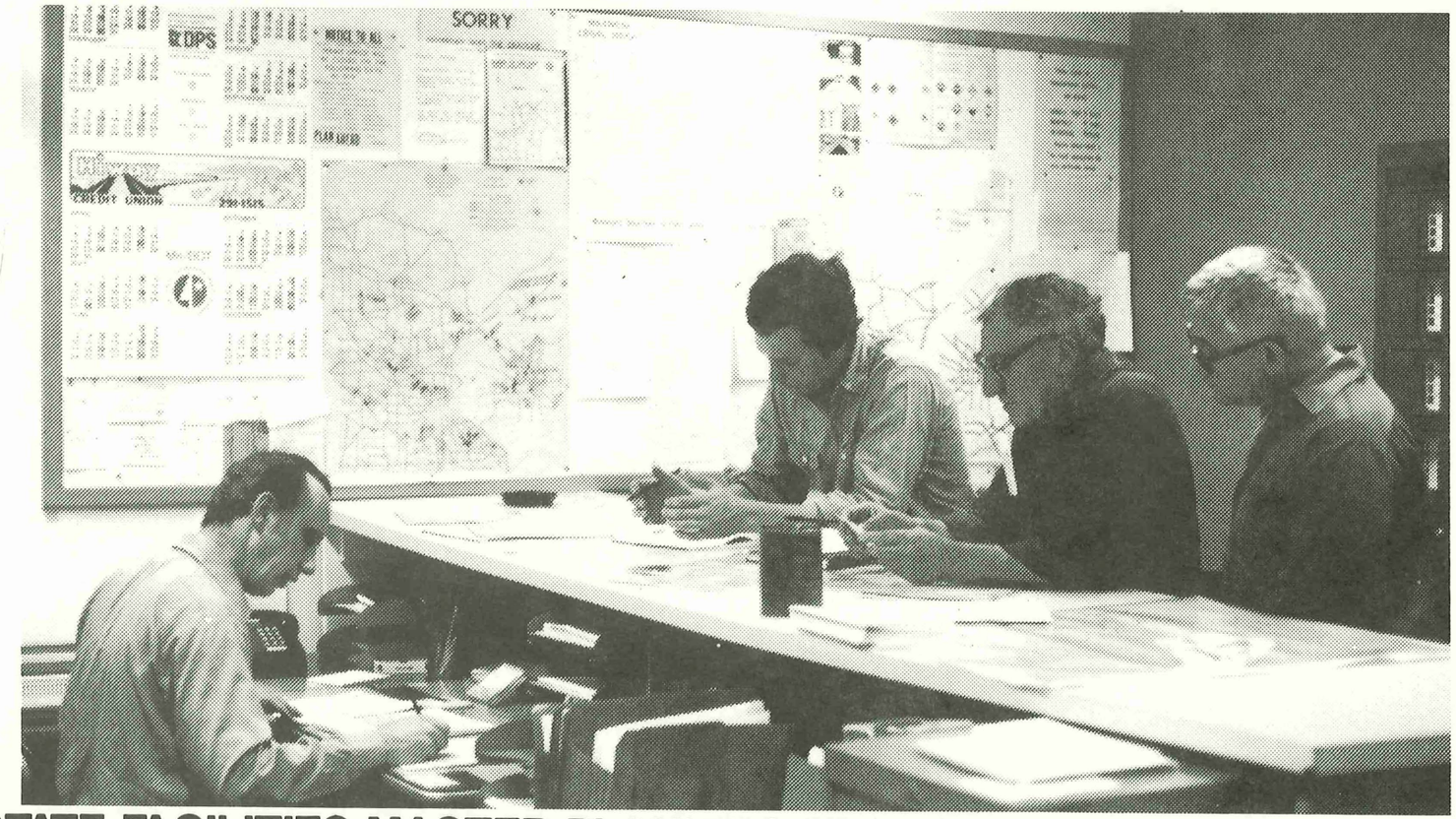
Thus, the Consultant recommends a number of lease terminations for reasons other than agency consolidation, significant adjacency relationship improvement or the result of cost savings directly attributable to the space acquisition alternatives. These and other rearrangements and consolidations, plus a comprehensive remodelling and rearrangement program, are recommended in Chapter X of this report.

In summary, a review of the frequency of trips between departments, as presented in Exhibit VI.2, Page 64, of this chapter, suggests that approximately one quarter trip to a different agency or department is made by each employee each week. Stated in another fashion, each employee, on average, makes one trip to a different agency or department only once each month.

The data, although not comprehensive, thus suggests that a typical agency of 100 personnel would probably make only 25 trips per week to a different department. Certainly, some departments have adjacency relationships and trip frequencies that are significantly greater, possibly as high as one or two trips per week per employee.

However, it is the Consultant's conclusion that the frequency of trips between the various departments is not nearly as great as generally thought. Therefore, cost savings actually available as a result of relocating agencies to alternative quarters will not produce sufficient present value life-cycle cost savings to justify the additional costs of remodelling space and relocating a department for that reason alone.

For this reason, the primary determinants in finalizing recommended departmental area assignments were agency consolidation to improve overall operational efficiency and the minimization of present value life-cycle costs associated with facility related actions that might be improved by remodelling. Present value life-cycle costs are minimized primarily by using more cost effective acquisition methods and improving space utilization through remodelling and conversion to full open-planned spaces employing systems furniture and other contemporary concepts.





INTERIOR PLANNING ENVIRONMENTS VII

CHAPTER VII

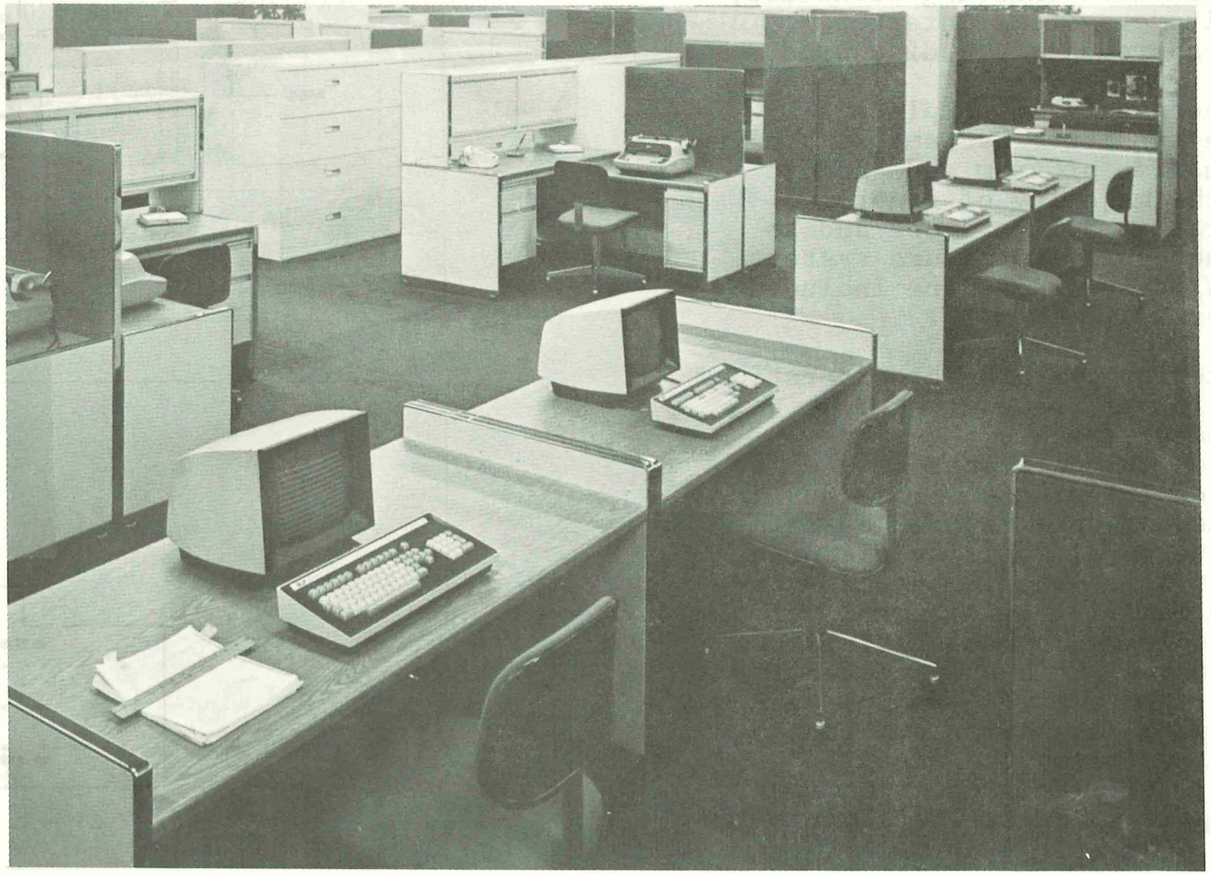
INTERIOR PLANNING ENVIRONMENTS

The total net space required for each department is a function of space assigned to individual work stations and the space allotted to special areas and common equipment. Once the Consultant developed a projection of total future staff levels for each department for the year 1990, it was necessary to multiply the total number of personnel by an appropriate net area factor, the average number of net square feet (NSF) assigned to each person in the department. The total net area factor generally ranges between 170 and 190 NSF per person for state governments. This is by no means the amount of space assigned to each work station because it includes and allocates special purpose areas, conference rooms, and circulation to all personnel located within the space on a pro rata basis. Thus, the average work station may require between 75 and 150 NSF while the total area factor for a department may in many cases approach 200 NSF.

Space utilization for each department was reviewed to determine whether or not it could be improved (decreasing the net area factor) or whether there was a space deficiency or an overcrowded condition which must be alleviated by increasing the net area factor. In many cases, adjustments of ± 5% to 25% were recorded prior to the projection of requirements for future years which was the basis for the recommended actions discussed in Chapter X.

Space adjustments reflected the Consultant's development of functional work station standards identifying specific requirements for a variety of administrative job classifications within executive branch departments of Minnesota state government.

The balance of this Chapter will discuss how the Consultant developed the comprehensive series of work station and special area and equipment standards provided to the State under separate cover in the Space Management Report. This Chapter will also summarize the opportunities available to the State of Minnesota to complete a series of cost effective remodeling programs and convert space

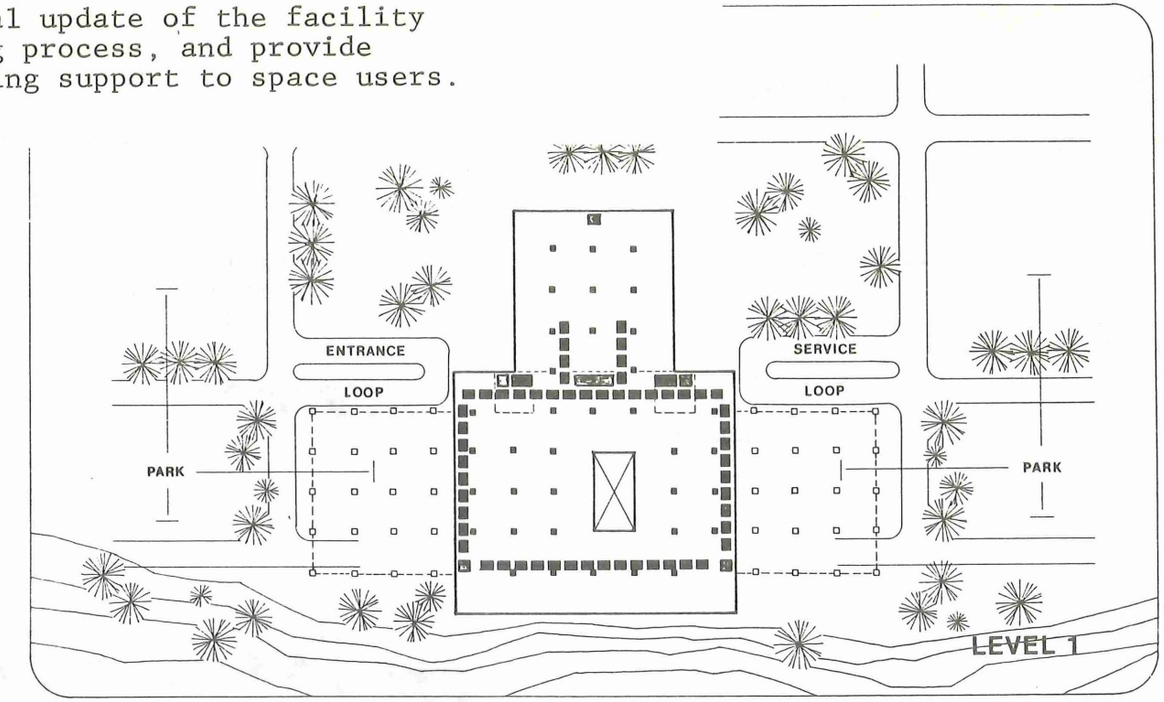


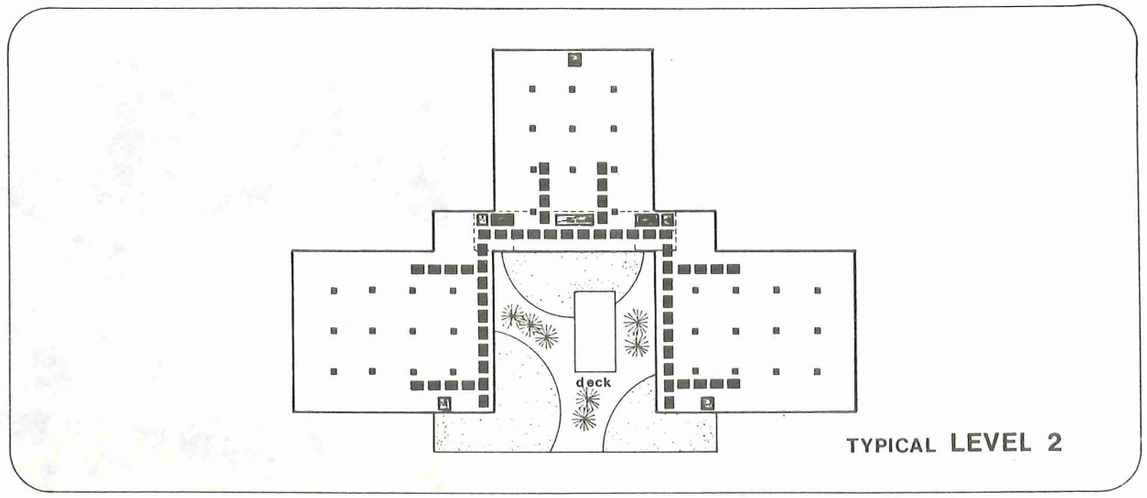
to an appropriate degree of open office planning - often utilizing furniture systems to improve space utilization, enhance the quality of interior environments, and significantly increase flexibility to accommodate future change.

Alternative interior planning philosophies including closed office planning, office landscape that uses free standing acoustical screens in conjunction with existing furniture, and furniture systems interior planning approaches are discussed.

Budgets necessary to complete a prototype furniture systems remodeling and evaluation program and then to remodel the majority of general administrative office space and to procure necessary furniture systems and acoustical screens are included in Chapter X.

Other interior planning considerations included in the Space Management Report under separate cover are: performance criteria appropriate for the type of interior environments recommended in this report; certain pre-architectural facility planning guidelines which should be incorporated into facility development projects selected by the Legislature from the three options discussed in Chapter X; and a comprehensive outline of space management procedures that, if adopted by the State of Minnesota, will facilitate continual monitoring of space utilization, allow an annual update of the facility planning process, and provide continuing support to space users.





A. DEVELOPMENT OF WORK STATION STANDARDS

Following is a discussion of the process used by the Consultant to develop work station standards as a part of an overall space management system for the State of Minnesota. The standards were developed so that they could be applied to generic employment categories on an interdepartmental basis within all executive branch administrative office space. The information describes the environment and work-related needs for all classifications. The process to develop this information included four major steps.

1. Review Job Classification Lists

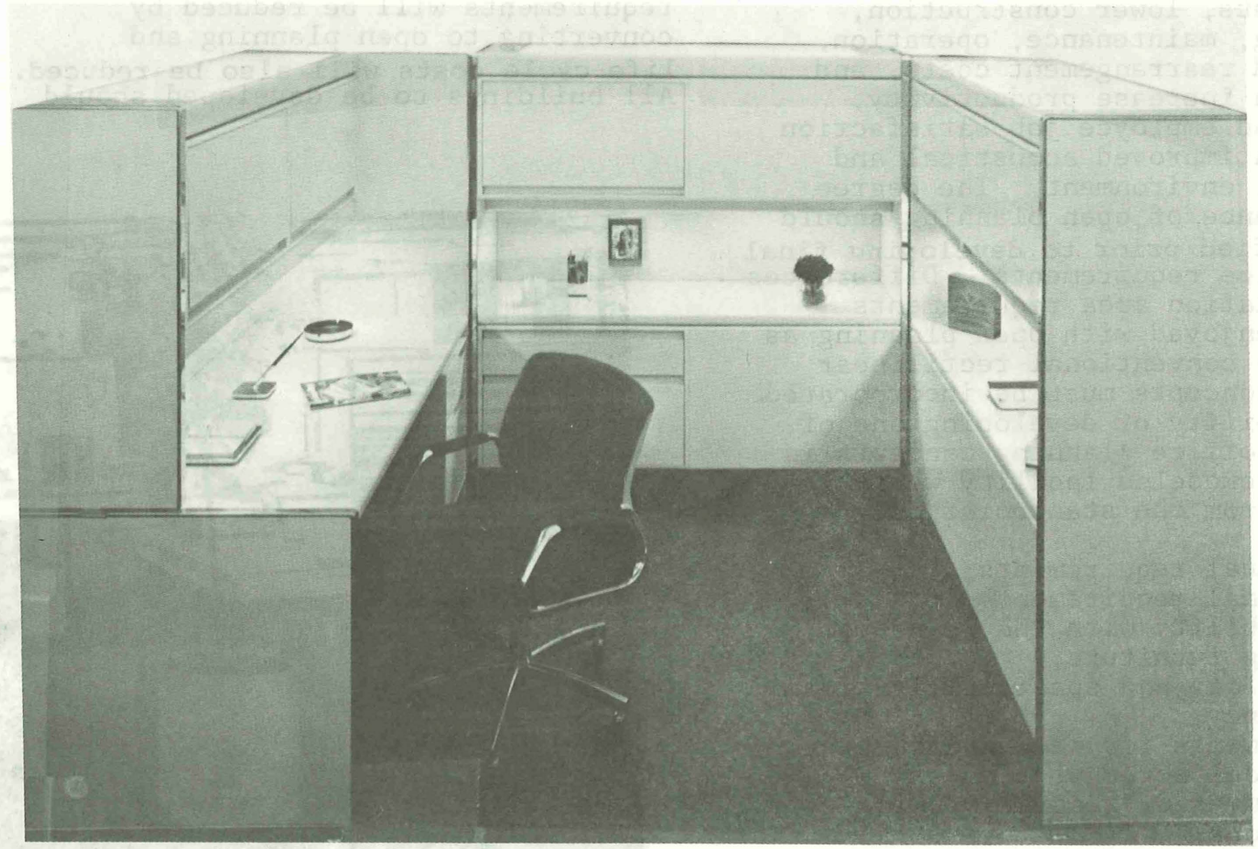
The first step was to review the job classifications provided to the Consultant by the State. A job classification is simply the title (i.e., Department Director, Engineer, Secretary, etc.). All classifications that were not included in the study (or that did not pertain) were deleted from the list. All classifications deleted were for people who are "in the field", or who do not require office environments; for example, correctional guards, construction personnel, and nurses to name a few.

2. Develop Job Classification Groups

At this point, the remaining classifications were re-grouped, where possible, according to similarity of work station requirements. For example, numerous levels of Accountants require the same type of work station, which might include a 30" x 60" desk, credenza and guest chair. It is important to note that the work stations developed are to be used as guidelines only, not rules, and not everyone in a particular group will always receive the exact same furniture. Implementation always involves slight deviations from these standards based on specific need. The State should evaluate individual needs as requested by specific users.

3. Identify Space Planning Philosophy

Next it was necessary to establish a general philosophy for the development of interior planning concepts that will be employed in either existing or new facilities. This additional step is presented at this time to assure that space standards and building planning criteria are defined in a manner that will be compatible with acceptable space layout and interior



development techniques used during subsequent implementation phases by the State.

Primary emphasis was directed towards determining the type of partitioning (fixed, movable system, or free standing) and electrical distribution system that would be employed in new construction as this will have a significant impact on the economics of alternative strategies. Various planning concepts could reduce area requirements, lower construction, remodeling, maintenance, operation, energy and rearrangement costs, and might even increase productivity, morale, and employee job satisfaction through an improved acoustical and functional environment. The degree of acceptance of open planning should be identified prior to developing final future space requirements. Differences in work station area requirements that are enjoyed with open planning as opposed to conventional rectilinear planning concepts must be incorporated. The feasibility of developing one of many open office planning concepts in a new or remodeled facility were examined from the standpoint of:

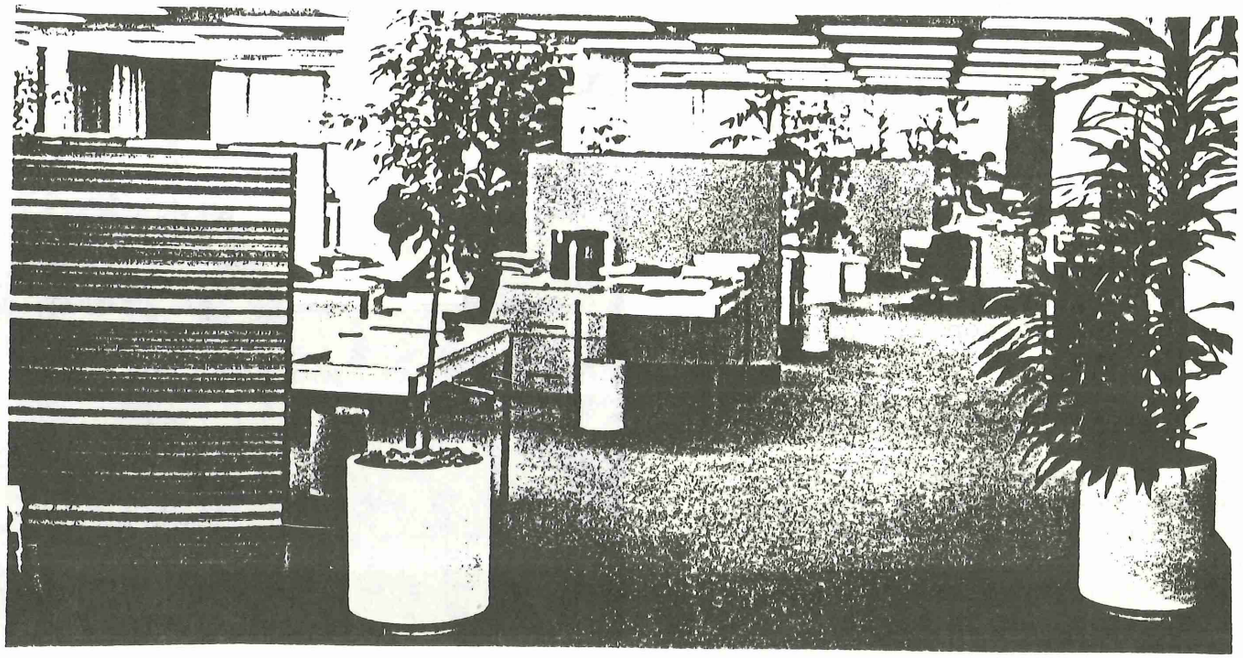
- Acoustical requirements;
- Functional requirements;
- Compatibility with the re-use of existing furniture;
- Flexibility and space utilization efficiency;
- Requirements for new furniture or acoustical screens;
- Improvement of general working conditions;
- Life cycle cost analysis;
- Improvement in internal communications;
- Energy distribution and conservations; and,
- Security and privacy.

The conclusion of the Consultant is that functional requirements can be properly accommodated by employing open-office planning concepts in between 75% and 85% of all Executive Branch Administrative spaces. Space requirements will be reduced by converting to open planning and life-cycle costs will also be reduced. All buildings to be developed should be configured to specifically support open planning and furniture systems interior planning concepts.

4. Develop Work Station Standards

The work station standards presented in this chapter and in the separate appendix were developed to satisfy most of the functional requirements of each job classification. To determine the requirements in each group, certain factors were reviewed, including square footage of work surface needed, workshelf requirements, filing and guest seating capacity.

Within the context of the selected space planning philosophy, each employee job



function was analyzed from a standpoint of functional requirements. Specific attention was given to determining the type, amount, and size of each required element of the work station or office. Emphasis was placed on identifying specific functional requirements rather than merely reacting to requests. Much more attention must be paid to identifying the components of a work place as opposed to assigning a specific quantity of space to the work station. The functional work station standards provide the necessary degree of standardization and space economy to support future growth.

Functional requirements for typical work stations were analyzed and developed in terms of:

- Lineal inches of filing space;
- Lineal feet of bookshelves;
- Area in square feet of primary, reference, conference, and drafting work surfaces;
- Number of guest chairs required and capacity to provide for small meetings;
- Requirement in square feet for tack surfaces, magnetic boards, blackboards, maps and displays;
- Storage, box drawer, EDP print-out storage and lockable cabinet requirements;
- Need for special equipment such as word processing machines, teletypes, dictating units, and calculators; and
- Need for task lighting, acoustical control, privacy and security.

Selection and assignment of work station standards relates to the functional requirements of the work station occupant for filing, storage, seating, and work surfaces, but may, by exception, address the hierarchy or status of the occupant should that position require more space than functionally required.

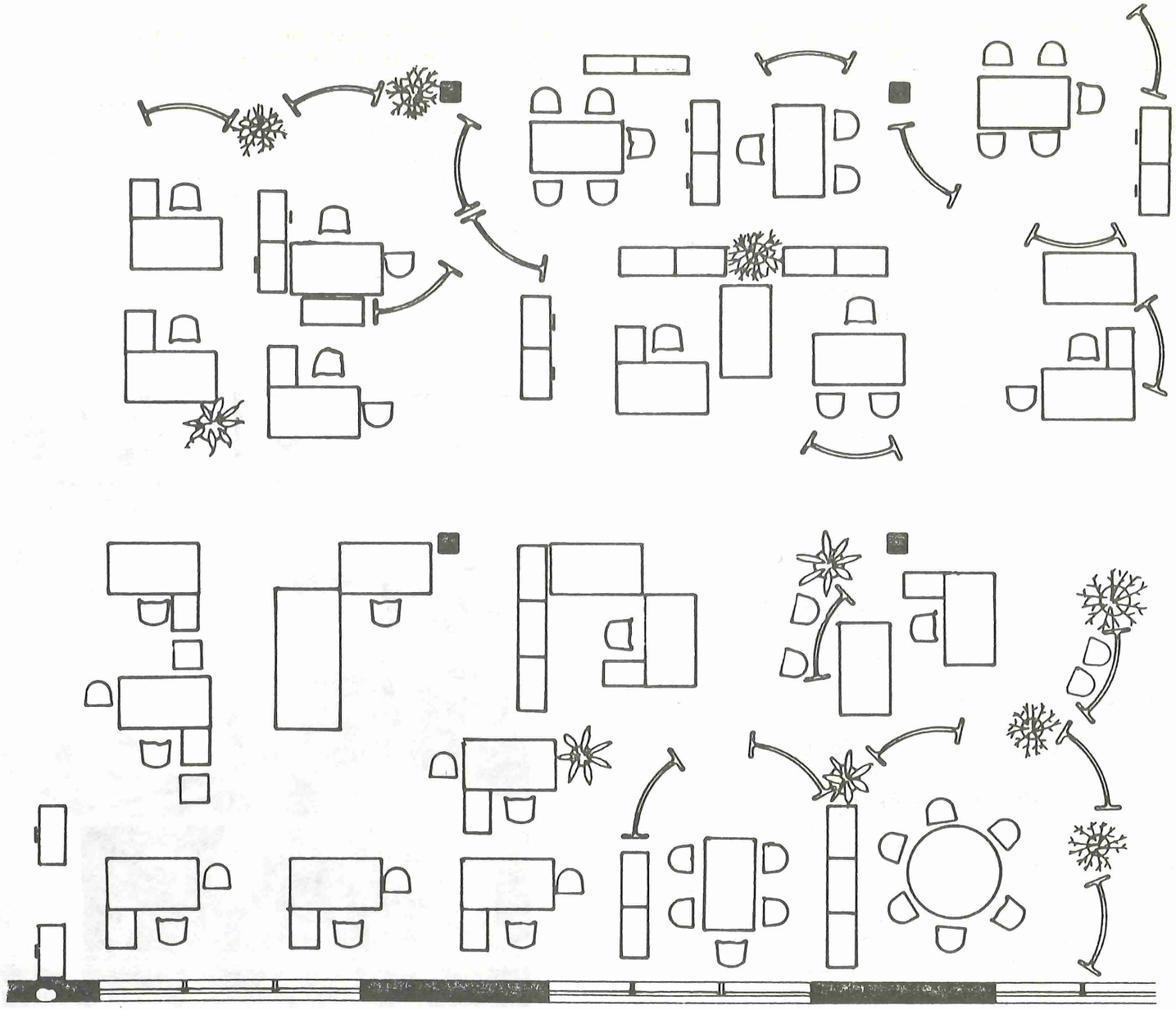
Functional work station standards are next converted to space standards to provide a quantitative assessment of area requirements for each department. Space standards can first be calculated assuming the continued utilization of existing furniture, and can then be adjusted to reflect the furniture solutions (i.e., a furniture system,



acoustical screens, etc.) attendant with the planning philosophy selected.

The functional description for each standard can be defined by stating the needs, for example, for a standard desk with or without a typing return, bookcase reference capacity, single occupant work station with and without guest seating, etc. The term "minimal" is used frequently to state that the total number shown can be increased to some extent without having any effect on the amount of square feet required for a work station. For example, a filing unit might be listed as six linear feet and may require only a two drawer file cabinet, but if a four drawer cabinet is placed in the same station, the capacity then becomes approximately twelve linear feet. This applies to all figures where "minimal" is included. Each station is given a few optional components which could replace one already associated with the standard. For example, if one station requires a file cabinet, it is possible to replace a bookcase with the file cabinet, which usually does not require more square footage.

Of the 25 standards provided, seven are private offices. Two have the option of being an open area office, or having systems furniture with high (72") acoustical panels to provide required privacy and acoustics. The balance are open in nature. A typical standard is included as Exhibit VIII.1 for review. Three principal codes were established for the work stations:



OS, DF and PO. The "OS" code is for an "open-scape" station, or what is considered to be a completely open station with very low acoustical requirements or the need for privacy with panels. The differentiation between two similar standards with the same net square footage is referenced with, for example, OS-1A and OS-1B. The DF station refers to drafting, which states the need for one or more work surfaces plus special equipment. The PO refers to private office, enclosed either by full height walls or acoustical screens.

The following discussions include prototypical work stations labelled "C" for clerical and "SP" for semi-private shared work stations.

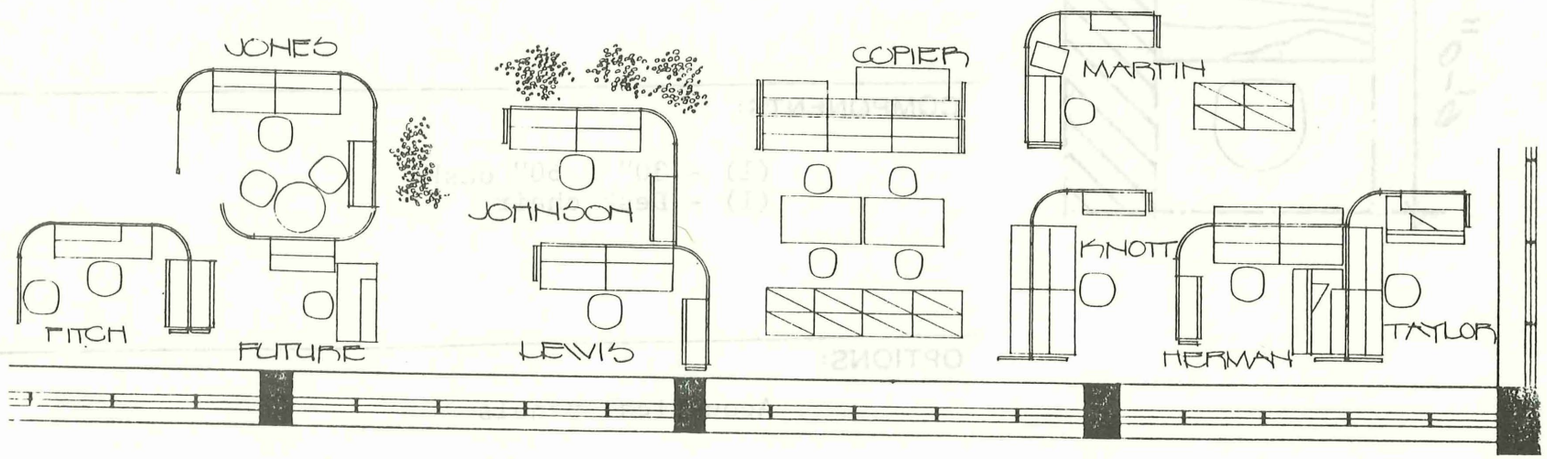
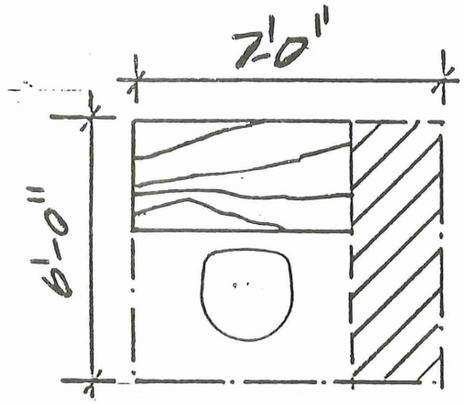


EXHIBIT VII 1

TYPICAL WORK STATION STANDARD



ASSIGNED CLASSIFICATIONS (FSC CODE):

JCG - 8, 28, 51, 70, 95, 149, 159, 173, 216, 225, 72

FUNCTIONAL DESCRIPTION:

Standard work surface with minimal file and storage capacity.

OCCUPANCY:

Single occupant seating

CAPACITY:

12.5 S.F. work surface

COMPONENTS:

(1) - 30" x 60" desk
(1) - Desk chair

OPTIONS:

Acoustical panels

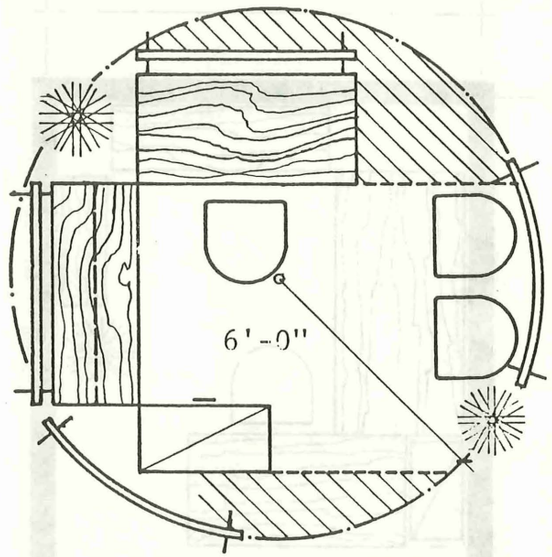
Exhibit VII.2 depicts two work station standards that essentially satisfy the same functional requirements with a primary work surface, a drafting table, a free standing five drawer filing cabinet, and two guest seats in nearly identical amounts of space.

The C-7 work station employs free standing acoustical screens in association with existing furniture and requires 113 NSF. If existing furniture is available and can be refurbished and supplemented with free standing acoustical screens, the work station can be developed, utilizing existing furniture inventories, for approximately $600.

The SP-8 work station utilizes a furniture system and provides the same functional components in 112 NSF. The total cost for procuring and installing the furniture system components, assuming the sharing of certain perimeter panels with other work stations, can probably be completed by the State of Minnesota at an average cost of $1800 for that particular work station.

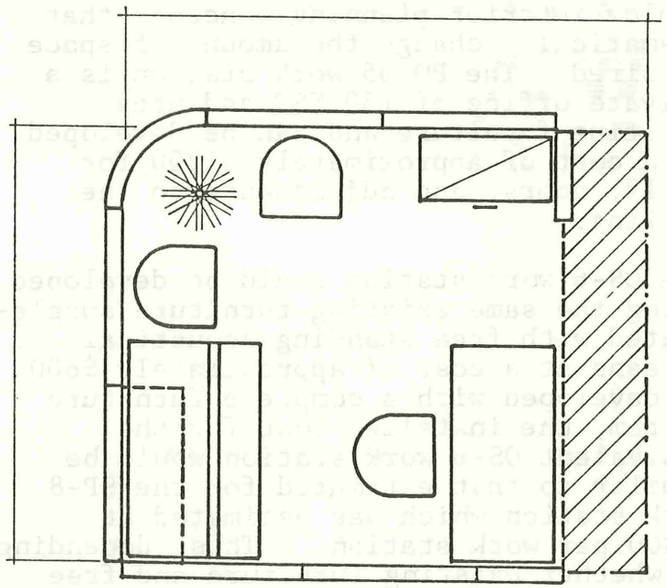
Exhibit VII.2 is presented to indicate the type of work station standards that are included in the Space Management Report and to demonstrate how specific functional work station requirements can be translated into different forms depending on the type of furniture to be employed.

EXHIBIT VII. 2



C - 7

113 NSF



SP - 8

112 NSF

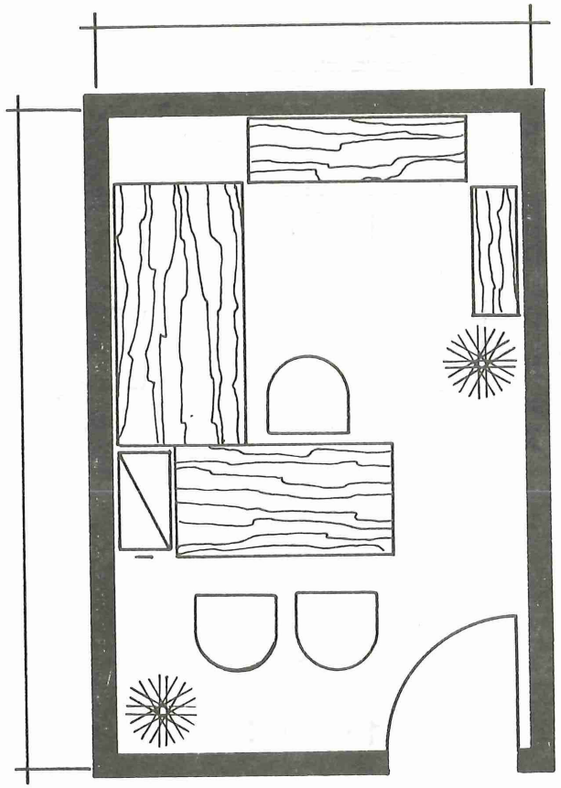
Exhibit VII.3 presents a comparison of two work station standards that satisfy identical functional requirements but employ interior planning concepts that dramatically change the amount of space required. The PO-05 work station is a private office of 150 NSF and uses existing furniture and can be developed at a cost of approximately $1200 for walls, doors, and adjustments to the ceiling.

The OS-6 work station could be developed using the same existing furniture supplemented with free standing acoustical screens at a cost of approximately $600. If developed with a complete furniture system, the installed cost for the equivalent OS-6 work station would be similar to that estimated for the SP-8 work station which was estimated at $1800 per work station. Thus, depending on whether existing furniture and free standing acoustical screens are employed or a furniture system is procured, conversion to an open office planning concept would either reduce initial costs in relationship to a private office environment by $600 or, if a furniture system were employed, would increase initial costs by approximately $600.

The potential space savings of 25 NSF has great value to the State of Minnesota. As will be discussed in Chapter VIII, the present value life cycle cost of one net square foot of space in an existing facility which might be purchased and renovated (the minimum cost space acquisition strategy) is $132.80. Therefore, the present value life cycle cost of the 25 NSF that can be saved by conversion to an open office planning concept is $3,395.

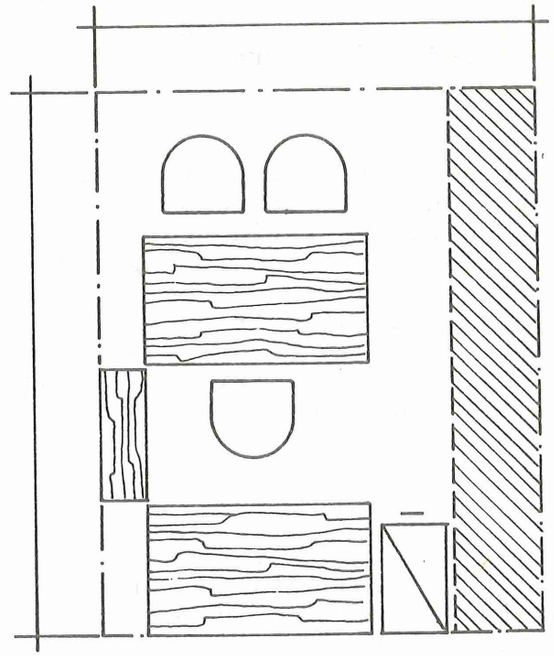
Thus, on a work station comparison basis, substantial overall savings may result by small amounts of space saved even if an expenditure approaching $1800 per work station were required for the purchase of a furniture system. An additional investment of between $600 and $1200 per work station in initial costs will reduce space needs by an average of 25 NSF and reduce life cycle costs by a minimum of $3,395 and probably as much as $5,000. This is a very good investment opportunity for the State.

EXHIBIT VII.3



PO 0 - 5

150 NSF



OS 0 - 6

125 NSF

B. FEASIBILITY OF UTILIZING SYSTEMS FURNITURE

Previous research and case studies have documented that systems furniture and the employment of a high degree of open office planning can reduce general office space requirements by between 10% and 20%. The Consultant's analysis of space utilization improvement potentials and facilities currently in the State of Minnesota space inventory indicates that a minimum savings of 10% would be applicable to about 800,000 NSF of State owned facilities that are "general office" in nature.

This same 10% space savings, and related cost reduction would also apply to the 525,000 additional NSF that would be purchased or constructed as a result of implementing the facilities master plan.

A 10% space savings would, when applied to only half of the existing space inventory and all new space would have the effect of saving 92,500 NSF. At an equivalent construction cost of $90 per NSF of space, an opportunity to reduce initial construction costs by over $8,000,000 exists. On a present value, life-cycle cost basis, savings or cost avoidances of between $10,000,000 and $15,000,000 could be gained by attention to space utilization efficiency.

This represents a rather large savings that can finance necessary remodeling plus furniture and equipment procurement. At a total cost of remodeling and procuring necessary furniture of $3,000 per employee, initial construction cost savings alone would "support" the conversion of space to accommodate between 2,500 and 3,000 employees. Based on life cycle cost savings of between $10,000,000 and $15,000,000, between 3,000 and 5,000 employees could justifiably be provided improved interior environments, more functional space, and completely new furniture systems at no cost increase.

Three work station standards were revised into a systems furniture standard. This is basically a component system in which everything is attached and maximum use is made of vertical space for storage and files. The work surface and storage areas are suspended from the panels and modular (separate) parts can be attached where required. Exhibit VII.6 shows the open station SP-2, which consists of 48 NSF, is shown in comparison to a systems station that fulfills the same requirements. It is possible to save approximately 6 square feet and decrease the work station area by 12%. A medium size open work station, SP-7A, consisting of 85 NSF is also used as an example and is shown in Exhibit VII.4. Once again, it is possible to eliminate the bookcase by putting reference shelving above the work surface (utilizing the systems panel). The space was decreased by 10 NSF - approximately 12% of the space. One of the large open-space work stations, SP-11, was used as the third example and is shown in Exhibit VII.5. It consists of 121 NSF. By eliminating the bookcase and making use of reference shelving above the work surface and by placing the back work surface (credenza) to the side, the station size decreases by 29 NSF - saving 24% of the space. It is evident from these samples that significant space savings with the use of system furniture work stations is possible.

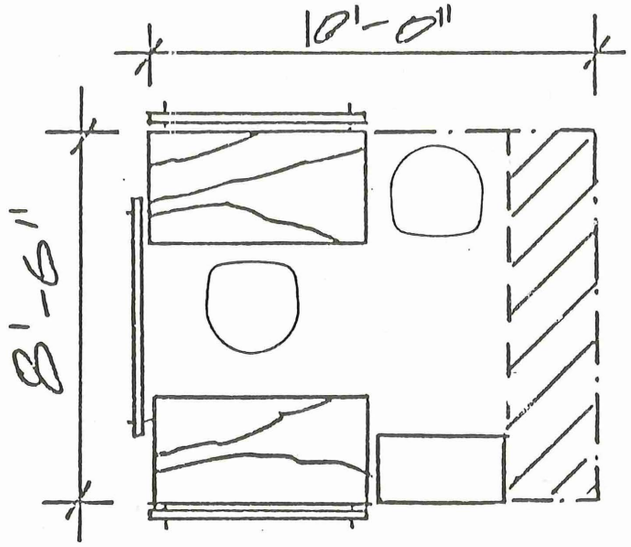
These work station standards were developed to meet the same functional requirements. The systems station provides the same working capabilities, but with additional work surfaces, storage units, and files. In addition, there is a savings of 10 NSF, which is a 12% decrease from the open station.

The SP-7A station provides 85 NSF of work area for positions such as accountants, managers, supervisors, analysts, engineers and specialists. There are 833 such work stations in the data base encompassing 14% of the total personnel. This station includes the following components:

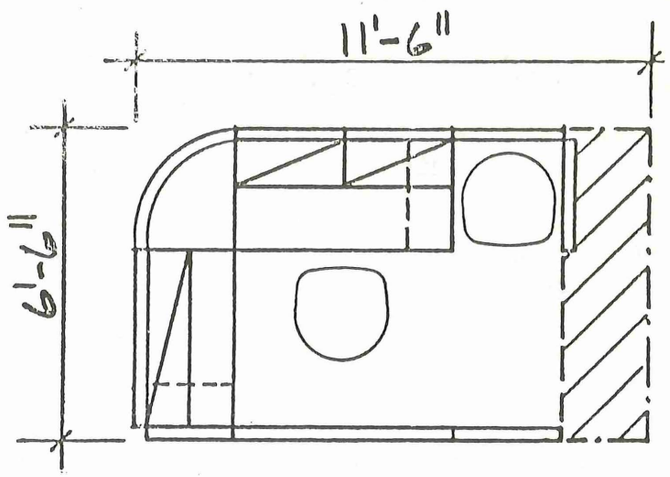
(1) 30"x60" desk
(1) 30"x60" work table
(1) 12"x31" bookcase
(1) desk chair
(1) guest chair
(3) acoustical panels

The systems station provides 75 NSF of work area. This is less than the SP-7A station but it provides the same working capabilities plus additional storage area while requiring 12% less space.

SP-7A (OPEN/FREESTANDING STATION)
(85 square feet)



SYSTEMS STATION
(75 square feet)



The systems station components are:

(1) 30"x60" panel hung work surface
(1) 24"x48" panel hung work surface
(1) 30" D storage units
(1) 24" D storage units
(1) 48" W shelf
(2) 30" W shelfs
(1) 24" radiused work surface
(1) 24" radiused systems panel
(1) 48" systems panel
(5) 30" systems panels
(1) 24" systems panel
(1) 60" systems panel
(1) desk chair
(1) guest chair

EXHIBIT VII.5

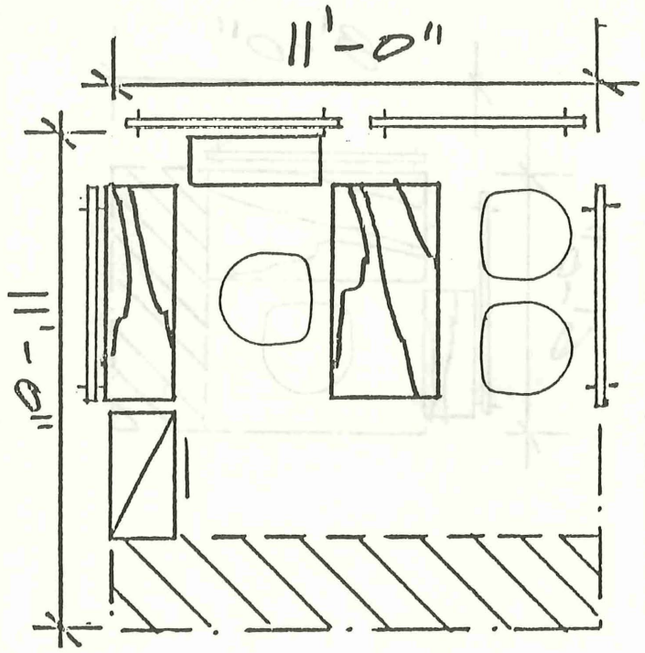
These work station standards were developed to provide the same work-related needs and requirements. The difference in total area required by the systems station and the SP-11 work station is approximately 29 NSF, or a 24% decrease. In addition to the difference in area, the systems station provides additional storage, files, and work surfaces by making use of vertical space.

The SP-11 station provides 121 NSF of work area for such positions as supervisors, managers, coordinators, officers, and examiners. There are 9 such work stations in the data base and this encompasses less than 1% of the total personnel. This station includes the following components:

(1) 30"x60" desk
(1) 18"x60" credenza
(1) 12"x36" bookcase
(1) desk chair
(2) guest chairs
(4) acoustical panels
(1) 18"x36" files

The systems station provides 92 NSF of work area. This is less than the SP-11 station but it provides the same working capabilities plus additional files and storage area while requiring 24% less space.

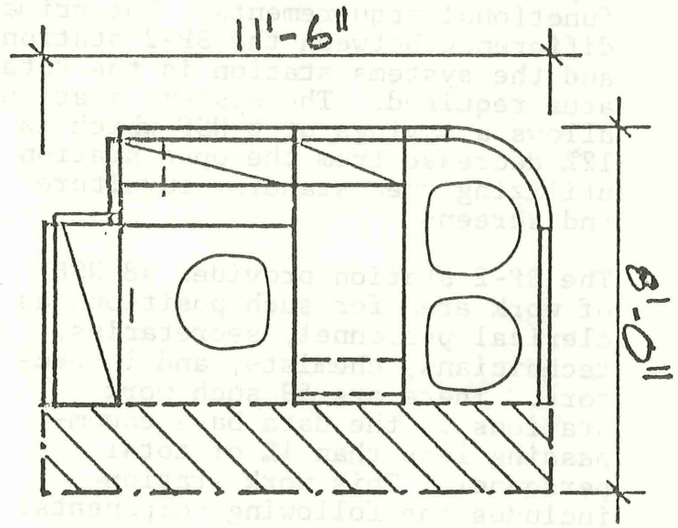
SP-11 (OPEN/FREESTANDING STATION)
(121 square feet)



The systems station components are:

(1) 30"x72" panel hung cantilevered (w/flr.support) work surface
(1) 24"x48" panel hung work surface
(1) 30" W shelf
(1) 48" W shelf
(1) 30" D storage unit
(1) 24" D storage unit

SYSTEMS STATION
(92 square feet)



(1) 18"x48" panel hung filing unit
(3) 48" systems panels
(1) 30" systems panel
(1) 12" systems panel
(1) 24" systems panel
(1) 18" systems panel
(1) 24" radiused systems panel
(1) desk chair
(2) guest chairs

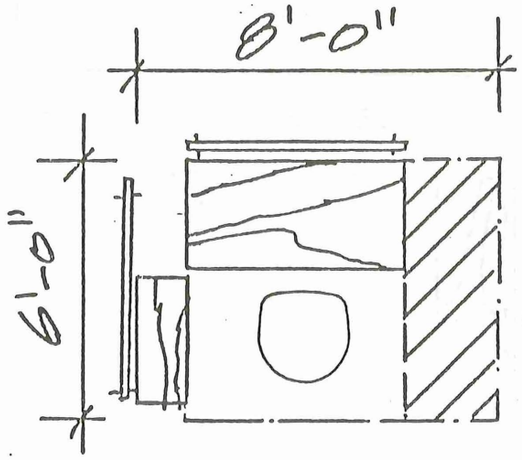
These work station standards were developed to provide similar working capabilities and to meet the same functional requirements. The primary difference between the SP-2 station and the systems station is the total area required. The systems station allows a savings of 6 NSF which is a 12% decrease from the open station utilizing free standing furniture and screens.

The SP-2 station provides 48 NSF of work area for such positions as clerical personnel, secretaries, technicians, chemists, and inspectors. There are 59 such work stations in the data base encompassing less than 1% of total personnel. This work station includes the following components:

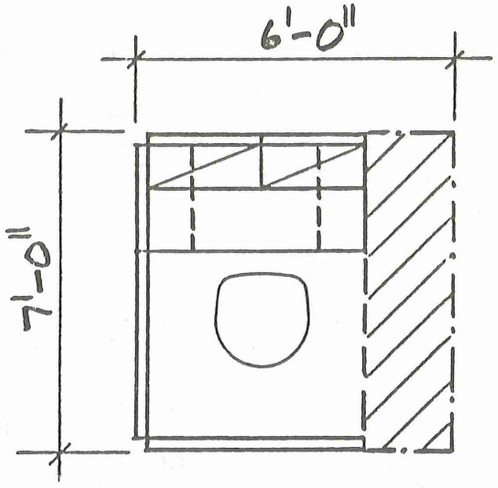
(1) 30"x60" desk
(1) 12"x36" bookcase
(2) acoustical panels
(1) desk chair

The systems station provides 42 NSF of work area. This is less than the SP-2 work station but it provides the same working capabilities while requiring 12% less space.

SP-2 (OPEN/FREESTANDING STATION)
(48 square feet)



SYSTEMS STATION
(42 square feet)



The systems station components are:

(1) 30"x60" panel hung work surface
(2) 30" D storage units
(2) 30" W shelfs
(3) 30" systems panels
(1) 42" systems panel
(1) 60" systems panel
(1) desk chair

C. SPACE UTILIZATION ANALYSIS

A review of the current space inventory and an acknowledgement that certain of the net area factors are larger than anticipated, suggests that it is beneficial for the State to review opportunities to improve space utilization consistent with providing appropriate functional workplace environments.

During the tour of all existing State owned and most larger leased facilities, it was noted that significant opportunities exist to improve space utilization through cost-effective remodeling and rearrangement including partial conversion, to an appropriate degree, to open office planning. In many cases, instances were noted where it might be possible to improve utilization by as much as 25%. A 25% improved space utilization would imply that cost-effective remodeling could be implemented and up to 25% additional personnel could be accommodated in the same space. If additional space were apparently required to be leased or constructed, an amount of space equal to 25% of the building being analyzwd would not have to be leased or constructed. This would represent a significant present value, life-cycle cost avoidance.

It should be noted that leased spaces are limited in space saving potential. Leases of a short term in nature can rarely be cost-effectively remodeled to improve space utilization to a degree necessary to justify the amortization of lease-hold improvements over the short duration of the lease. Most leases are for small amounts of space and rarely can utilization be improved enough to accommodate more than just a few additional personnel.

Thus, space utilization improvements will be recommended in this report only as they apply to fairly large amounts of space in State owned facilities and then only if the present value, life-cycle cost of acquiring an additional increment of space through leasing or construction is greater than the required expenditure necessary to "create" that much space through remodeling. Large portions of space must achieve a level of space utilization improvement that would "create" an amount of space equal to the space that would not have to be leased or constructed. A "cost-effective renovation" can be defined as one that requires an initial investment of less than $1 per NSF for actual interior modifications for each 1% improvement in space utilization and less than $2,000 per person for furniture and equipment additions or replacements. This would produce a relative break-even with the present value life-cycle costs associated with new construction or long-term leasing.

D. FEASIBILITY OF CONVERSION TO FURNITURE SYSTEMS

Finally, Chapter VII summarizes the conclusions developed earlier in the Chapter with regard to space utilization improvement and the feasibility of converting substantial amounts of State owned space to open office concepts that employ the use of a furniture system.

Previously, it was indicated that upwards of 800,000 NSF of general administrative space in State owned facilities could be subject to conversion to an appropriate degree of open office planning.

For purposes of developing a conservative analysis, the Consultant assumes that the State will implement a remodeling program over the next two years to convert approximately one-half of that space - 400,000 NSF to open office planning and will employ furniture systems in the majority of that space. The balance of the space would remain essentially as is.

It is the Consultant's conclusion that a minimum space utilization improvement of 13% can be attained in this 400,000 NSF. This would reduce the overall average net area factor from 190 NSF per person to approximately 165 NSF per person.

The existing 400,000 NSF to be remodeled (specific buildings and spaces are not identified at this time) at an area

factor of 190 NSF per person would accommodate approximately 2,105 employees.

Through remodeling and conversion to open planning, the NSF available in the space inventory will be increased as a result of redistributing space that was previously public circulation or unusable into the NSF category. Thus, the 400,000 NSF would "inflate" to an equivalent of 420,000 NSF.

The 420,000 NSF of space would, at an area factor of 165 NSF per person, accommodate 2,545 personnel. This would indicate an increased occupancy potential of 440 personnel.

The present value, life-cycle cost of constructing new facilities in the most economical suburban location was calculated in Chapter VIII to be $34,555 per person. This would indicate a cost avoidance of $15,204,200 by remodeling existing space, avoiding new construction, and accommodating 440 additional personnel.

The cost of this conversion includes both the cost of remodeling 400,000 NSF and procuring a complete furniture system for approximately 2,000 personnel of the total complement of 2,545 personnel that would occupy the space. The other 545 personnel either do not require a work station, require a private office and would continue to use existing furniture, have minimum work station needs that are compatible with a totally open environment, or have needs that cannot benefit from a space utilization point of view by conversion to furniture systems.

A reasonable average budget of $1,600 per furniture system work station can be applied to the 2,000 work stations to indicate a furniture procurement budget of $3,200,000. An additional allowance of $400,000 would be appropriate for installation and delivery.

The Consultant estimates, based on previous experience, that approximately one-third of the 400,000 NSF would require extensive interior remodeling at a unit cost of $15 per NSF. Additionally, the remaining two-thirds of the space would require less significant remodeling but would necessitate a budget allocation of $10 per NSF. The interior remodeling of 400,000 NSF is therefore estimated to have a current cost of $4,666,000.

Additionally, an allowance of $500,000 should be made for space planning, detailed space programming, and interior design services. Adding a 15% contingency to the cost would indicate a complete project implementation budget of $10,080,900.

The Consultant has employed the most conservative (economical) present value, life-cycle construction cost alternative identified in Chapter VIII as the basis of comparison and at the same time developed estimates for the cost of furniture procurement and interior remodeling that are known to be greater than current expenditures would be if the project was implemented in the very near future. The Consultant believes the magnitude of savings, over $5,000,000, in relationship to the estimated implementation cost of $10,000,000 will in fact be substantially greater and that the feasibility of the State initiating a substantial program to improve space utilization efficiency and convert to a furniture systems approach is well justified.

This space utilization improvement can be achieved in significant State owned facilities, but it does require:

- a budget to be provided;
- the development of a comprehensive space management system;
- the preparation of appropriate standards for open office planning;
- the detailed analysis and selection of an appropriate furniture system to employ as the basis of the development of open office space plans;
- establishment of standards and procedures;
- the training of State personnel to develop space plans and provide continuing monitoring of space utilization;
- the refinement of furniture procurement and selection procedures that allow acquisition of the most appropriate products to achieve the optimum in space utilization; and,
- the development of space plans and space programs by trained personnel in each of these unique disciplines. The work must specifically not be completed by a landlord or his agent, the architect designing a new facility, or the space user agency.



ALTERNATIVE PLANNING CONCEPTS VIII

CHAPTER VIII

ALTERNATIVE FACILITY PLANNING CONCEPTS

A. INTRODUCTION

The analysis of alternative long-range facility planning concepts and the subsequent development of sound facility development strategies requires careful attention to three important elements.

First and foremost, the proper amount of space must always be provided and overall space utilization must be maximized to the utmost efficiency in all concepts analyzed.

Secondly, composites of different concepts, blended into an overall strategy, should be constructed for a variety of options that are each economically feasible when compared to other options. Thus, in this section of the report, we explore a variety of options available to the State and will identify those options that are potentially the most economically feasible approach to providing the proper amount of space in a cost-effective manner.

The third element that must be considered is the location of any new leased or owned facility. The location of a facility depends on the interrelationships of those departments included in the facility with other State government units, the need for accessibility by visitors and clientele and the residential location of the employees assigned to that facility.

Chapter VI, Adjacency Analysis, discussed the interrelationships among the various State departments and the need for public access for each of the departments that might be candidates for inclusion in a particular building project.

This chapter of the report will begin by identifying criteria relating to the residential distribution of State employees so that subsequent solutions or individual concepts that are developed and analyzed will be sensitive to employee commuting patterns. This chapter will explore alternative space acquisition methods, develop a comparative analysis of alternatives, package those most feasible components into "packages" -alternative options that satisfy all requirements, and conclude with an analysis of those options and a collection of three or more in-depth analyses presented more fully in Chapters IX and X.

B. ALTERNATIVE LOCATIONS

From an analysis of statistical data developed by James B. McComb & Associates, it was found that the center of housing - the "centroid" - of all State employees responding to a survey was between 5 and 7 air miles to the northwest of the Capitol Complex. This was based on an analysis of residential zip codes for included employees. Average driving distances for a one-way commute were between 10 and 12 miles based on further responses to the survey questionnaire.

Exhibit VIII.1 represents this data and indicates the percentage distribution of State government employees in each of the four directional sectors.

EXHIBIT VIII. 1

STATE GOVERNMENT EMPLOYEE
RESIDENCE PATTERNS

STATE EMPLOYEES RESIDING WITHIN SELECTED DISTANCES FROM CAPITOL COMPLEX

DISTANCE FROM CAPITOL COMPLEX	STATE EMPLOYEES	
	IN AREA	CUMULATIVE
0-2.5 miles	12.95%	12.95%
5.0 miles	32.42%	45.37%
7.5 miles	15.09%	60.46%
10.0 miles	8.86%	69.32%
12.5 miles	5.46%	74.78%
15.0 miles	4.38%	79.16%
17.5 miles	3.20%	82.36%

Average distance = 4.8 - 6.2 miles

CONCENTRATION OF STATE EMPLOYEES BY AREA OF RESIDENCE

SECTOR	% STATE EMPLOYEES
Northeast	23.7%
Southeast	16.7%
Southwest	23.8%
Northwest	21.3%

Average direction = Northwest

The map shown in Exhibit VIII.2 indicates this distribution and also the percentage of all employees living within concentric 2½ mile radius circles of the Capitol Complex.

In summary, we find that approximately 45% of all employees live within 5 miles of the Capitol. This is consistent with a 1972 study which indicated that 47% of the employees lived within 5 miles of the Capitol. Approximately 60% live within 7½ miles of the Capitol. Slightly over one-third of all employees live between 2½ and 5 miles from the Capitol. Almost 83% of all employees live within 17.5 miles of the Capitol Complex.

Calculation of Employee Commuting Costs

For every mile "further out" or "closer in" that an employee must drive from his or her residence to the office, the employee will incur additional transportation costs of between $28.60 and $40.00 per year. This additional cost on a per mile basis assumes that: one additional mile is the equivalent of a 2-mile round trip, the price of gasoline is $1/gallon,* the automobile achieves a mileage rating of 20 miles/gallon, the trip is made 250 times/year, and that other costs associated with transit, for example, oil, maintenance, etc., will vary with driving distance at a current cost of 2¢/mile.

Over a 30-year time frame, assuming inflationary costs equal the individual's personal discount rate, increased present value expenditures of between $888 and $1,200 are calculated for each employee making that commute for each additional one-way mile.

For purposes of economic evaluation, it is assumed that this cost approximates $1,000 per person over a 30-year time frame. If a building is located 5 miles from the centroid of residential patterns, thus increasing the average commuting distance by 5 miles, each employee would incur an additional cost of approximately $5,000 over a 30-year time frame.

A large suburban facility, accomodating upwards of 1,500 employees that placed employees 5 miles closer to the centroid of their residential patterns, would produce a present value, life-cycle cost savings for those 1,500 employees of $7,500,000.

Partially mitigating this savings is the certainty that additional personnel will have to rely on private automobiles for transit to work as opposed to the more convenient public transport that could be utilized to get to a downtown or Capitol Complex office location. A shift of approximately 15% of all employees from utilizing a public transit mode to a private automobile is realistic with a relocation from the Capitol Complex area to a suburban site. This represents an increase in automobile reliance from 55% to 70% of all employees.

The 1,500 person complement that would be assigned to the site, at a 15% transfer to automobiles, would indicate that 225 personnel would transfer their commuting mode from public transit to private automobile. Their costs of commuting would obviously increase but, at the same time, they would avoid paying a cost of approximately $275/year for public transportation. The 225 personnel saving $275/year by not having to pay for mass transit, taken over a 30-year time frame, indicates a present value savings of $1,856,250 if inflation and discount rates are equal. However, their individual costs of transit by relying on private automobile would be substantially greater than this savings. It would, however, indicate a loss of revenue to the mass transit agencies. If the new driving distance is 12 miles each way, these 225 employees would incur a present value, life-cycle cost of $2,700,000 over a 30-year time frame.

The conclusion to be drawn from this analysis, although general in nature, is that consideration should be given to locating a facility somewhere between 3 and possibly 5 miles distant from the Capitol, as long as that direction is in the northwest quadrant. This would tend to minimize expected driving distances for those employees that might be assigned to the facility in the future. Locating a facility on a suburban site generally to the northwest, would tend to minimize employee commuting time and costs.

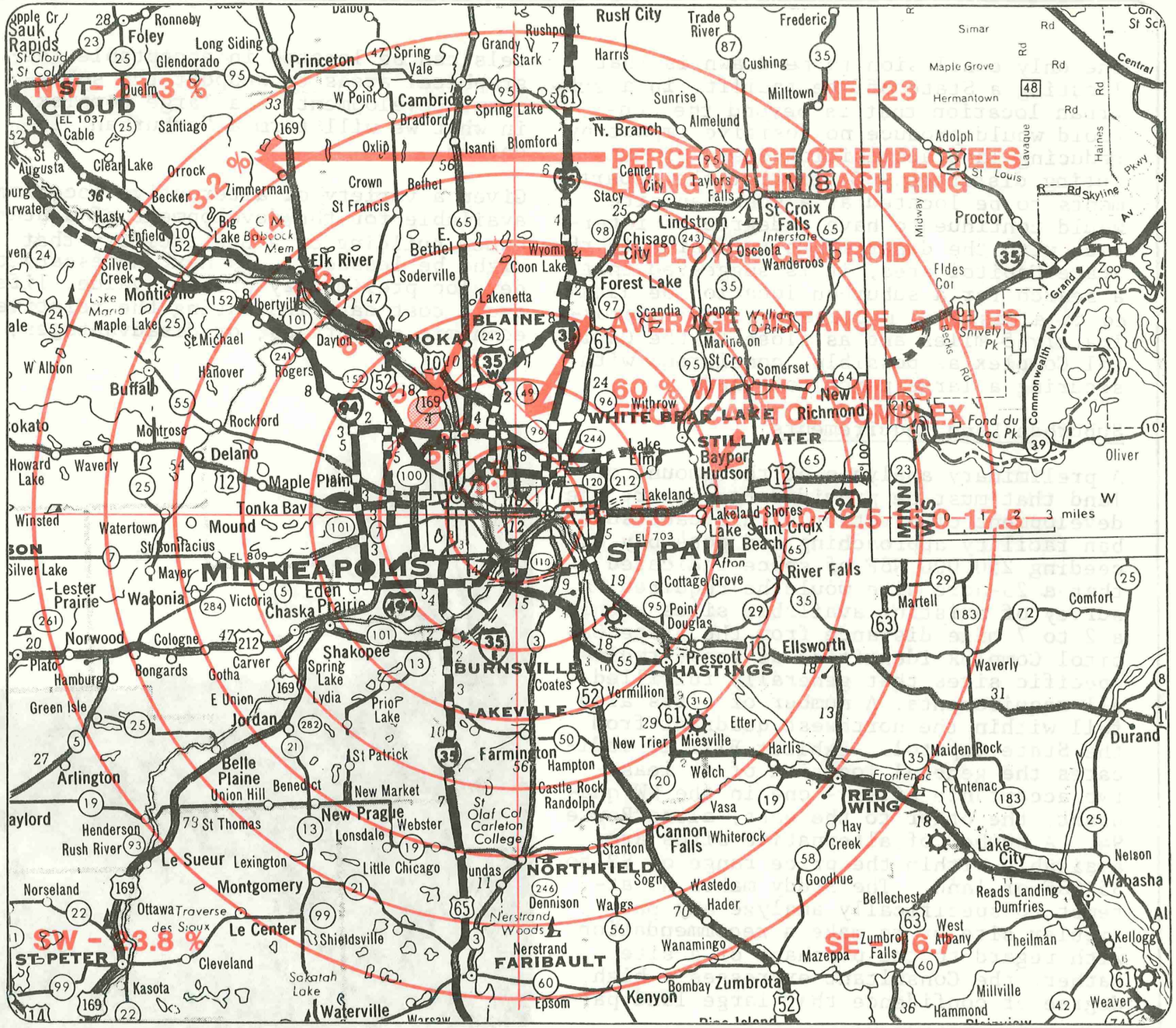
The "centroid" of employee residential patterns should not be taken too literally. Nor should the 3 to 5 mile distance from the Capitol Complex for a suburban site be interpreted rigorously.

*current gasoline prices may be higher which would accordingly change transportation costs.

EXHIBIT VIII. 2

RESIDENCE PATTERNS OF STATE EMPLOYEES

82.6% Area Employees Live Less Than 17.5 Miles From The Capital Capitol Complex



The only conclusion to be drawn is that locating a State office facility in a suburban location that is beyond the centroid would produce no positive impact by reducing land acquisition costs or commuting distances. Given that the departments to be located at a suburban site would continue to have a degree of interface with the departments remaining in the State Capitol area, it is suggested that a search for a suburban location be limited to a distance not greater than approximately 5 miles and as close to the Capitol Complex as possible, consistent with securing a large parcel of land.

Suburban Land Requirements

A preliminary analysis of the amount of land that must be provided to support the development of a rather significant suburban facility approaching and possibly exceeding 250,000 NSF of space indicated that a 25-acre site would be required. A survey of existing available sites within a 2 to 7 mile distance from the State Capitol Complex identified at least twelve specific sites that generally fulfilled all requirements. A number of sites also fell within the northwest quadrant from the State Capitol. Exhibit VIII.12 indicates the general location of at least two acceptable sites - one in the NW quadrant, the other to the east, along Route 94. A number of alternative sites are available within the price range of $2 to $5/GSF of land. The study makes no attempt to specifically analyze any particular site or to make a recommendation with regard to the purchase of a site. Rather, the Consultant expresses a high degree of confidence that large land parcels can be located in acceptable geographical areas to support the subsequent development of a large complex in what we will term a "suburban" location.

Given a variety of alternative locations available for the development of a State owned building or a new facility that might be leased, it is next necessary to develop preliminary present-value, life-cycle cost data indicating the relative economic advantages, or disadvantages, of alternative space acquisition methods.

C. SPACE ACQUISITION ALTERNATIVES

Within the different geographical areas but limited to a range of within 5 to 7 miles of the State Capitol Complex and in the specific locations in the State Capitol Complex and in the downtown Central Business District (CBD), it was necessary to explore alternatives of leasing, construction and the acquisi-



tion of existing facilities for renovation and eventual occupancy by State government departments.

This section of the report will discuss leasing alternatives, new construction alternatives, opportunities to purchase existing facilities and renovate, and the procurement and extensive renovation of existing schools that might be available.

Included within the alternatives is the option to have a facility designed to the State's specific requirements on a "built-to-suit" basis and then leasing that facility if the economic advantage is in favor of leasing as opposed to State ownership.

Definition of Terminology

It is now important to qualify the terminology to be employed in the discussion of alternative space acquisition methods.

The term lease implies leasing space that was not specifically designed for the State of Minnesota, possibly space in a multi-tenant, commercial, high-rise facility similar to that currently available in the CBD area. The leasing of space implies that it is of reasonable quality and that it expresses characteristics common to multi-tenant commercial office space available for lease. This implies annual lease rates in excess of $11/SF/year. It is also important to note that space is leased on a "rentable" square foot basis and that rentable area is generally 6% and sometimes as much as 12% larger than net usable or assignable space. Thus, if a need exists for 10,000 NSF, it is possible between 10,700 and 11,200 rentable square feet (RSF) of space must be acquired.

Leasing alternatives that exist below the "break-even" limit of $7/NSF/year are obviously economical and should always be strongly considered before even beginning an analysis of whether ownership is more preferential. Given that occupying "economical" lease space in recycled or less than high quality space is a constant recommendation that should always be explored, the analysis of the relative cost advantages of leasing versus new construction in this section of the report limits the analysis category of "leasing" to new space in relatively high quality facilities that would have a rental rate somewhere in excess of $11/RSF/year.

Next, it is important to define the category of new construction. A building that is constructed to the State's specifications will provide all of the advantages of cost economy, flexibility and high space utilization efficiency not normally enjoyed in leased facilities. If that facility option is acquired on a build-to-suit and sale-lease-back basis, even though it is technically a "lease", it falls into the acquisition alternative category designated "new construction" or "State-owned." If at a later date it is to the State's economic advantage to have a facility designed and constructed for State occupancy but the State prefers to lease rather than own that space, then that arrangement becomes a "subset" option of the "new construction" option.

The following section of Chapter VIII discusses these alternative space acquisition methods:

- New lease space;
- Feasibility of purchasing and/or leasing an existing large facility in the CBD area;
- Analysis of leasing or purchasing South St. Paul Jr. High School.
- Feasibility study of renovating Mechanic Arts High School; and;
- Analysis of purchasing or leasing Sheridan Junior High School.

D. ANALYSIS OF NEW LEASE SPACE

The Town Square Project being developed by Oxford Properties, Inc. in downtown St. Paul was used as the basis of analysis to determine the economic feasibility of occupying new space available for lease in the CBD area.

The Town Square project contains approximately 13,007 gross square feet per floor in a high-rise building. On a multi-tenant floor, approximately 85% or 11,091 SF are available and could be classified as net assignable square feet - analogous to departmental net area requirements as included in the data base.

On a full-tenant floor, in accordance with BOMA measurement standards, approximately 11,741 SF are classified as net assignable square feet. This represents a building efficiency of approximately 90% (actual calculations indicate 90.27%).

In full accordance with strict interpretation of BOMA space measurement standards, only 854 SF of the 13,007 SF are not considered as "rentable." This indicates that 12,153 SF are "rentable" on a floor with a gross area of 13,007. Thus, in full accordance with BOMA full-floor rentable space measurement standards, the subject facility has a leasing efficiency of 93.43%. This is rentable area divided by gross area.

It has been quoted by the building leasing agent that a multiple-floor occupancy by the State would require annual rent payments in the neighborhood of $11/RSF/year. This would roughly approximate $4/SF for operational, energy and maintenance costs that are subject to annual escalation and $7/SF for relatively fixed lease payments reflecting capital acquisition and construction costs. These may, however, be subject to future escalation due to market supply and demand conditions.

The $11/RSF must be increased by approximately 8% to $11.88 per assignable SF to take into account the amount of space included in rentable area that is not included in net assignable area, and thus not usable (fixed corridors, elevator lobbies, restrooms, etc.).

Thus, the $7 fixed annual cost would be increased by 8% to $7.56 per assignable square foot per year and the $4 variable cost is increased to $4.32 per assignable square foot per year. Total costs are $11.88 or $11 times 108%.

Present value life-cycle cost of occupancy in a long-term lease facility must be calculated as a combination of the present value life-cycle cost of both fixed and variable portions of the lease payment. For purposes of calculation, it is assumed that those costs included in the variable cost portion of the lease for building maintenance and operation, energy, tax and insurance, will increase by an average annual rate of 9%. Actually, the assumption is that energy-related costs will increase by as much as 12% per annum, labor-related costs will increase by 9% per year and tax and insurance and other operational costs by 6% per year, for a weighted average annual cost increase of 9%. Thus, both a 9% annual cost escalation and an 8% discount rate must be applied. This calculation results in a present value life-cycle cost per assignable square foot for variable operational costs of $150.27 over a 30 year period.

Similarly, the $7.56/SF fixed portion of the lease cost must be converted to a present value of a stream of 30 years' of payments discounted at 8%. This calculation yields a present value life-cycle cost of $85.11. The total present value life-cycle cost of lease payments thus equals $235 per assignable square foot.

The present value life-cycle cost per assignable square foot is then multiplied by 190 assignable square feet per person, indicating a present value life-cycle occupancy cost per person of $44,722. As can be seen by a review of the balance of Chapter VIII, this cost is appreciably higher than similar present value life-cycle costs per person calculated for new construction and purchase/renovate options.

Thus, for purposes of this study, it is assumed that the leasing of "Class A" space, in a high-rise office facility, or newly-constructed space in metropolitan St. Paul is less than economical and cannot be justified on the basis of actual costs. Thus, this alternative is not considered in the subsequent analysis of options and alternatives.

Calculation of Break-even Leasing Rates

Rental rates of $10/SF/year would yield a present value, life-cycle cost of $223 per net assignable square foot. At $9/SF it would be $206 and at $8 annual rent the present value life-cycle cost would be $190. At an annual rental of $8/RSF the present value life-cycle cost is still greater than the present value life-cycle cost for a suburban facility which is calculated at $181.87 later in this chapter, see Exhibit VIII.21, Page 135.

E. ANALYSIS OF FEASIBILITY OF PURCHASING AND/OR LEASING AN EXISTING FACILITY

Following is an analysis of the economic feasibility of purchasing and renovating or possibly leasing, an existing building in downtown St. Paul for occupancy of approximately 300,000 NSF of administrative space for the State of Minnesota. The analysis is conducted as being representative of an alternative to acquire, renovate and occupy an existing large building in the CBD area.

The facility contains approximately 300,000 assignable or rentable square feet in a building that totals 374,236 GSF. With an overall efficiency of 89%, the building provides approximately 333,000 NSF. However, some of the space, although assignable, is either basement space or is space configured in a manner that could be less-than-optimally utilized. Therefore for the purposes of this analysis, we assume that the facility provides 300,000 NSF for the State of Minnesota.

Initial renovations to a very modest building standard are provided by the landlord and included in the quoted $8/SF. Thus, if a 30-year lease could be negotiated, the present value life-cycle cost of the lease arrangement would be composed of a $5/SF non-inflating cost and a $3 variable cost subject to a 9% annual inflation rate.

The present value life-cycle cost using an 8% discount rate for both the fixed and variable portion of the lease payment, is thus calculated to be $172/SF. When multiplied by an average 190 assignable SF/person, this indicates a present-value life-cycle cost per occupant of $32,680 as a result of leasing a downtown site for a term of 30 years. The variable portion of this payment, escalated at 9% and discounted at 8% for 30 years on a base of is approximately $104 per net square foot.

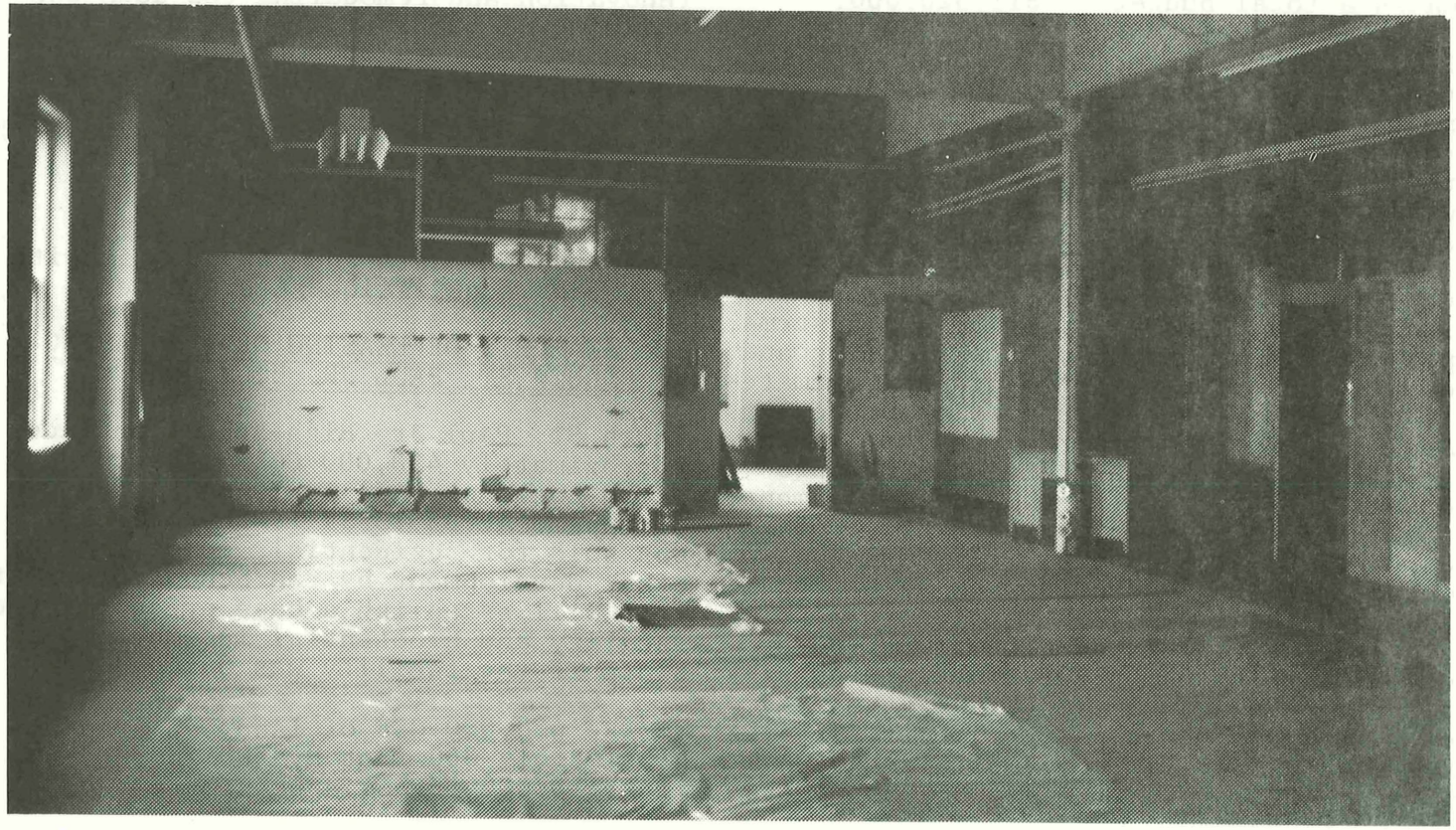
This compares most favorably with cost factors developed for other alternatives assuming no interior modifications are necessary beyond those provided in the lease and paid for by the landlord.

Should a facility be procured and then renovated, the following comparative economic analysis would apply.

The building could be purchased for around $4,000,000. This represents a cost of $13.33/NSF and $10.69/GSF.

Renovation costs to the structure, carpeting, new acoustical ceiling tile and lighting and interior partitions have been given an allowance of $10.50/SF by the landlord. The Consultant believes this estimate is low and should be increased to approximately $14 per square foot.

In addition, an allowance of $3/SF, approximately $1,000,000, should be provided for special tenant improvements within a facility. The $17 per assignable square foot cost allocation should then be applied to 300,000 NSF to establish an initial renovation and improve-



ments budget of $5,100,000.

Additionally, certain modifications to existing restrooms, the repair and addition of elevators, security enhancements, energy conservation improvement and possibly changes in code and life-safety features may need to be completed. A general allowance of $1,000,000 for these types of improvements is suggested. This $6,100,000 renovation budget and the $4,000,000 purchase price yield a total investment estimate of $10,100,000. Adding a 20% contingency to the cost of modifications indicates a total budget of $11,320,000.

Recent cost estimates, developed by the Consultant to confirm this analysis, estimate interior improvements at $2,850,000 exclusive of heating, ventilation and significant new electrical service. This would equate to a unit cost allocation of approximately $9.50 per square foot.

Certain renovations to elevators, bathrooms and mechanical air handling systems, plus the installation of new lighting and electrical outlets should add approximately $3,000,000 to the renovation budget. Adding appropriate allowances for contingencies and overhead indicates an appropriate budget to complete all improvements, including an assumed purchase price of $4,000,000, of around $11,020,000 to acquire, renovate and occupy an existing downtown facility. This equates to a unit cost of $36.73/NSF and $29.45/GSF. Both of these unit cost allocations are considerably below, by probably 50%, the cost of comparable new construction. The facility should be relatively efficient with upwards of 89% of all space on the upper floors being usable. It would appear to be a very sound and economically feasible investment.

Present value life-cycle cost indicates the State must amortize an initial acquisition and construction cost of $36.73/NSF, representing fixed costs over 30 years at 5.5% interest discounted at 8%, and then must add the same operating costs, including inflation, as were recorded in the leasing analysis. This calculation indicates a present value life-cycle cost of acquisiton, renovation and remodeling the downtown building of $133/NSF. When multiplied by an average of 190 NSF/person, this indicates a present value life-cycle occupancy cost of approximately $25,232 per person. This is by far the most cost-effective facility acquisition alternative of those explored in this study. Exhibit VIII.15, Page 121, presents this data and compares it with all other acquisition alternatives.

F. ANALYSIS OF LEASING OR PURCHASING SOUTH ST. PAUL JR. HIGH SCHOOL

South St. Paul Jr. High School includes approximately 450,000 GSF of land area which could provide at least $1,500,000 of income at $3.33/SF if the property was sold for residential, commercial or other development by the School District. This will establish a base price for the facility and a potential income to the State if the facility was purchased.

Of the 450,000 GSF of land, an area approximately 360 feet by 500 feet totalling 180,000 GSF or approximately 40% of the total site, is allocated to existing buildings, required circulation and parking areas. The remaining area totaling 270,000 GSF, is more than ample to provide parking for upwards of 800 automobiles that would be required if the State occupied the 120,000 NSF facility.

The school contains approximately 170,000 GSF and provides 120,000 NSF without substantial structural modification or less than cost-effective remodeling. This indicates an existing net to gross ratio of 71% which is reasonable when compared to other school acquisition and renovation alternatives. However, the 71% efficiency is misleading.

Some space included in the 120,000 NSF is large, interior, windowless space, including a gymnasium, a large storage space on a lower level without windows, and rather narrow spaces that are approximately 22 feet in depth and currently configured as classrooms. This dimension will not support optimum space utilization efficiency when remodeled.

However, for purposes of this analysis, it is assumed that the facility provides 170,000 GSF and 120,000 NSF of space.

The maximum parking requirement for 120,000 NSF would be calcualted as follows. At 190 NSF/person, the facility could have a capacity, under optimum space utilization, of approximately 600 personnel. In a non-high-density area that is not located on primary public transit lines, a 70% parking allocation requiring approximately 420 parking

spaces is needed. At 333 SF of surface parking area per automobile, this would require approximately 140,000 GSF of land in excess of building, landscaping, setback and circulation space. This represents approximately 50% of the 270,000 GSF of land available. Thus, a minimum of 130,000 GSF of land area could be declared as "surplus" and disposed of by the State after acquisition, at a minimum economic value of $3.33/GSF. This would indicate an allocation of $432,900 to the value of land that would be procured by the State, but not required. This produces an income which represents a reduction in the initial purchase price.

Remodeling Feasibility

No indication has been made by the School District relative to the purchase price for the building, should it be for sale. However, to complete the feasibility analysis it is necessary to assume a purchase price. Without benefit of more definitive information, it is assumed that a purchase price that is equivalent on a cost/GSF basis to that established for the Mechanics Arts High School which had an assumed "value" in terms of 1979 dollars of $2,823,163 for a building of 143,570 GSF, is appropriate. This equates to a cost of approximately $19.66/GSF for the school.

Applying the $19.66/GSF "value" derived from the Mechanics Arts High School feasibility study to the 170,000 GSF South St. Paul Jr. High School building indicates an assumed value or purchase price of $3,342,882.

The immediate disposal of 130,000 GSF of surplus land area would produce an income of $432,900. The net "out-of-pocket" purchase price for the South St. Paul Jr. High School is then estimated to be $2,909,982.

The Consultant believes this may be a low estimate of the realistic purchase price for the facility if the school was available for sale.

The annual cost of ownership for a $2,909,982 initial investment, financed by a 30-year bond issue at 5.5% interest indicates an annual cost of acquisition of $200,222 or $1.67/NSF.

Maintenance and operations cost data are not available and it is therefore assumed the annual maintenance and operating costs will be identical to that experienced by Sheridan Jr. High School, a building of similar size which indicated a cost of $4.69/NSF/year for main-



tenance and operation.

Occupancy as an office building would decrease the personnel density from that encountered as a fully-operational school facility, would decrease maintenance requirements, and, as a result of cost-effective remodeling to renovate the facility into conditions appropriate for occupancy by State personnel, the overall annual maintenance and operating costs would be reduced from current values. Based on 1979 cost data and an analysis similar to that performed for Sheridan Jr. High School, an annual maintenance and operating budget of $4/NSF would be appropriate.

The actual usable space in South St. Paul Jr. High School would be somewhere between the 120,000 NSF and the total building area of 170,000 GSF. The Consultant will assume a space availability of 140,000 NSF or assignable square feet which includes circulation, some hallways and restroom facilities, which also must be maintained and operated. Applying a $4/SF annual maintenance and operating cost to 140,000 NSF indicates an annual maintenance and operating budget of $560,000. These costs are subject to escalation.

Substantial alterations and repairs will be required to the 120,000 NSF. Basic alterations and renovations of South St. Paul Jr. High School include painting and repair of exterior brick walls, window replacement, the addition of insulation, and the reglazing of lower portions of the window wall. A budget of $250,000 will be required to complete these changes.

Additionally, new elevators must be installed along with the installation of new floor coverings, ceilings, partitionings, doors and painting as applied to approximately 120,000 NSF at a unit cost of $12/NSF as was found to be applicable in other renovations.

Alterations costing approximately $1,620,000 to provide new lighting and a new air distribution systems are calculated. Plumbing and electrical modifications to make the facility suitable for occupancy total in excess of $800,000.

A total present value, life-cycle budget estimate, including a 20% allowance for contingency and unknown conditions, was then estimated by the Consultant to total $5,000,000.

Again, these initial renovations must be financed over 30 years at 5.5% interest and would yield an indicated annual cost of $344,027.

Initial renovations totaling almost $5,000,000 would equate to an improvement level of $29.41/GSF as applied to 170,000 GSF. This equated to $41.67/NSF as applied to 120,000 NSF. Initial renovations and improvements required are reasonable in comparison to the cost of new construction, even when the initial net purchase price of $2,909,982 is included.

The total annual cost to the State of amortizing the initial cost of procurement (less income received from land disposal), amortizing initial renovations and improvements, and paying annual maintenance and operating costs which are assumed to escalate at the same rate as the discount factor, indicates annual costs to own and operate the South St. Paul Jr. High School as an office facility for State occupancy of $1,104,249 per year. When divided by 120,000 NSF, this yields an annual cost of occupancy of $9.20/NSF.

While this annual cost of ownership and operation appears to be reasonable in comparison to the leasing of new space in the commercial environment, and is possibly competitive with new construction, it is not more cost-effective than other options available, namely the acquisition and operation of an efficient older building located in the CBD area.

Total initial costs to purchase and renovate the South St. Paul Jr. High School facility are estimated at $2,909,982 to purchase and $5,000,000 to renovate for a total initial cost of $7,909,982. The present value life-cycle cost, financed at 5.5% and discounted at 8% is $6,127,042. The cost/NSF is calculated to be $51.06/NSF for fixed or initial costs.

The annual maintenance and operating costs, inflated at 9% and discounted at 8%, yield a present value, life-cycle cost of $162.33/NSF and the total present value life-cycle cost is $213.39/NSF or $40,544/employee.

G. FEASIBILITY STUDY OF RENOVATING MECHANIC ARTS HIGH SCHOOL

Following is a summarization of the economic feasibility of the State renovating and occupying Mechanic Arts High School which is currently owned by the State.

The facility had a "value" of $2,180,000 as based on the purchase price on November 10, 1976. This original purchase price has probably inflated at an annual rate of at least 9%, including inflationary aspects, during the past three years. An original $2,180,000 purchase price, inflated for three years at 9% annually, would indicate a present year value in the year 1980 of $2,823,163.

As in previous economic evaluations, the Consultant assumes a value or "cost" of land in the State Capitol complex area of approximately $15 per GSF for purposes of allocating the cost of existing property to the 176,654 GSF land area and other costs to the actual 143,570 GSF building.

Some of the land must be associated and assigned to the building. Other land is not totally usable and must be reserved for site-support activity to support the building. However, the Consultant believes there may be a land resource available of 80,000 square feet that would have an economic value of at least $12 per GSF for a total allocated value of $960,000. Subtracting this surplus land income from the $2,823,163 total current value for the building and the property indicates that a cost of $1,863,163 could appropriately be allocated to the "value" of the building itself.

Calculations indicate that approximately 80,655 square feet can be utilized in a generally "as is" condition. Therefore, the value of property to be utilized of $1,863,163 must be amortized over approximately 80,655 assignable square feet to indicate an average cost allocation of approximately $23.10 per NSF.

This cost of renovating the facility, based on a previous feasibility report prepared for the State by others in the year 1969, indicates a total current cost of renovation and remodeling of approximately $3,671,107. This equates to approximately $25.57 per GSF and $45.52 per NSF.

In these calculations, a 9% annual inflation rate for the last ten years is assumed. Base year 1969 costs of $11.78 per NSF for renovation are escalated to a current cost of $27.89 per NSF. Additionally, certain special renovations estimated in year 1969 to cost $365,000 are escalated for 10 years, at 9% per year, to a current cost of $864,087.

The allocated "value" of the building, $1,863,162 plus the current estimated cost of renovations, estimated at $3,671,107, indicates a total cost for completing the remodeling project of $5,534,269. This equates to $38.55 per GSF and $68.62 per NSF. Both of these numbers compare quite favorably to other recently completed renovation projects of a similar nature and are below comparable costs of land acquisition and new construction. On annualized cost basis, operating costs recorded for a basically "empty" building in 1978 were $2.30 per square foot. The total space is assumed to be approximately 143,570 GSF for an annual operating budget of $330,211. At today's cost, this might approximate $363,232 per year, an increase of 10% over 1978 costs or around $4.50 for each 80,655 NSF per year. With appropriate renovations and changing the occupancy pattern, the Consultant believes this $4.50 per square foot annual operating and maintenance cost can be achieved in future years.

Recent analysis of assumed renovation costs developed by the Consultant indicates that a budget of approximately $450,000 should be established for replacement of windows, roof repair and painting and patching exterior surfaces.

New stairways and an elevator shaft would add an allowance of $108,000. Interior renovation, including the installation of carpeting, new acoustical ceilings, partitions, doors, and painting would necessitate a budget of $8.00 per square foot. When applied to 80,655 NSF of space and about 20,000 square feet of circulation and support space, this indicates a budget of $800,000.

Extensive renovation to mechanical, plumbing and electrical systems requires a budget of $2,250,000.

Miscellaneous specialty items, and a 20% contingency allowance, indicates a total remodeling budget of $4,500,000 as compared to the earlier estimate developed by others and updated to year 1979 cost figures of $3,671,107.

The Consultant believes that the recent estimate of $4,500,000 is a more accurate reflection of the cost that would be incurred in the renovation of Mechanic Arts High School. This would equate to a unit cost of $31.34 per GSF and $56.25 per NSF based on a conservative estimate of 80,655 NSF.

Possibly, additional investments in structural and interior renovation items could increase the net area available at a unit cost that would lower the average renovation cost of the increased amount of NSF to below this $56.25 per square foot cost indicated. Confirmation would require a further structural analysis. This would suggest that the facility receive more substantial renovation to increase net area to a greater proportion than the increased cost of the more significant renovation.

Incorporating the revised construction cost estimate of $4,500,000 and the "value" of the facility, exclusive of land, of $1,863,163 indicates that initial investment would total $6,363,163.

The amortization of the initial actual purchase cost of $2,180,000 financed with bonds at 4.7% and the renovation costs of $4,500,000, over 30 years at 5.5% annual interest, would require an annual payment of $429,731. Based on 80,655 NSF available, this indicates an annual cost of approximately $5.33 per NSF.

Initial improvements and the original purchase price of $6,680,000 would equate to a total initial "investment" of $46.53 per GSF and $82.82 per NSF. This is equal to, if not greater than, the cost of construction of an equivalent 80,655 NSF in a new facility.

The $5.33 per square foot cost of amortizing the initial value and renovation cost plus a $4.50 per square foot annual operating cost indicates a total cost of occupancy of $9.83 per square foot per year.

The Consultant concludes that, if anything, operating and initial renovation costs have been over-estimated and the analysis may have been penalized by inflating the "value" of the facility to record current values.

Thus, as opposed to $9.83 per NSF annual occupancy cost, it might be assumed that the "real" or comparable annual cost of occupancy would approximate $9.00 per NSF. Regardless, whether the real cost of occupancy is $9.00 or $9.99 per NSF, both annualized costs are less than the cost of comparable lease space, and are lower than the cost of land acquisition and new construction and operation.

The amortization cost of acquisition and initial renovation will be $5.33 per NSF over a thirty year time frame. The present value life-cycle cost of this amortization, discounted at 8%, is calculated to be $60.00 per NSF.

Annual operation and maintenance costs of $4.50 per square foot per year are escalating at 9% a year which, when discounted over a 30-year time frame at 8%, indicates a present value, life-cycle building maintenance and operation cost of $156.53. Thus, the total present value life-cycle occupancy cost is found to be $216.53 per NSF. When multiplied by an average allocation of 190 square feet per person, a present value, life-cycle occupancy cost of approximately $41,140 per occupant is calculated.

While this cost is high in comparison to other alternatives of leasing older space or acquiring existing space in the CBD, it is comparable to costs associated with new construction alternatives. The renovation and occupancy of Mechanic Arts High School is not overwhelmingly cost-effective compared to other opportunities available to purchase and renovate existing structures of a non-school nature. Other older buildings may be configured in a manner that reduces annual operating costs as a result of improved overall space utilization efficiency.

H. ANALYSIS OF PURCHASING OR LEASING OF SHERIDAN JUNIOR HIGH

Following is a summarization of the feasibility analysis of utilizing Sheridan Jr. High School in Minneapolis for renovation and occupancy by selected State departments for long-term occupancy.

Sheridan Jr. High School is a building of approximately 148,907 GSF which provides between 102,000 and 115,957 NSF without substantial or less-than-cost-effective renovation.

To develop a conservative financial feasibility analysis, the Consultant assumed the project includes 100,000 NSF of space. This represents a building efficiency of approximately 67%.

The Minneapolis School District has suggested an annual lease rate of $3.85 per square foot for space in an "as is" condition with no modifications. It is assumed that this $3.85 per square foot rental rate would apply to approximately 100,000 NSF that can be used to provide appropriate accommodations to the State. Thus, the annual rental on a net, net, net basis without any operating expenses would approximate $385,000.

In addition, maintenance costs approximate $4.69 per square foot per year which includes heating, lighting and custodial services and no tax payments are applicable. Since the $4.69 per square foot annual operation and maintenance cost is high when compared to the cost of operating and maintaining a general purpose office building, the Consultant assumed that cost includes the maintenance and operation of the entire 148,907 GSF building, but is only applied to the nominal 120,000 rentable square feet available (about 20,000 square feet for circulation and service space is added). Thus, the annual maintenance and operation costs approximate $562,800.

It was further assumed that using the facility as an office building would decrease the density of actual population from that encountered as a fully operational school this would reduce consumable materials necessary to maintain the facility; would reduce maintenance requirements, and, as a result of cost-effective remodeling to renovate the facility into conditions appropriate for general office occupancy, that overall annual maintenance and operating costs would be reduced from current levels. Based on 1979 cost data, an annual maintenance and operating budget of $4.00 per square foot would be appropriate for the 120,000 rentable area including circulation. This would indicate an annual maintenance and operating budget of $480,000 which, when divided by the 100,000 NSF, indicates a $4.80 per NSF annual cost for maintenance and operation.

The $480,000 necessary for maintenance and operation, when added to the $385,000 annual lease cost, would indicate an annualized cost of occuping the facility of $865,000 and a total rental cost of $8.65 per NSF per year. This is, however, exclusive of any initial alterations that would be necessary. The amortization of leasing and operating costs over the expected life of occupancy indicates that a cost of $8.65 per NSF is reasonable and comparable to other older renovated facilities that could be leased by the State. It is, however, not necessarily more cost-effective as initial improvements would surely add an annual cost of at least $1.35 per NSF per year to amortize an initial renovation cost of $2,000,000 over 30 years at a rate of 5.5%. The total annual cost would then approach $10.00 per net square foot.

On a leasing basis including initial alterations, Sheridan Jr. High School could be an appropriate space resource for the State to occupy if the facility was of a size appropriate for various agencies located there, if those agencies could utilize the available 100,000 NSF efficiently, and if the location of the facility was appropriate for the type of travel patterns of employees and visitors. It would not, however, be a primary choice and is not necessarily as economical as other acquisition and renovation alternatives.

Alternatively, the State could purchase the facility. Previously, offers of between $300,000 and $400,000 were made for the facility by others and rejected. The Consultant believes the facility might be purchased at a cost of $1,000,000.

The annual cost of ownership for a $1,000,000 initial investment, financed by a 30-year bond issue at 5.5%, indicates an annual cost of $68,805. When added to the $480,000 estimated annual maintenance and operating cost, this indicates an annualized cost of occupancy of $548,805 which, when divided by the 100,000 NSF available, yields an annualized cost of ownership and occupancy of $5.49 per NSF, exclusive of initial alterations and repairs.

Substantial alterations and repairs will be required to the 100,000 NSF and to circulation and service areas. The NSF used in this analysis includes only space that is heated, fully lighted, has a lowered ceiling appropriate for office occupancy, has a flat floor, is reasonably enclosed with partitions and is not required for service support of public circulation. Thus, the 100,000 NSF can be sub-divided and remodeled without altering circulation patterns, structure or major building systems.

Information is not available with regard to the adequacy of the current electrical and mechanical systems. However, it is assumed that a budget of $1,000,000 would be reasonable and appropriate to complete necessary repairs and modifications to basic electrical and mechanical systems.

Next, an allowance of $300,000 should be added for any significant repairs or additions that are needed for elevators, handicapped access, fire-enclosed stairs, and insulation.

A third cost to be incurred will be to upgrade bathrooms, public circulation spaces, and for repainting, patching and general repair. An allowance of $260,000 is made for this purpose.

The fourth cost allocation that must be provided is for the installation of an acoustical ceiling, completely revised lighting, dry wall, carpeting, electrical and telephone distribution and other interior improvements necessary to support the occupancy of those departments that will be assigned to the facility. The Consultant recommends that a unit cost allowance of $12 per NSF be applied to the 100,000 NSF and an allowance of $200,000 is made for improvement in circulation space, indicating a budget of $1,400,000.

The total estimate of acquisition and initial renovation costs, including all tenant specials, is thus calculated to total $4,000,000 or $40 per NSF. An allowance of 20% for contingencies raises the total cost to $4,752,000.

When "amortized" over the 148,907 square foot building, this indicates an average renovation cost of $31.91 per GSF, which is considered to be quite reasonable in comparison to similar projects. When amortized over the 100,000 NSF, it would result in a unit cost of $47.52 per NSF which is favorably compared to the updated 1979 budget for the renovation of the Mechanic Arts High School of $56.25 per NSF.

The annualized cost of amortizing a $4,752,000 acquisitional renovation budget over 30 years, at a 5.5% bonding interest rate, indicates an annualized cost of $326,963. This must then be divided by the 100,000 NSF to indicate a cost of $3.27 per NSF per year. Adding the $3.27 annual cost of amortizing the initial acquisition and renovation costs to the "base cost" of $4.80 per NSF for building maintenance and operation indicates a total annual cost of $8.07 per NSF.

This appears to be quite favorable for long-term occupancy for the type of facility that would be provided. It is very favorable when compared to the other space acquisition alternatives presented in the summary on page 135. The $8.07 annual cost is also lower than rental rates being charged in other large renovated projects in the St. Paul area. The present value life-cycle cost is calculated to be $211.52 per NSF and $40,188 per employee.

I. COMPARABLE RENOVATION COSTS

Recently, the St. Paul Public School System Department of Plant Planning and Maintenance indicated that Central High School was being remodeled at a total construction cost of $12,300,425. Central High School has a gross area of 377,319 square feet. This indicates a cost of $32.60 per GSF. On a net square foot basis, the Department indicates a unit cost of $64.60 per NSF.

The Consultant's analysis of the construction plans and a tour of the

construction site indicate that the renovations being implemented in the project are significantly greater than renovations contemplated for the Mechanic Arts High School, Sheridan Jr. High School, or South St. Paul Jr. High School.

Thus, the Consultant is comfortable with both net and gross unit construction costs as calculated in the remodeling feasibility analysis for the Sheridan Jr. High School, the Mechanic Arts High School, and the South St. Paul Jr. High School which ranged from $29.41 to $31.91 per GSF and from $41.67 to $56.25 per NSF for the three projects.

Furthermore, research has indicated that the old Central High School in Tulsa, Oklahoma has been recently renovated to upgrade its 1916 structure to provide first class office space totaling approximately 300,000 square feet. The project was completed in 1979 for a cost of $35.16 per GSF. Renovations were extensive and the project provided first class open-office space to support general administrative requirements. Again, the Consultant believes current estimates of between $29.41 and $31.91 per GSF for available renovation projects in the St. Paul area are reasonable.

J. COMBINED FACILITY ANALYSIS

The legislation that sponsored this study, suggested that consideration should be given to providing a common facility for the Department of Natural Resources, the Pollution Control Agency and the Department of Agriculture. It was viewed that these three departments had sufficient common interest and common clientele that the best interest of the public would be served by combining them into one facility. This Master Plan does not recommend that only these three departments should be included in a new facility. All three options detailed in Chapter X locate these departments in buildings based upon previously presented proximity requirements. Thus, the information which follows is presented for reference only.

Personnel projections developed for these three departments, reflecting a 1% annual growth through 1990, indicate that the facility should provide a total of 216,410 NSF of space. If a 2½% annual growth pattern were realized, a total of 242,803 NSF of space should be provided.

The facility would be primarily open planned in nature and is of a size sufficient to produce significant economies to scale in regard to building design efficiency and construction cost economy.

The facility would have a building design efficiency of 87%. This would indicate that between 248,747 and 279,083 GSF should be provided depending upon whether a 1% or 2½% annual growth rate was assumed.

For purposes of analysis, we assume a facility of 260,000 GSF can be constructed for a total initial cost of approximately $73/GSF. This budget includes the basic construction of the facility, the acquisition of an appropriate amount of land in or near the State Capitol Complex at $15/SF and all necessary interior improvements.

An overall initial capital budget of $18,980,000 would be suggested. Possible overhead and administrative costs of 20% might increase this budget to $22,776,000.

If a significant new facility is to be constructed in or near the State Capitol Complex area, it is reasonable to consider these three departments as logical candidates. In fact, these departments are considered as excellent candidates to occupy the "high access site" that is included in Option IV.

If this facility is developed, it must provide convenient access by the public as this is one of the primary reasons for including the three departments in the same facility. A location near the capitol but possibly moving towards the downtown area is recommended. Placing this facility directly in the center of the urban scene in downtown St. Paul is specifically not recommended because of the certain unique characteristics that the facility must provide, the need for the storage and parking of State-owned vehicles, and the high degree of visitor access through private automobiles that should be provided.

The consolidation of these three departments into one facility is compatible with any option that includes a large facility of over 250,000 NSF of space, located in or near the Capitol Complex area. As indicated above, these departments are co-located in all three recommended options.

K. DEVELOPMENT OF ALTERNATIVE SPACE ACQUISITION STRATEGIES

Combining various facility acquisition options and different feasible locations resulted in the development of four specific "projects" that could, in various combinations and scales, be indicated in the recommended Master Plan.

This section of the report will outline the four alternative projects and develop a present value life-cycle cost analysis of each project to determine which one will be selected for further exploration and incorporation into the development of recommendations in Chapter X.

The four projects to be analyzed are presented in Exhibits VIII.4 through VIII.11 on the following pages.

A variety of site alternatives were studied in terms of locational attributes. Exhibit VIII.12 details samples of these alternatives.

The construction of new space for State occupancy is a space acquisition alternative that is represented by Site I - a building in downtown St. Paul and Site 3 - a suburban office structure. Acquisition of existing space is represented by Site 2. Rather than revising these reference numbers to #1-4, the Consultant has maintained the reference numbers presented in Planning and Decision Session II.

EXHIBIT VIII.4

SITE 1

State Capitol Complex

Site 1 entails the development of a 2.49 acre parcel of property directly to the east of the existing Centennial Building. This facility would be a State constructed and owned facility providing between 200,000 and upwards of 600,000 NSF of space when fully developed. The available site, site planning characteristics, and a conceptual configuration for this highly efficient, large floor area, facility are shown on Exhibits VIII.4 and VIII.5 for review.

The specific alternatives shown develop four office levels on top of four parking levels and provides approximately 300,000 NSF, with a building design efficiency of 85%. Parking for 55% of the included employees is accommodated in four parking levels below the office structure. Such a structure is compatible with Capitol Area Architectural and Planning Board height guidelines because the ground elevation at the "Centennial East" side is lower than that at the Capitol Building site. A detailed analysis of this general alternative will be developed in the next section of the report.

SIZE:
108,601 Square Feet,
2.49 Acres

COST:
$15/Square Foot
108,601 x $15/SF = $2,639,025.

ZONING:
Maximum Building Height Not To Exceed Elevation 944.0

Floor Area Ratio..... 6.0
Set Back..... None
Maximum Land Coverage .. None

COMMENTS:
4 Buildings (1-2 story) Presently Occupy 1/3 of the Site. The Site is State Owned.

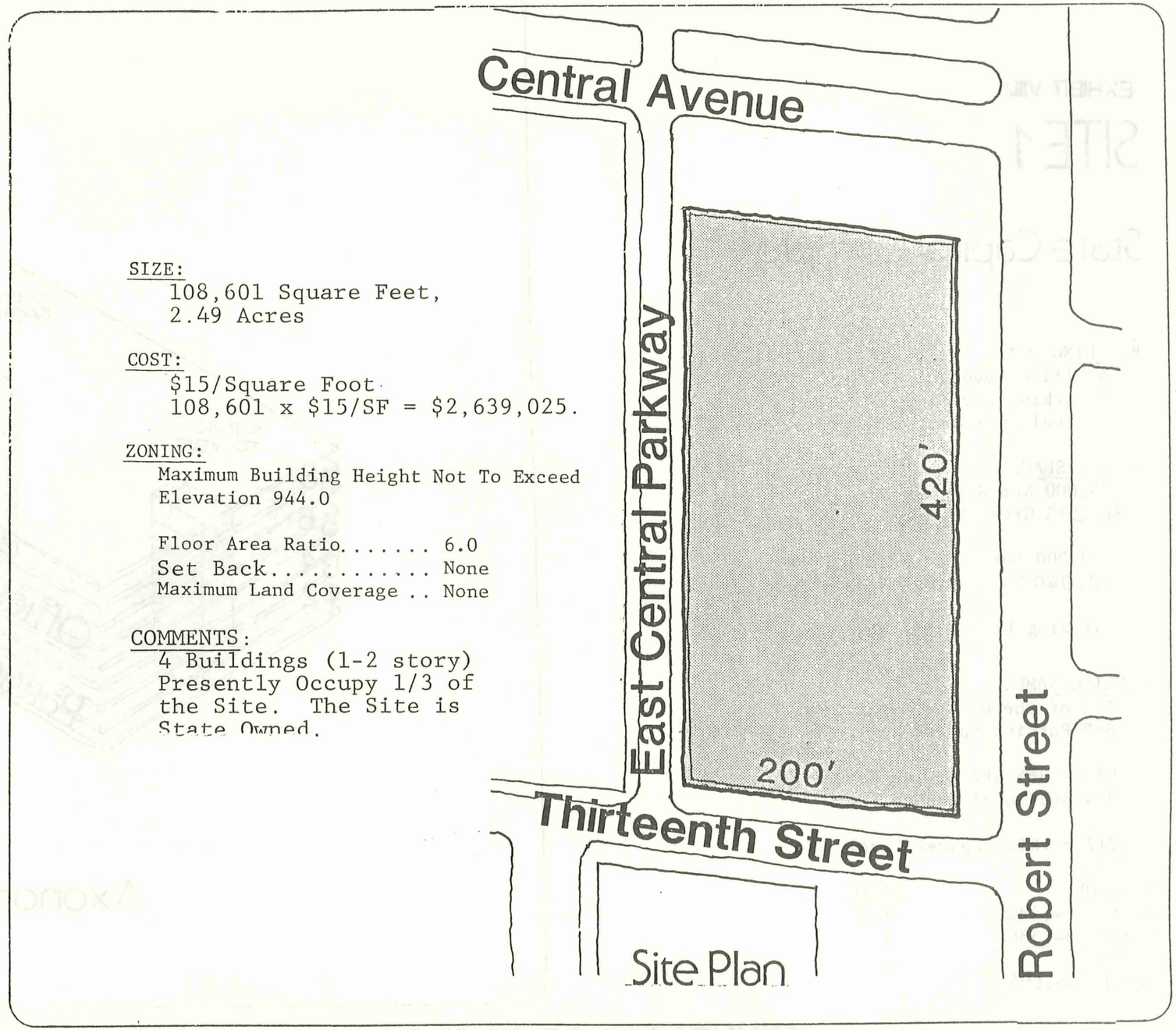


EXHIBIT VIII.5

SITE 1

State Capitol Complex

BUILDING DATA
4 Office Levels
4 Parking Levels
8 Levels 667,898 Total Gross SF

OFFICE SPACE
75,000 Net SF/Floor
88,235 Gross SF/Floor

300,000 Total Net Square Feet
352,940 Total Gross Square Feet

Building Efficiency 85%

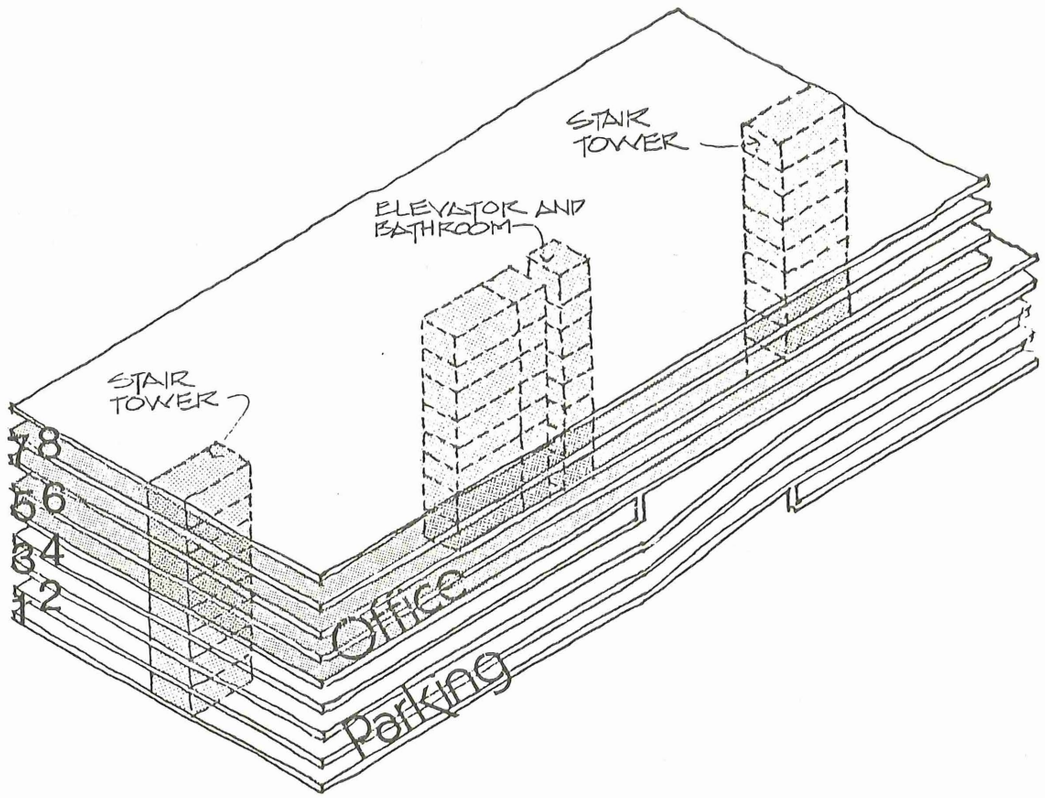
PARKING RAMP
55% of the Office population = 869/Parking Spaces

869 x 385 SF/Parking Spaces = 334,565 Total Square Feet

217 Parking Spaces/Level

ENVELOPE		RATIO
Roof	84,420	1.3
Walls	64,584	1

TOTAL 149,004



Axonometric View

SITE 2

EXHIBIT VIII.6

Downtown St Paul

The second project or site to be analysed is shown in Exhibits VIII.6 and VIII.7. Site 2 presents an opportunity to procure a typical block in the downtown central business area approximating 1.9 acres. At a land cost of $25/SF, this represents an initial investment of approximately $1,642,000.

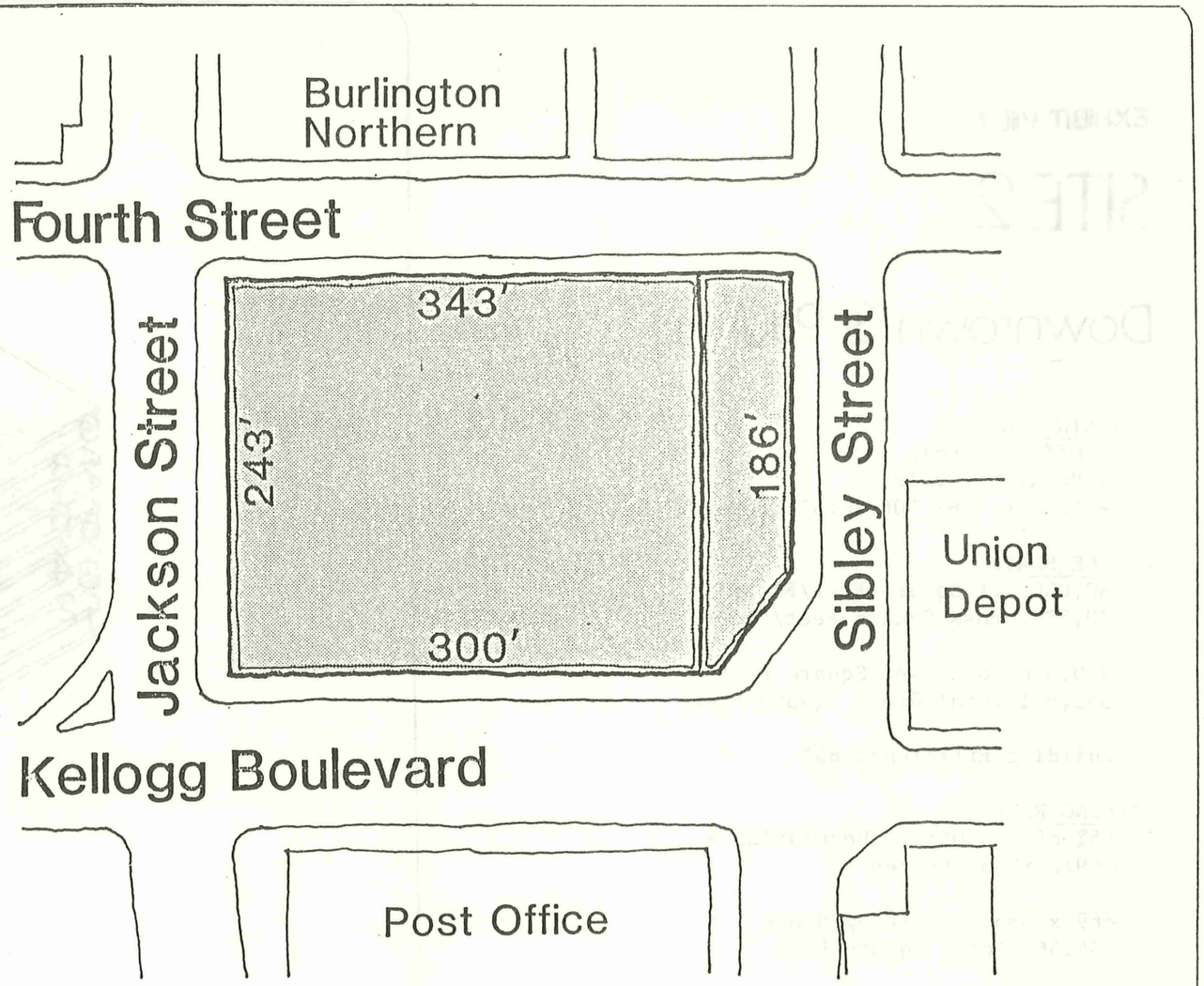
The site would be developed with a five-level office facility on the top of a four-level parking ramp. Office space will total 300,000 total NSF. At a building design efficiency of 85% expressing the need for additional elevators and core elements in a high rise building, the total gross office space to be constructed is 352,941 GSF.

SIZE:
82124 Square Feet
1.9 Acres

COST:
$25./Square Foot
82,124 x $25/sf = $2,053,100

ZONING:
Maximum Building Height....None
Floor Area Radio.....None
Set Back Requirement.....None
Maximum Land Coverage.....None

COMMENTS:
Site is presently unoccupied and used as a parking lot. Site can be purchased from the City of St. Paul.



Site Plan

EXHIBIT VIII. 7

SITE 2

Downtown St Paul

BUILDING DATA
- 5 Office Levels
- 4 Parking Levels
- 9 Levels, 687,506 Total Gross SF

OFFICE SPACE
- 60,000 Net Square Feet/Floor
- 70,588 Gross Square Feet/Floor

- 300,000 Total Net Square Feet
- 352,941 Total Gross Square Feet

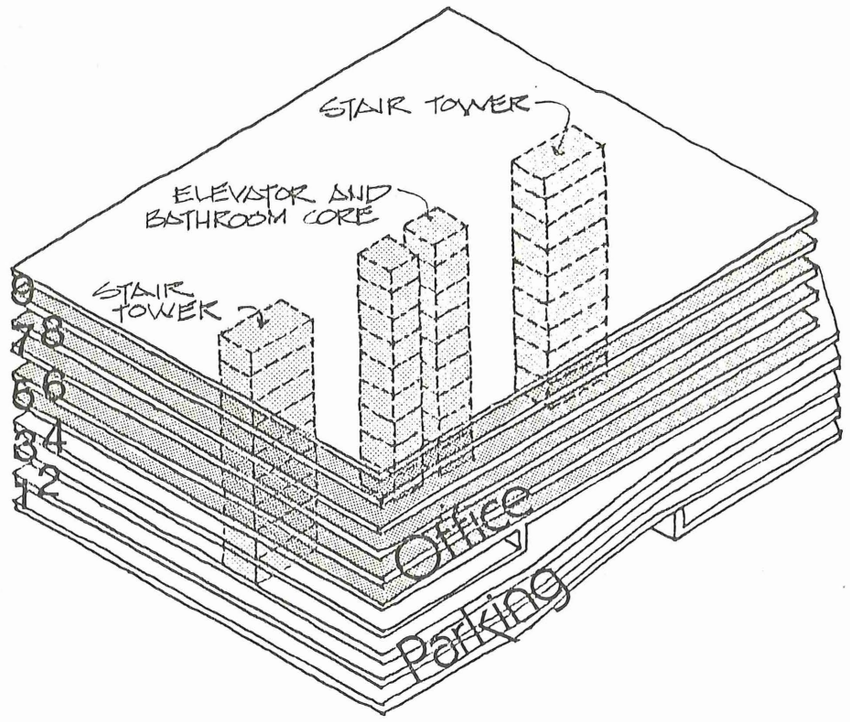
- Building Efficiency 85%

PARKING RAMP
- 55% of the Office Population = 869/Parking Spaces

- 869 x 385 SF/Parking Space = 334,565 Total Square Feet

- 217 Parking Spaces/Level

ENVELOPE		RATIO
Roof	82,124	1.5
Walls	55,328	1
TOTAL	137,660 SF	



Axonometric View

SITE 2a EXHIBIT VIII. 8

Downtown St Paul

The third project to be analyzed is presented as Site 2a in Exhibits VIII.8 and VIII.9. Site 2a represents the acquisition of an existing facility located in downtown St. Paul. Specific examples of this type of facility are available. The analysis considered the acquisition of an existing building that provided slightly in excess of 300,000 NSF, the subsequent renovation of that facility, and the acquisition of a 42,000 SF parcel of land suitable for the development of required parking facilities by the State or private business with the total costs of this land parcel and parking construction being ultimately paid for by the users.

It should be noted that even though this prototypical analysis is based on an existing facility, the Consultant does not specifically recommend that particular facility and suggests that all similar facilities be considered should this option be selected for implementation.

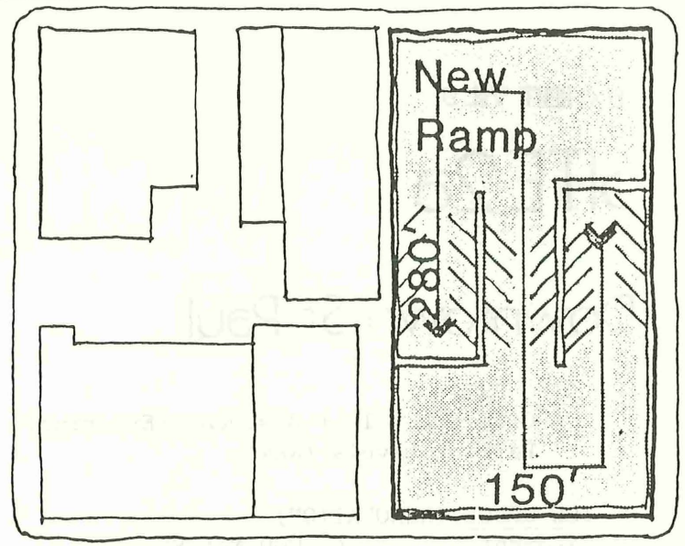
The renovated office building has a design efficiency of 84% and provides approximately 314,000 NSF in a building of 374,236 GSF by actual measurement. No parking is provided and with the acquisition of adjacent land, a facility would have to be constructed by the State or by private investors to support those personnel assigned to the facility.

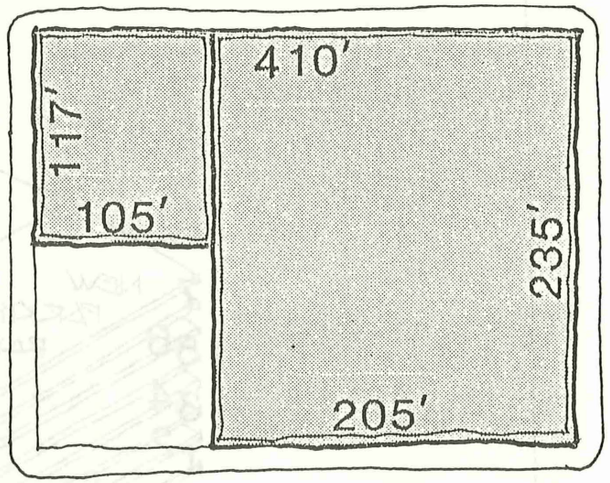
SIZE:
OFFICE BUILDING
60513 Square Feet
1.4 Acres

PARKING RAMP
42,000 Square Feet
1.0 Acre

COST:
$25/Square Foot for parking only
42,000 x $25/SF = $1,050,000.

ZONING:
Maximum Building Height .... None
Floor Area Ratio ..... None
SetBack Requirement ..... None
Maximum Land Coverage .....None





Site Plan

COMMENTS:
The facility will be vacated in the near future and is presently for sale and is one of the 300,000 + square footage buildings available in downtown St. Paul. Additional land may be needed for parking. A vacant lot one block away is suggested. The facility is close to Metro Square which currently houses other State Officials.

EXHIBIT VIII 9

SITE 2a

Downtown St. Paul

BUILDING DATA
6 Office Levels + Basement (Existing)
7 Parking Levels (New)

OFFICE SPACE (RENOVATION)

Basement	45,000	Net SF
1st and 2nd Fl.	96,000	Net SF
3rd to 6th Fl.	173,000	Net SF
TOTAL	314,000	Net SF
	374,236	Gross SF

Building Efficiency 84%

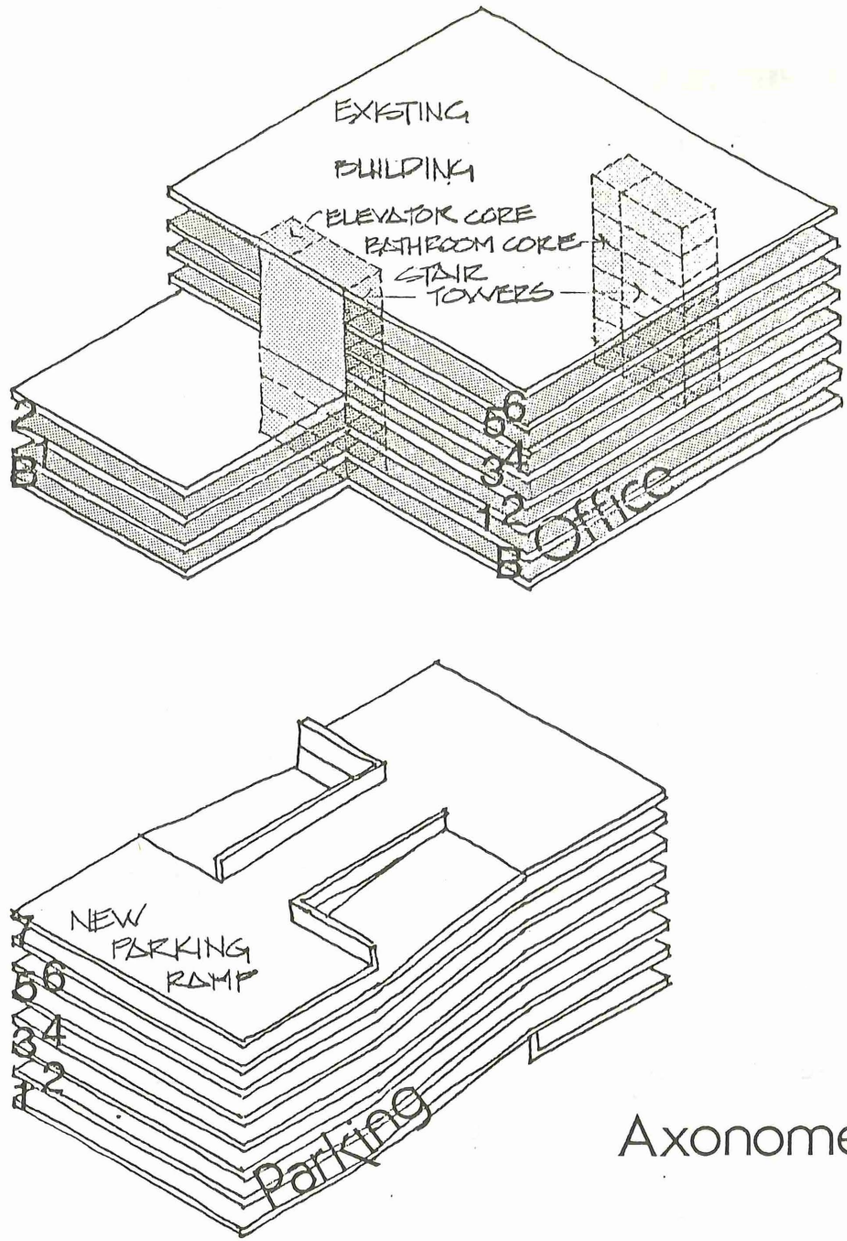
PARKING RAMP (NEW CONSTRUCTION)
55% of the Office Population =
869 Parking Spaces

869 x 385 SF/Parking Spaces =
334,565 Total Square Feet

124 Parking Spaces/Level

ENVELOPE		RATIO
Roof	60,513	1
Walls	80,210	1.3

TOTAL 140,723



Axonometric View

EXHIBIT VIII. 10

SITE 3

Suburban/Rural

The fourth general project to be studied utilized a suburban site. This is noted as Site 3 on Exhibits VIII.10 and VIII.11.

The suburban site, as diagrammed, represents 16.6 acres although sites of upwards of 25 to 30 acres should probably be procured to support very long range requirements. The analysis of Site 3 concentrated on developing an optimum packaging of approximately 300,000 NSF on land that has an assummed cost of $3/SF.

The facility is generally low-rise in nature, has a design efficiency of at least 87%, and provides all parking through surface parking lots in a rather economical fashion. The 16.6 acre site is more than adequate to accommodate building space, set backs, and surface parking for all included employees. Parking is provided for 70% of the office population who occupy a three-level campus-type office facility.

SIZE:

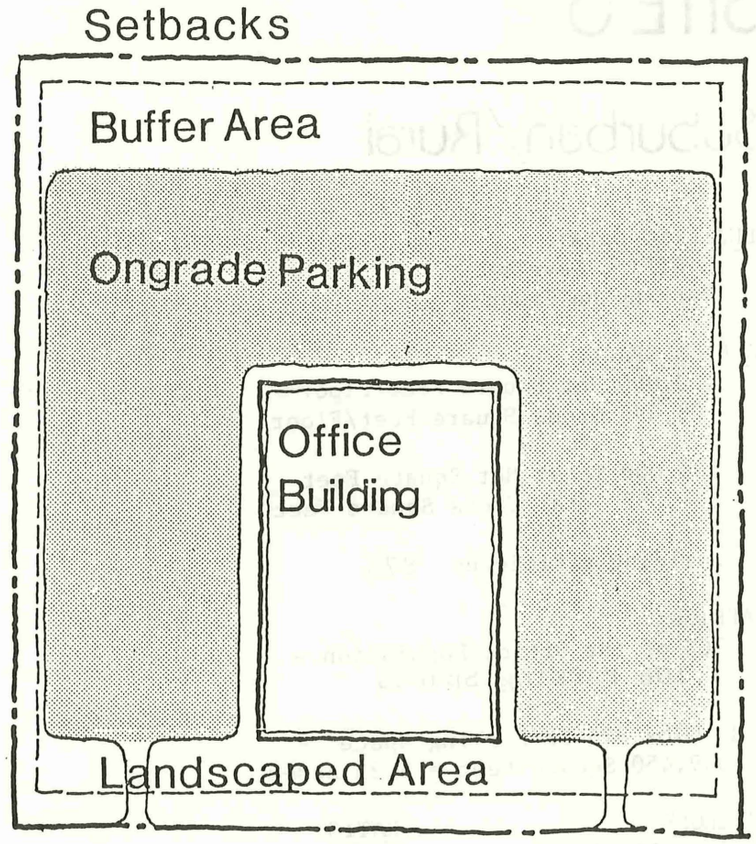
Set Backs	2.2 Acres
Buffer	1.8 Acres
On Grade Parking (1,106 Spaces)	8.25 Acres
Office Building	3.25 Acres
Landscaped Area	1.1 Acres
TOTAL	16.6 Acres

COST:
$2.00/Square Foot
733,069 x $2/SF = $1,446,192

ZONING: (Generalized)

Maximum Building Hgt.	2-4 Story
Floor Area Ratio	
Set Back Requirements	20-50 FT.
Maximum Land Coverage	30%
Parking Requirement	1/200 Net Sq. Ft.

COMMENTS:
There exist 20 acre sites throughout the Metro Area at intersections of major highways.



Site Plan

EXHIBIT VIII. 11

SITE 3

Suburban/Rural

BUILDING DATA:
3 Office Levels
Parking on Grade

OFFICE SPACE:
100,000 Net Square Feet/Floor
108,696 Gross Square Feet/Floor

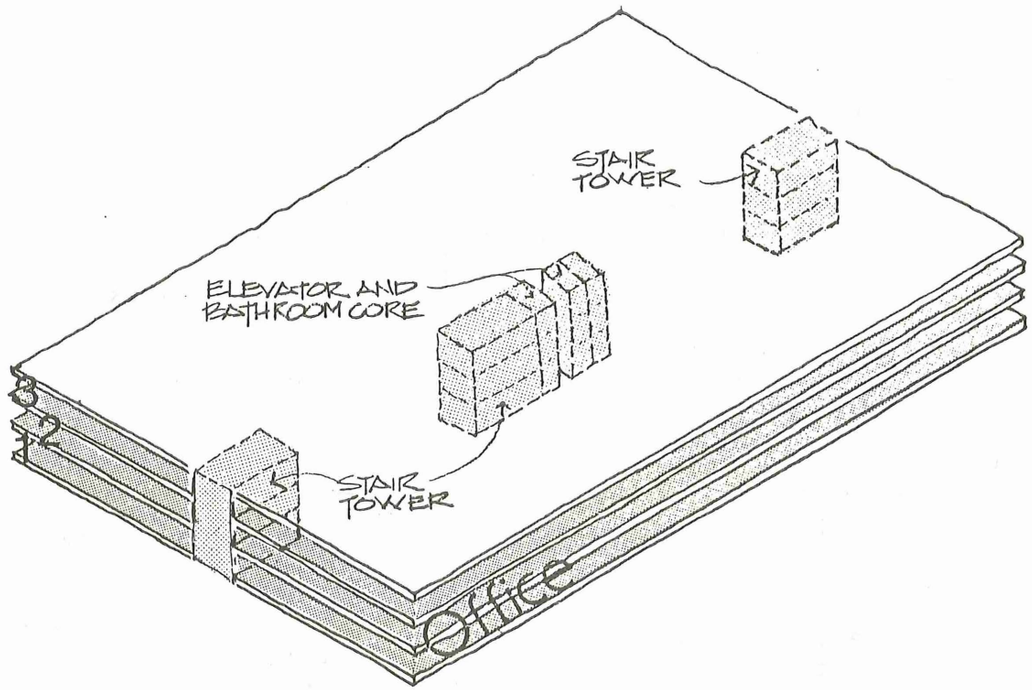
300,000 Total Net Square Feet
326,087 Total Gross Square Feet

Building Efficiency 87%

PARKING:
70% of the Office Population =
1,106 Parking Spaces

1,106x 325 SF/Parking Space =
359,450 Square Feet = 8.25 Acres

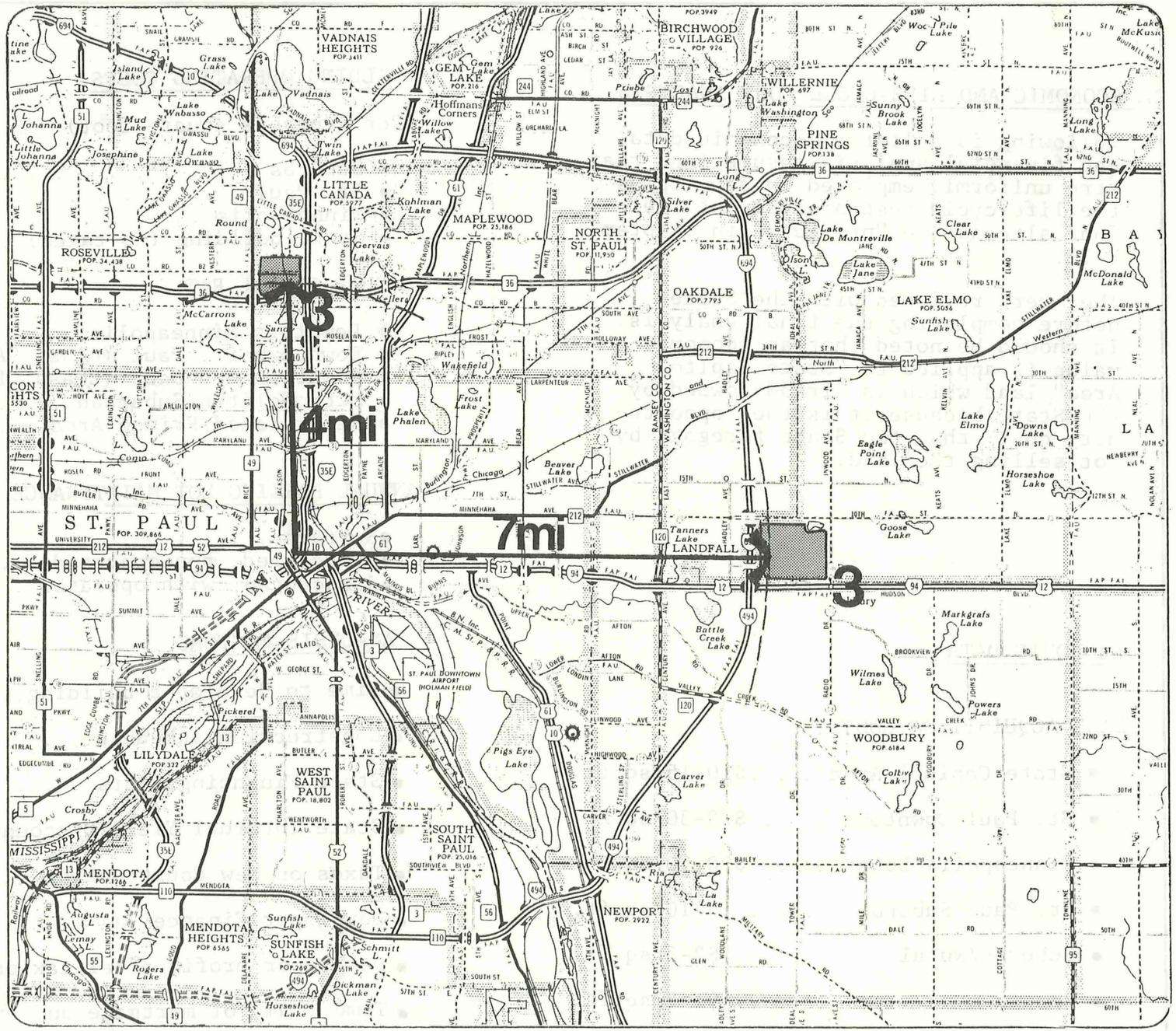
ENVELOPE		RATIO
Roof	109,344	2
Walls	52,572	1
TOTAL	161,916 SF	



Axonometric View

EXHIBIT VIII. 12

SITE ALTERNATIVES



L. ECONOMIC AND LIFE-CYCLE COST ANALYSIS

Following is a list of economic data and financial analysis assumptions that were uniformly employed in developing the life-cycle cost analysis of the four alternative "projects" in Chapter VIII.

They were reviewed with the State before completing the final analysis. It should be noted that an economic value is applied to "State Capitol Area" land which is already owned by the State because it is the "opportunity cost" that the State foregoes by not selling the land.

ECONOMIC DATA

LAND ACQUISITION COSTS:

- State Capitol Area . . . $10-15/sq.ft.
- St. Paul Downtown . . . $20-30/sq.ft.
- Minneapolis Downtown . $30-50/sq.ft.
- St. Paul Suburbs . . . . $5-10/sq.ft.
- Suburbs/Rural . . . . . $2-5/sq.ft.
- Remote . . . . . $1-2/sq.ft.

BUILDING OPERATING COSTS

(Per rentable square foot)

- Suburbs $3.75/RSF
- St. Paul $4.00/RSF
- Minneapolis $4.50/RSF
- State Building (no taxes) $3.00/RSF

ANNUAL RENTAL RATES

- Downtown Minneapolis $13-15/RSF
- Downtown St. Paul (Class "A") $11-13/RSF
- Downtown St. Paul (Class "B"/Conversion). . $9 -11/RSF
- Metropolitan/Suburban $10-12/RSF
- Refurbished/Fringe Area . . . . . $ 7- 9/RSF

ANNUAL PARKING LOT MAINTENANCE

- Surface $30/stall
- Structured, non-operated $110/stall
- Structured, with operator $140/stall

ANALYSIS FACTORS

- Time to develop a building..... 3½ years
- Construction schedule . . .. 2 years
- State Financing Costs 5.5%
- State Internal Yield/Discount Rate..... 8%
- Taxes on New Construction.....$1.00/NSF
- Developer Finance Rate 11%
- Developer profit after tax on investment..... 20%
- Time frame of mortgage and analysis . ..... 30 years

Prototypical Building Program

A prototypical building program was developed as the basis of identifying relative economic differences between buildings of similar scale and use located in different areas.

Exhibit VIII.13 represents a summarization of the prototypical building program and identifies quantitative information that is applicable to building in an urban site, downtown CBD or the high-access site, for example , a Capitol Complex site, and a suburban site within 3 to 5 miles from the Capitol Complex.

Initial Cost Analysis

The four alternative sites or projects discussed earlier in this chapter were analyzed to determine a total initial development cost for each.
The purpose of the comparative cost analysis is to base cost calculations on relatively comparable or proportional data as opposed to absolute fixed values. Therefore, a degree of approximation can be validly applied.

Life-cycle cost analysis is not necessary at this juncture to determine the relative economic advantages of constructing State-owned space in different locations because a facility can be designed with an operating cost that would be equal to another similarly sized facility located in the general geographical area.

EXHIBIT VIII. 13

PROTOTYPICAL BUILDING PROGRAM

COMPONENT	URBAN	CAPITOL COMPLEX	SUBURBAN
Number of personnel	1,580	1,580	1,580
% driving private automobile	50%	55%	70%
Parking spaces required	790	869	1,106
Net area factor	190 NSF	190 NSF	190 NSF
Net area required	300,000	300,000	300,000
Building efficiency	.80	.85	.87
Gross area required	375,000	352,940	344,827
Space Distribution			
•enclosed offices	10%	10%	10%
•open offices	80%	78%	76%
•special areas	1%	2%	3%
•cafeteria	3%	4%	5%
•support area	6%	6%	6%
TOTAL	100%	100%	100%
Unit Costs			
•land	$25.00	$15.00	$ 3.00
•construction	$66.20	$62.20	$56.50
•parking	$18.00	$15.00	$ 3.00
•sitework	$ 4.00	$ 4.00	$ 2.00

Thus, we assume identical unit operating costs for all buildings. The comparative cost analysis presented on Exhibit VIII.14 indicates a unit cost per NSF of space provided of $110 for a building constructed in the Capitol Complex, $125 for a facility constructed on a block of land in the CBD and $90.48 if the facility is constructed in a "suburban" location. None of these three alternatives come close to the $60.75/NSF cost of providing space [illegible] facility that could be purcha[illegible] renovated.

The purpose of the comparative cost analysis presented in Exhibit VIII.14 is to indicate the relative cost differences to the State as a result of selecting different general site locations for the construction of a large general office facility.

The conclusion demonstrates that constructing a facility, including surface parking areas and additional land in a suburban location, is significantly more cost effective on an initial construction cost and life-cycle operating cost basis than constructing a similar facility in a Capitol Complex or CBD location. An 18% savings is indicated when the suburban site is compared to a Capitol Complex site. The savings is over 27% when compared to a CBD location.

EXHIBIT VIII. 14

COMPARATIVE COST ANALYSIS

COST COMPONENT	Site 1 CAPITOL COMPLEX	Site 2 CENTRAL ST.PAUL	Site 2a RENOVATION	Site 3 SUBURBAN
Land Area	108,601	82,124	42,000	723,059
Land Cost per square foot	$15	$25	$25	$3
Total Land Cost	$ 1,629,015	$ 2,053,100	$ 1,050,000	$ 2,169,177
Net Area Required	300,000	300,000	314,000[1]	300,000
Total Gross Area	352,940	375,000	374,236	344,827
Building Efficiency	85%	80%	84%	87%
Total Bldg. Construction Cost	$21,952.868	$24,826,000	$ 9,750,000[2]	$19,482,726
Plus 20% overhead	$ 4,390,573	$ 4,965,000	$ 1,950,000	$ 3,896,545
TOTAL BUILDING COST	$26,343,441	$29,791,000	$11,700,000	$23,379,271
Parking Spaces at 50%/55%/70%	869	790	790	1,106
Area per parking space	385	385	385	325
Parking area required	334,565	304,150	304,150	359,450
Cost of pking at $18/$15/$3	$ 5,018,475	$ 5,474,700	$ 5,474,700	$ 1,078,350
Site Area Development	25,268	11,536	-	257,923
% Site Coverage	77%	86%	100%	64%
Site Dvlpment Unit Cost	$4.00	$4.00	-	$2.00
TOTAL SITE DEVELOPMENT COST	$ 101,072	$ 46,144	-	$ 515,846
TOTAL INITIAL DEVELOPMENT COST	$33,092.003	$37,364,944	$18,224,700	$27,142,644
Unit Cost per person	$20,944	$23,649	$11,535	$17,179
Unit Cost per GSF	$94	$100	$49	$78.71
Unit Cost per NSF	$110	$125	$60.75	$90.48

[1]Assume 45,000 NSF basement offers 31,000 usable sq. ft. for program requirements to reduce net area to 300,000 NSF for purposes of determining building capacity.

[2]Purchase price of $6,000,000 including minor renovation and interior renovation of $15 per sq. ft. after purchase applied to 250,000 NSF - total cost of $9,750,000.

Life-Cycle Cost Comparisons

For purposes of general cost comparison, a life-cycle cost analysis for each alternative project was prepared.

Site 1 Life-Cycle Cost Analysis

For a new facility developed in the Capitol Complex area, an initial cost, exclusive of parking which is assumed to be employee reimbursed, of approximately $28,000,000 is indicated to construct a facility of 300,000 NSF. The initial cost of construction, including land procurement and site development, is thus $93.58 per NSF.

The present value, life-cycle cost for building maintenance and operating expenses, calculated at $3 per RSF which, when divided by the building efficiency of 85% is $3.53 per NSF, is inflated at 9% per year and then discounted at 8% per year to indicate a present value of $122.78 per NSF. Total present value, life-cycle cost is $195.27 per NSF after adding operating and maintenance and initial construction costs. On a per-person basis, this equates to $37,101.

Site 2 Life-Cycle Cost Analysis

A new facility constructed in the CBD (the high access site) requires an initial expenditure, exclusive of parking accommodations, of approximately $32,000,000. This equates to a unit cost of $106 per net square foot. The present value, life-cycle cost of amortizing this $106 over 30 years is calculated to be $82.29.

Operating costs of $3 per RSF converted to NSF indicates a cost of $2.75 per NSF per year. This cost, inflated 9% and discounted at 8%, yields a 30 year present value, life-cycle cost of $130.44. The total present value, life-cycle cost is $212.73 per NSF and the cost per employee is calculated to be $40,419.

Site 3 Life-Cycle Cost Analysis

Similar calculations for a facility developed at a suburban location indicates an initial cost of approximately $24,000,000 when only land under the building is included along with circulation and landscaped areas. This initial investment averages $80 per NSF. When amortized over 30 years at a 5.5% interest rate, an $80 initial investment requires an annual payment of $5.50 per NSF as opposed to the $6.44 per NSF cost indicated for the facility if constructed in the Capitol Complex. The present value of a $5.50 annual payment, discounted at 8%, is $61.92 per NSF.

The variable operating costs, again at $3 per RSF which inflates to $3.45 per NSF when divided by the suburban building design efficiency of 87%, are inflated at 9% per year and then discounted at 8% per year to indicate a present value life-cycle cost for operating expenses of $119.95 per NSF. Total costs of $181.87 per NSF are indicated. This equated to a present value, life-cycle cost of $34,555 per employee.

Site 29 Life-Cycle Cost Analysis

The life-cycle costs of this alternative are discussed in detail in Section E of this chapter on page 97.

Summary

Clearly, on the basis of life-cycle cost analysis, a suburban site is more preferrable to the construction of a similar amount of space in the Capitol Complex or CBD area.

These comparative costs are included on Exhibit VIII.15 along with costs similarly calculated for other space acquisition alternatives including the acquisition/renovation alternative which continues to be the most economical alternative contained in this report other than long term lease space if available at less than $7 per square foot.

EXHIBIT VIII 15

NO.	ACQUISITION ALTERNATIVES	LIFE-CYCLE COSTS				RATIO (2)	RANK
		COST PER NET SQUARE FOOT			COST PER		
		FIXED	VARIABLE	TOTAL	PERSON (1)		
1	LEASE EXISTING BUILDING AND RENOVATE	$ 67.55	$ 104.35	$ 171.90	$ 32,661	129%	2
2	PURCHASE AND RENOVATION	28.45	104.35	132.80	25,232	100%	1
3	RENOVATE MECHANICS ARTS SCHOOL	61.81	156.53	218.34	41,485	164%	8
4	PURCHASE SHERIDAN JUNIOR HIGH SCHOOL	44.55	166.97	211.52	40,189	159%	5
5	LEASE SHERIDAN JUNIOR HIGH SCHOOL	66.26	166.97	233.23	44,314	176%	9
6	NEW LEASE SPACE	85.11	150.27	235.38	44,703	177%	10
7	CONSTRUCT NEW FACILITY - I (Cent.East)	72.50	122.78	195.27	37,101	147%	4
8	CONSTRUCT NEW FACILITY - II (Suburban)	61.92	119.95	181.87	34,555	137%	3
9	CONSTRUCT NEW FACILITY - III (High Acc)	82.29	130.42	212.73	40,419	160%	6
10	PURCHASE SOUTH ST. PAUL JR. HIGH SCHOOL	51.06	162.33	213.39	40,544	161%	7

(1) Assuming a net area factor of 190 square feet per person.
(2) Cost per person for alternative as compared to alternative 2 at 100%.

Additional Costs Associated With a Suburban Location

There are some additional costs associated with locating a significantly sized building in a suburban location as opposed to near the Capitol Complex. A number of these issues are discussed in Chapter IX. However, although most of these costs would be borne by or enjoyed by the employee due to changing commuting costs, there are two costs that will be the responsibility of the State. The first cost is that of potential decreased government operating efficiency by locating personnel that need to interface with one another in distant locations. The second cost would be associated with a shuttle bus system between the suburban site and the downtown/Capitol Complex area. Occupancy at a suburban site would be assigned to departments that have the highest degree of autonomy from the Capitol Complex area and negative impacts on adjacency relationships should be minimized.

Employee Transit Costs to The Capitol Complex

In Chapter VI it was indicated that, on average, each employee in a department requires one interface per month with someone in a different department. This overall low frequency of actual contact suggests that certainly departments can be identified for location at a suburban site that have a degree of interface that is less than the average expressed by all the departments.

Following that line of reasoning the Consultant calculated that the 1,580 personnel included in the prototypical data base would require probably less than 300 trips per week to be made between the suburban site and Capitol Complex. Hopefully, the vast majority of these trips can be accommodated by a continuous shuttle system. The cost of that shuttle system and transit is of concern to the State.

A suburban site might require a round trip driving distance of 10 miles to and from the Capitol Complex. At approximately 30 minutes per trip, an assumed 300 round trips would require 150 hours per week of personnel time. The 150 hours per week can be valued at an average cost of $15 per hour, recognizing that the primary people making the interface are management and senior technical personnel. This would indicate an allocated labor cost of $2,250 per week. On a 50-week year, a cost of $112,500 is indicated. Assuming the same 8% discount applied in previous calculations and assuming a labor cost inflation rate of 6% per year, indicates that the 30 year present value life-cycle cost of this travel time is $2,519.601. This represents a very real cost, although undocumentable, that would result from locating 1,580 personnel in a suburban site that is 3 to 5 miles distant from the Capitol Complex (See Exhibit VIII.16).

Additional Costs Associated With a Remote Site

It is assumed that a remote site would demand the initiation of a continuous shuttle system of buses. Exhibit VIII. 17 presents calculations of the total annual and life-cycle cost of the shuttle bus system.

Also, certain additional security and operational positions beyond those needed if the space were in the Capitol Complex would be necessary to staff and operate a remote location, in addition to normal "maintenance" staff. Thirdly, certain additional spaces must be provided to allow common support facilities for activities that would otherwise be already available in the Capitol Complex area.

Exhibit VIII. 17 indicates that the total annual cost of these three additional expenditure is $136,440. The present value of this expenditure over 30 years, assuming the cost inflation of 6% and a discount rate of 8%, is calculated to be $3,055,772.

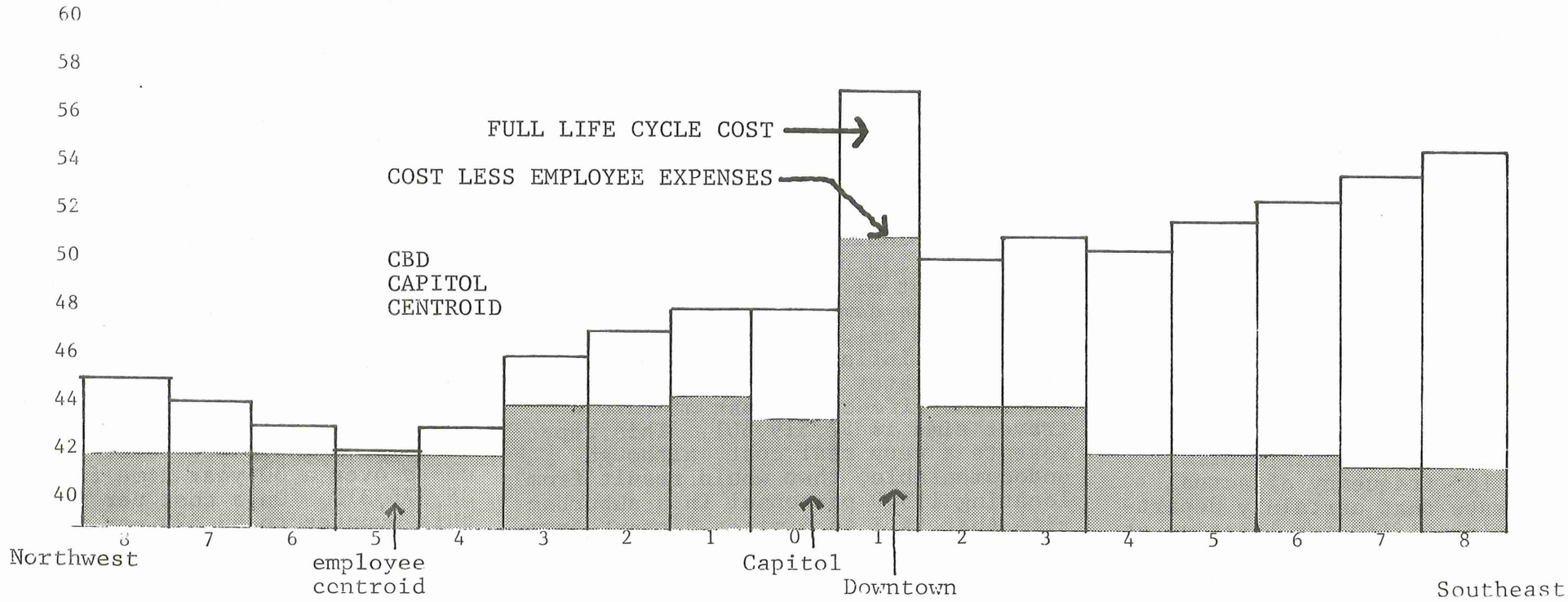
Adding the value of employee transit time to the operating expenses for security, additional space and a shuttle bus system indicates total additional costs over a 30-year time frame of $5,575,373. On a cost per person basis, this equates to $3,529 per person.

EXHIBIT VIII. 16

LIFE CYCLE COST OF NEW FACILITY PER EMPLOYEE

Miles from Capitol

	8	7	6	5	4	3	2	1	0	1	2	3	4	5	6	7	8
Gov.Cost	2760	2700	2640	2580	2520	2460	3400	1500	0	1500	2400	2460	2520	2580	2640	2700	2760
Space Cost	39305	39305	39305	39305	39305	41000	41000	43011	43011	49851	41000	41000	39305	39000	38750	38750	38750
Sub-total	42065	42005	41945	41885	41825	43460	44400	43511	43011	51351	43400	43460	41825	41580	41390	41450	41510
Emp. Driving	3000	2000	1000	0	1000	2000	3000	4000	5000	6000	7000	8000	9000	10000	11000	12000	13000
TOTAL	45065	44005	42945	41885	42825	45460	47400	47,511	48011	57351	50400	51460	50825	51580	52390	53450	54510



Comparison of Additional Costs and Savings of a Suburban Site

The total initial development cost for a site in the Capitol Complex was found to be $33,092,000 (Exhibit VIII. 14). The cost for a suburban site was calculated at $27,142,644. Initial development costs of the suburban site would save $5,949,356 which is greater than the total present value of additional costs for employee transit time and the operating expenses in the shuttle bus system which were found to total $5,575,373.

It is the judgement of the Consultant that the cost savings associated with the suburban site are significant when compared to a Capitol Complex site and overwhelming when compared to a CBD site. Thus, preference should be given to locating appropriate agencies that have minimum adjacency requirements with the Capitol Complex area at a suburban site where plentiful and unobstructed land could be available to develop highly efficient buildings at lower unit costs for both building construction and parking. The choice of a specific site should consider energy conservation from both an operational and employee cost viewpoint.

All present value life-cycle calculations were developed utilizing an 8% discount rate, a 30 year amortization schedule, and an assumed 5.5% interest rate for debt financing. It

EXHIBIT VIII. 17

REMOTE LOCATION ADDITIONAL COSTS

1. Continuous shuttle system, three drivers and two buses:
   - 3 drivers at $13,000/yr. plus 20%.....$46,800
   - 2 buses, 4 yr. life, cost $16,000..... $8,000
   - mileage, 5 miles distant, 4 trips per hour, 20¢/mile....$16,640

   TOTAL ANNUAL COST.....$71,440

2. Additional security and operation positions and supervision - 3 positions at $15,000/year.....$45,000

3. Duplication of support space - 2,000 s.f. at annual cost of $10/s.f./yr.....$20,000

   TOTAL ANNUAL COST.....$136,440

Present value of 30 years at annual cost increase of 6% and a discount rate of 8%..... $3,055,772

Fixed cost = $119,800.....$2,275/emloyee
Variable cost = $3,328/mile.....$47-$60/employee/mile

TOTAL PRESENT VALUE LIFE-CYCLE ADDITIONAL COSTS OF A REMOTE SITE

Value of employee transit time.....$2,519,601

Operating expenses and shuttle bus system.....$3,055,772

TOTAL.....$5,575,373

was further assumed that payment schedules for debts would be uniform annual payments such that, at the end of the payment period, all debt would have been repaid. This type of debt financing has characteristics nearly identical to conventional home financing debt amortization schedules.

Debt or bond financing for capitol projects that are available to the State have repayment schedules and characteristics that are more favorable than those used in the calculations by the Consultant based on uniform payment schedules. The reader is referred to the appendix of this report under seperate cover, which will discuss alternative financing mechanisms available to governments, the mechanism of capitol project financing through bond issues, and the different present value life cycle cost calculations that can result from employing different financing mechanisms.

In summary, the real financing mechanisms that the State would probably employ would produce a present value life cycle cost for a capitol improvements project that would be at least 8% more attractive in comparison to alternatives of leasing than the calculations included in this report which assumed a more traditional mortgage retirement payment schedule.

M. LEASE VERSUS CONSTRUCTION COST BREAK EVEN ANALYSIS

At a low but obtainable annual rental rate, the relative economic advantage to the State of leasing appropriately sized and located space for long-term occupancy can become more advantageous than a new facility construction strategy.

Throughout this report, the Consultant has continued to express the recommendation to the State to always explore opportunities to lease available space the only proviso being that it is appropriately sized and located to suit the requirements of the departments that would occupy the space, if such lease space was to the State's economic advantage.

Any space lease that fits this criteria should then be leased for a relatively long-term, as long as the need for the space is viewed as continuing and the occupant departments have some ability to predict future requirements and a phased leasing and/or expansion strategy could be developed.

It is now important to synthesize all previous data developed with regard to assumed building construction costs, annual building maintenance and operations costs, and to determine the annual lease cost at which it is to the economic advantage of the State to lease as opposed to providing space by new construction.

The analysis that follows makes a series of assumptions with regard to costs that would tend to penalize the alternative of new construction because of the inherent danger of making estimates with regard to future construction cost and the time factor involved in implementation of the construction strategy. At the same time, assumptions that would tend to be to the advantage of a leasing strategy are incorporated because of the flexibility and immediate implementability characteristics of a leasing action.

Cost of New Construction

First, an analysis of the present value, life-cycle cost per person of new building construction is developed.

For purposes of analysis it is assumed that new construction would require the development of 190 NSF per person in a low-rise facility with a design efficiency, the ratio of net useable area to gross area, of 85%. This would require the construction of approximately 224 GSF of space per person. The 85% efficiency factor is well within reason and is more conservative than a number of large facilities that have been recently developed.

The analysis continues to utilize a construction cost estimate of $56.50 per GSF which is realistic for the type of facility contemplated in the Minneapolis/St. Paul area in terms of

early part of 1980 indicates that costs are escalating at significantly higher annual rates due to the energy crisis and inflation.

From a total operating cost point of view, we find that total building maintenance and operating costs increased on a national average from about $2.23 per rentable square foot in 1963 to $3.84 per rentable square foot in 1974. This represents an annualized increase slightly over 5% per year.

Currently, relevant building maintenance and operation costs, including taxes, easily approximate $4 per rentable square foot. These costs exclude depreciation (not a real cost of operation) and certain tenant alteration and management costs that are not particularly relevant to the type of leases and occupancy that would be contemplated by the State.

For purposes of completing the economic analysis of space acquisition alternatives, it is assumed that the current maintenance and operating cost of leasing space in an "average" building in downtown St. Paul is $4 per rentable square foot. The tax component of that cost, the amount of money that would not be paid if the State owned the building, is assumed to be $1 per rentable square foot.

In comparison to national averages, we find that throughout the United States buildings are normally taxed at approximately $1.21 per rentable square foot per year. Thus, lease space in the St. Paul area has a general "benefit" in comparison to other cities.

The comparisons indicate that the cost of maintaining and operating a building in St. Paul is between 10% and 20% more economical than comparable costs found elsewhere in the country.

The $4 per rentable square foot annual maintenance and operating cost is also assumed escalated at 9% per year. When discounted at 8% per year, this yields a present value life-cycle cost of $139.14 per rentable square foot.

Subtracting the present value life-cycle cost of the variable portion of a lease payment, $139.14 from the full cost of facility construction and ownership, $169.43 yields a difference of $30.29 per rentable square foot.

This additional difference represents the present value of the amount of money that the State could pay to landlords over 30 years representing the amortization of fixed costs for building development amortization initially borne by the landlords if total costs of leasing were to be equal to the cost of State ownership.

A present value of $30.29 represents, over a 30 year time frame when discounted at 8%, an annual payment of $2.69 per rentable square foot.

Adding a current maintenance and operating cost of $4 per rentable square foot in a leased facility to the fixed annual cost of $2.69 per rentable square foot indicates that a current annual rent payment should approximate $6.69 per rentable square foot to produce a break-even point with new construction. That continuing stream of payments, including the escalating portion of the variable costs, produces a present value life-cycle cost of occupancy in a leased facility of $169.43 per square foot which is identical to the cost of ownership.

This analysis assumes that rental rates are quoted on the basis of rentable square feet. Rentable square feet are between 5% and 12% larger than net square feet in most leased buildings. Therefore, the

current, 1979, construction dollars. This would indicate a building construction cost, including interior improvements, of $12,656 per person.

Land acquisition in a moderately suburban location is calculated at $5 per GSF and, assuming a three-level building with adequate site circulation of 55% indicates that the land cost would approximate $580 per person.

Total initial costs, exclusive of parking costs which are not applicable because the cost of providing parking in any alternative is assumed to be ultimately borne by the employees, would total $13,236.

Next, an allowance of 20% is added for consulting and development fees, project management and other overhead costs. The resultant total project development cost of $15,883 per person is rounded to $16,000 for purposes of further analysis.

A $16,000 expenditure per person, with an allocation of 224 GSF and 190 NSF per person indicates a unit development cost of $71.43 per GSF.

The amortization of a $71.43 per GSF construction cost over 30 years, at a 5.5% interest rate, would yield a "loan amortization" payment of $4.91 per GSF.

An annual stream of payments of $4.91 per GSF for 30 years, when discounted at 8%, yields a present value cost for the amortization of all initial capital improvements and land acquisition costs of $55.32 per GSF.

Next, it is necessary to convert a $55.32 per GSF present value cost to a cost per net square foot basis. Dividing by the 85% efficiency yields a present value cost of $65.08 per NSF.

Next, a $3 per square foot annual maintenance and operating cost is escalated at 9% per year and then discounted at 8% per year to indicate a present value life-cycle maintenance and operating cost of $104.35 per NSF.

Adding the present value capital cost of $65.08 to the present value maintenance and operating cost of $104.35 yields a present value life-cycle project cost of $169.43 per NSF.

On a per-person basis, assuming 190 NSF per person, this yields a present value life-cycle cost per person of $32.19 in a facility that is constructed and owned by the State.

Cost of Leasing

For comparison purposes, it is necessary to estimate the equivalent present value life-cycle cost of occupying lease space. Because a leased facility requires the payment of taxes, assumed at $1 per square foot per year, annual maintenance and operating costs are estimated at $4 per rentable square foot per year. This is consistent with current data provided by landlords in "less than prime" lease space and consistent with other assumptions made throughout the report.

From the Building Owner's and Management Association (BOMA) we find that relevant building operation and maintenance costs in the St. Paul CBD averaged approximately $2.90 per rentable square foot per year in 1971. This included approximately $1.77 for operating costs, $1.03 per rentable square foot for taxes and $.10 per square foot for miscellaneous charges.

Seven years later, in 1978, those operating costs have increased to about $2.52 per rentable square foot, miscellaneous costs have increased to $.15 per square foot and taxes have decreased to approximately $.86 per rentable square foot. Total costs in 1978 approximated $3.53 per rentable square foot.

This represents a 3% annual increase in building maintenance and operation costs from 1971 to 1978. Recent experience, from 1978 through the

$6.69 rentable square foot annual break-even cost should be further reduced by at least 6% to $6.31 per rentable square foot to produce a true break-even situation with the net square foot costs used in calculating costs for a State owned facility. A cost of $6.31 per rentable square foot is equal to a cost of $6.69 per NSF if a 6% increase, or "load" is assumed to translate from net to rentable area.

The current annual rental cost per rentable square foot that would have to be achieved by the State to produce a present value life-cycle cost that is equal to those costs that would be incurred by the State if a new facility were constructed, would need to be between $6.31 and $6.69 per rentable square foot per year.

Therefore, the Consultant recommends that, unless properly sized and located space can be leased for a long term, possibly 5 to 20 years, by the State, at a rate that is below $7 per rentable square foot per year (the actual numbers are between $6.31 and $6.69 per rentable square foot per year) a new construction or acquisition strategy should be employed that would produce savings to the State.

N. ANALYSIS OF ALTERNATIVE SPACE ACQUISITION STRATEGIES

From the calculations of average costs to lease, remodel and construct new space discussed in the beginning of Chapter VIII, Exhibit VIII.18 was developed. This Exhibit also adds allowances for employee commuting costs, the development of the shuttle bus system, interface costs and costs associated with parking that would be the responsibility of either the State or the employee. Exhibit VIII. 16 indicates, in the shaded boxes, those space acquisition strategies and locations that are the most cost-effective and should be considered further.

Overwhelming preference is given to the strategy to purchase and renovate an appropriately sized and located facility. Secondary consideration should be given to the construction of a State-owned facility in either the Capitol Complex area or the "balance of the city of St. Paul". This includes areas previously designated as "suburban" although they are within 3 to 5 miles of the State Capitol. However, movement to the inner ring suburbs or the outer ring suburbs begins to significantly increase employee driving time and penalize driving efficiency through the increased allocation of space and increased costs due to a shuttle bus system. Additional allocation of space would include such support spaces as reproduction areas, electronic data processing and cafeterias that are otherwise already available in the Capitol Complex and would not need to be duplicated.

Undesirable alternatives are to locate a facility in the much more costly and urbanized Minneapolis area or the St. Paul CBD area. Leasing of first class space appears to be more costly although any opportunity to lease space at less than the "break-even" cost of approximately $7/NSF/year should be taken advantage of.

AVERAGE LIFE CYCLE COST PER PERSON OF ALTERNATE ACQUISITION METHODS

SPACE ACQUISITION STRATEGY	GEOGRAPHICAL AREA						
	CAPITOL COMPLEX	DOWNTOWN ST. PAUL	BALANCE OF ST. PAUL	BALANCE RAMSEY CO.	MINNEAPOLIS	INR. RING AREA	OUTER RING SUBURBS
NEW CONSTRUCTION FOR STATE OWNERSHIP	① $37,000	③ $44,000	① $35,000	① $34,000	③ $47,000	② $39,000	② $40,000
LEASE EXISTING MULTI-TENANCY SPACE	●	③ $45,000	② $40,000	② $38,000	③ $48,000	●	●
PURCHASE AND RENOVATE AS EXISTING FACILITY	●	① $26,000	① $24,000	●	●	●	●

EXHIBIT VIII. 18

① primary solution ② secondary solution ③ undesirable solution

Cost Increases With Distance From the Employee Centroid

Exhibit VIII.16, Page 123, indicates the full life-cycle cost, including employee expenses for driving and parking and the cost that is the responsibility of the State as a result of locating a new facility certain distances from the Capitol Complex. Costs are greatest in the downtown area. As the facility is located towards the employee centroid to the northwest, costs become minimized. Movement in a southeasterly direction, although away from the employee centroid, would theoretically tend to decrease costs because of lower land costs.

The conclusion to be drawn is that minimum costs can be generally attained both in the Capitol Complex area and in a location that is not directly in the CBD, but possibly in a suburban location to the north or northwest.

Selection Of Components To Include In The Development Of Master Plan Alternatives

After a review of the above data, a number of alternative macro-models were developed, each expressing a particular philosophy relative to the location of space and its acquisition method. The seven macro-models included as their primary object:

- Mode 1 - Energy conservation
- Mode 2 - Business vitality in the downtown area
- Mode 3 - Minimum actual or initial costs
- Mode 4 - Government operational efficiency
- Mode 5 - Flexibility
- Mode 6 - Accessibility
- Mode 7 - Life-cycle cost

Exhibit VIII.19 on page 131 indicates the general location where compliance with each of these individual macro-models would be attained.

Exhibit VIII.20 on page 132 presents a comparison of the seven alternative macro-models with space acquisition characteristics of construction, leasing or purchase/renovate in each of the seven geographical areas. The degree of compatibility of each acquisition method and location option with each of the seven models is shown. After applying weights implying importance to each of the models and points expressing the degree of compatibility of the acquisition or location alternative with the model, the table in Exhibit VIII.20 on page 132 was developed.

A review of Exhibit VIII.20 indicates that the build mode of space acquisition is assigned both the greatest number of points and the highest weighting in the evaluation. Its 65 weighted points far outweigh 49 points assigned to a purchase/renovate alternative and the 42 points assigned to a lease alternative.

From a locational point of view, a location in the Capitol Complex received 46 weighted points, the balance of the City of St. Paul 37 weighted points and the balance of the metropolitan area 33 points. A downtown St. Paul location was far behind at 25 weighted points.

Combining the characteristics of acquisition and location finds that construction in the State Capitol has the characteristics that satisfy the majority of the macro-models to the greatest degree. It achieved 111 weighted points. Construction in the balance of the of St. Paul is compatible with a suburban site which received 102 points. New construction in the St. Paul CBD received 90 points while a purchase/renovate alternative in the balance of St. Paul, not the center city received 86 points. Leasing new space in downtown St. Paul received only 67 points while purchasing existing space in downtown St. Paul received 74 points. The table on page 134 summarizes this data.

EXHIBIT VIII. 19

State Facilities

Ramsey County Minneapolis

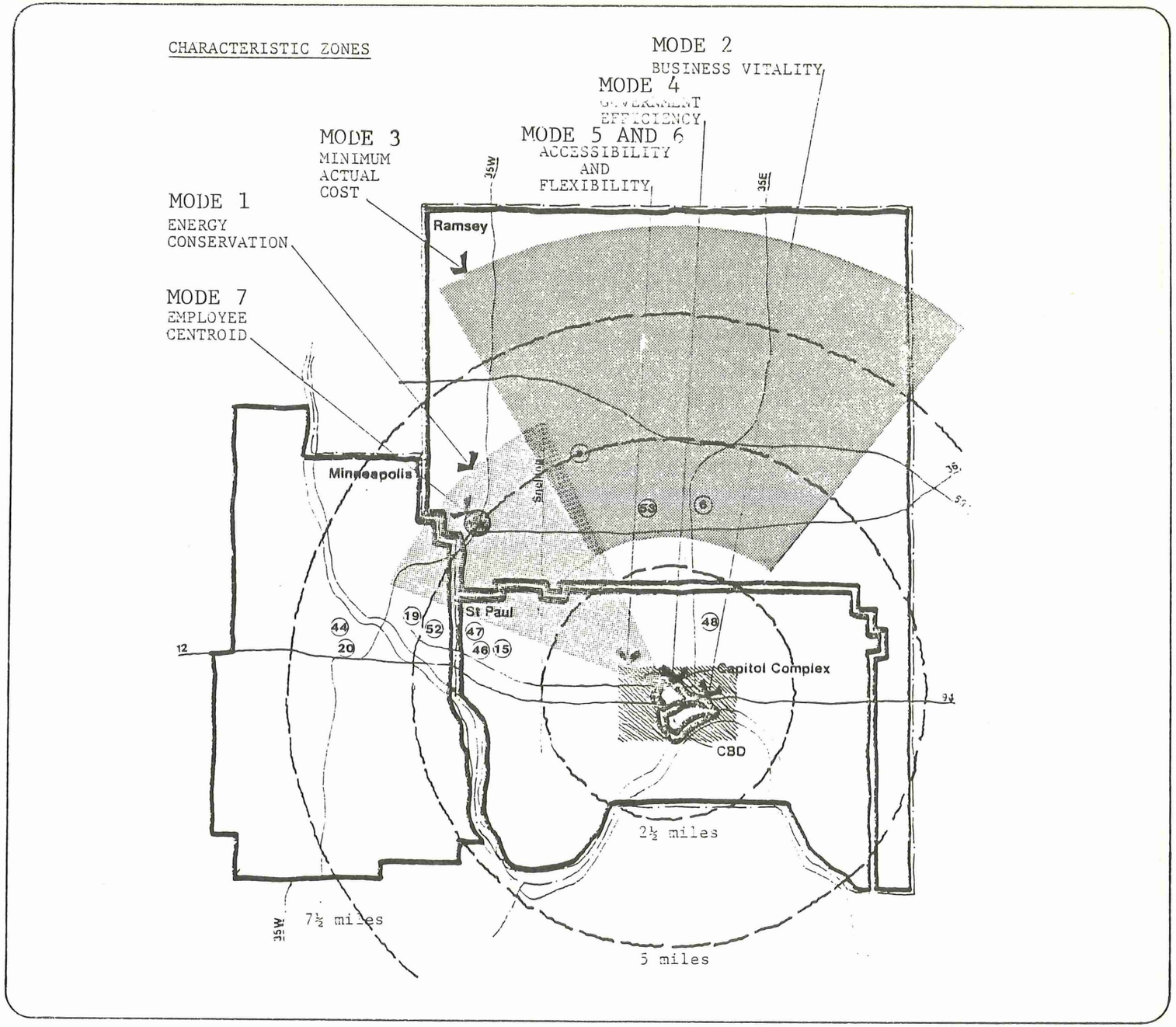


EXHIBIT VIII 20

Points Characteristics

- 3 ● MAJOR COMPATIBILITY
- 2 ◒ PARTIAL COMPATIBILITY
- 1 ○ POTENTIAL BUT NOT AVAILABLE
- 0 - Not Available

QUALITATIVE COMPATIBILITY COMPARISONS

WT.	ALTERNATIVE MACRO MODELS	MODE OF ACQUISITION			LOCATION OF ACQUISITION						
		BUILD	LEASE	BUY	CAPITOL	DOWNTOWN ST. PAUL	BALANCE ST. PAUL	MINNEAPOLIS METROPOLITAN	BALANCE RAMSEY COUNTY	METRO AREA	OUTER RING SUBURBS
2	1. ENERGY CONSERVATION ●5 miles toward centroid ●low rise building ●protected topography ●on transit line	● 6	◒ 4	-	◒ 4	○ 2	● 6	-	◒ 4	● 6	-
1	2. BUSINESS VITALITY MAINTENANCE ●St. Paul only consideration	◒ 2	● 3	● 3	◒ 2	● 3	◒ 2	-	-	-	-
4	3. MINIMUM ACTUAL COST ●low land cost ●surface parking	● 12	◒ 8	● 12	-	-	● 12	-	● 12	● 12	● 12
5	4. GOVERNMENT EFFICIENCY ●total consolidation	● 15	● 15	● 15	● 15	◒ 10	-	-	-	-	-
3	5. FLEXIBILITY	● 9	◒ 6		● 9	◒ 6	-	-	-	-	-
2	6. ACCESSIBILITY	● 6	● 6	◒ 4	● 6	◒ 4	○ 2	● 6	-	-	-
5	7. LIFE CYCLE COST	● 15		● 15	◒ 10	-	● 15	-	● 15	● 15	◒ 10
	SUMMARY OF POINTS	20	15	14	15	10	12	3	8	9	5
	SUMMARY OF WEIGHTED PTS.	65	42	49	46	25	37	6	31	33	22
	RANK	1	3	2	1	5	2	7	4	3	6

O. DEVELOPMENT OF ALTERNATIVE MASTER PLANS

As a result of the analysis of life-cycle cost factors for various facility acquisition strategies and locations, the Consultant recommended a number of components to be included in the alternative master plans that would be evaluated in Chapter VIII and recommended in Chapter X.

Exhibit VIII.21, page 136, lists the alternative space acquisition strategies. Included are the school facilities that the State wished to be analyzed and the renovation of the Mechanics Arts School which is part of the State's space inventory at this time.

For each of the ten acquisition alternatives, the fixed, variable and total present value life-cycle cost per NSF and per person are shown.

The purchase and renovation of a large downtown building is clearly the most preferable with a present value life-cycle cost of $132.80/NSF. This is preferable to leasing the same facility which can thus be eliminated from further consideration.

The next most favorable alternatives, ranked 3 and 4, are the alternatives that include construction in a suburban site or the Capitol Complex area.

The leasing of an existing building that would require substantial renovations, even at a relatively low annual lease cost, did not appear favorable nor did the leasing of new space.

Similarly, the purchasing of either Sheridan Jr. High School or South St. Paul Jr. High School, ranked 5 and 7 on the list with present value life-cycle costs of $211.52 and $213.39 respectively, are not favorable courses of action in comparison to others. The leasing of new space at $11/rentable square foot per year had the highest cost at $235.38. This is nearly 80% more expensive than the purchase and renovation of an existing facility and 30% more expensive than costs associated with the construction of a new facility in a suburban location. At an annual rental of $7/NSF, leasing would be as attractive as new construction.

Selection of Recommended Components

Based on the previous analysis, it was shown that over 500,000 NSF of space must be acquired to support a 1% growth pattern through 1990 including certain lease terminations to support agency consolidations. It is necessary to select combinations of the space acquisition methods noted in Exhibit VIII.22, page 137, to develop a comprehensive package of components in each master plan alternative to be developed.

Before selecting the various components to be included in the alternative Master Plans, it is necessary to again repeat that should the State identify lease space of an appropriate size and location at an annual cost of less than $7.00 per NSF, then that alternative should first be exercised.

Secondly, opportunities to improve space utilization by remodeling existing facilities to avoid the acquisition of additional space should be implemented.

If the State cannot secure the required space through leasing at less than $7/NSF or through cost effective remodeling of existing facilities, it will be necessary to acquire additional space in accordance with the following priority schedule:

- Priority 1 - Purchase and renovate a facility in the Capitol Complex or central business district similar to alternative 2 as listed in Exhibit VIII.21, page 136.

- Priority 2 - Construct an appropriately sized State owned facility in a close-in suburban area to be occupied by departments who have the lowest need for direct adjacency with the Capitol Complex and/or express special facility needs that can best be accommodated in a suburban location with a low rise building. This is similar to component 8 in Exhibit VIII.21.

- Priority 3 - Construct a State owned facility, modular and expandible in nature, on a relatively large site in the Capitol Complex. This alternative is typified by component 7 on Exhibit VIII.21, which assumes the large site directly to the East of the Centennial Building is selected.

- Priority 4 - Unless more economically attractive alternatives are available, purchase an existing school and complete necessary renovations. Those cost calculations developed for both the

Sheridan Jr. High School and the South St. Paul Jr. High School indicate relative economic feasibility with a priority level of 4. Caution should be taken in exercising this option to make sure that the school facility contains the proper amount of net square feet to support those agencies that will be located there and that the location of the school is not inappropriate for the departments that will be assigned to it.

- Priority 5 - Construct a new State owned facility on a high access site on the future mass transit line between the Capitol Complex and the CBD. This is compatible with component 9 as shown on Exhibit VIII.21.

With these five space acquisition components available and in that relative order of priority, the Consultant then developed five Master Plan alternatives for consideration by the State. Each alternative Master Plan would provide space resources to support the 1% annual growth plan through the year 1990.

P. ALTERNATIVE MASTER PLANS TO SUPPORT A 1% GROWTH RATE

A total of five alternative Master Plans, each providing an appropriate amount of space necessary to support a 1% growth pattern through the year 1990 were developed.

The alternatives included different mixes of the space acquisition modes identified previously in this chapter on Exhibit VIII. 21. The selection and combination of the acquisition alternatives was not specifically sensitive to the economic impacts discussed in Chapter IX. The reason for this is that the alternatives should be developed by comparing real costs expected to be incurred by the State and that subsequent comparisons of the relative importance of real State costs and/or savings to the economic impact on various political or geographical divisions should more appropriately be left to the Legislature and other elected officials.

Exhibit VIII.22, page 137, indicates that approximately 575,000 NSF of space must be acquired as a result of implementing any one of the five Master Plan alternatives to support a 1% growth pattern through the year 1990. This calculation is achieved by subtracting line 15, the adjusted space inventory less existing state owned and leased space recommended to be eliminated, from the total amount of space provided on line 2. From line 17 it can be seen that approximately 2,100,000 NSF of space will be provided when any of the five alternatives is completed.

The need for the additional 575,000 NSF of space is presented in Exhibit VIII.22 page 137. The five components of the space requirement "build-up" are:

- growth of personnel;
- modification of the existing net area factors and correction of current space deficiencies;
- lease replacement;
- owned space terminated; and
- an allowance for surplus space and flexibility.

Personnel increases of 824 State employees between the current level of 10,178 and the 1% growth level of 11,002, at an area factor of 180 NSF/employee, indicates a need for 148,320 NSF. Modifications to existing space to reach an overall net area factor of 190 NSF/employee adds 26,071 NSF. Lease replacement equals the amount of space currently leased that is recommended to be consolidated into State owned space. This totals 337,478 NSF. The termination of State owned space, that is the removal of non-legislative space from the State Office Building and the disposal of the Rice and Park Street Buildings, presents a need for 30,152 NSF to replace this loss from the inventory. Finally, a surplus allowance of 7% is added to provide flexibility. This adds 35,523 NSF. These components total 577,553 NSF (as shown for the case of Option 1) on Exhibit VIII.22 or roughly 575,000 NSF.

The source for this additional 575,000 NSF as developed in each of the Master Plan alternatives presented in Chapter X are presented in Exhibit VIII.23, page 138.

Summary Of Characteristics

	PTS.	WT.
MODE		
• Build	20	65
• Buy	14	49
• Lease	15	42
LOCATION		
• Capitol	15	46
• Balance St. Paul	12	37
• Downtown St. Paul	10	25
• Metro Area	9	33
• Balance Ramsey County	8	31
• Outer Ring Suburbs	5	22
• Minneapolis	3	6
COMBINATION OF CHARACTERISTICS		
1 • Build . State Capitol	35	111
2 • Build . Balance St. Paul	32	102
3 • Build . Downtown St. Paul	30	90
4 • Buy.... Balance St. Paul (1)	26	86
5 • Lease . Balance St. Paul...	27	79
6 • Lease . Metro Area.....	24	75
7 • Buy.... Downtown St. Paul..	24	74
8 • Lease . Downtown St. Paul	25	67

(1) Solution Alternative Not Known

CONCLUSION

New construction in the State Capitol Complex or a suburban location or even the CBD and the purchase and renovation of an existing large structure in a suburban location should be investigated before leasing of new space or existing space with an annual cost in excess of $7/NSF. All alternatives should concentrate on a "close-in" location, certainly in Ramsey County.

Purchasing and renovating a facility in the downtown area should still be explored because of its overwhelming cost advantages although the characteristics of that alternative are not totally compatible with the macro-models analyzed.

EXHIBIT VIII 21

NO.	ACQUISITION ALTERNATIVES	LIFE-CYCLE COSTS				RATIO	RANK
		COST PER NET SQUARE FOOT			COST PER PERSON AT 190 NSF		
		FIXED	VARIABLE	TOTAL			
1	LEASE EXISTING BUILDING AND RENOVATE	$ 67.55	$ 104.35	$ 171.90	$ 32,680	130%	2
2	PURCHASE AND RENOVATION	28.45	104.35	132.80	25,232	100%	1
3	RENOVATE MECHANICS ARTS SCHOOL	60.00	156.53	218.34	41,485	164%	8
4	PURCHASE SHERIDAN JUNIOR HIGH SCHOOL	44.55	166.97	211.52	40,188	159%	5
5	LEASE SHERIDAN JUNIOR HIGH SCHOOL	66.26	166.97	233.23	44,314	176%	9
6	NEW LEASE SPACE	85.11	150.27	235.38	44,722	180%	10
7	CONSTRUCT NEW FACILITY - I (Cent.East)	72.50	122.78	195.27	37,101	147%	4
8	CONSTRUCT NEW FACILITY - II (Suburban)	61.92	119.95	181.87	34,555	137%	3
9	CONSTRUCT NEW FACILITY - III (High Acc)	82.29	130.42	212.73	40,419	160%	6
10	PURCHASE SOUTH ST. PAUL JR. HIGH SCHOOL	51.06	162.33	213.39	40,544	161%	7

EXHIBIT VIII 22

Comparative Analysis of Alternatives

NO.	COMPARISON CATEGORIES	ALTERNATIVE OPTIONS 1	2	3	4	5
1	Total Space Required	2,083,838	2,083,838	2,083,838	2,083,838	2,083,838
2	Total Space Provided	2,103,112	2,102,377	2,102,994	2,094,075	2,099,956
3	Surplus Space (2 - 1)	19,274	18,539	19,155	10,237	16,118
4	% Surplus Space (3 ÷ 1)	0.9%	0.9%	0.9%	0.5%	0.8%
5	Existing Owned Space Retained	1,154,161	1,154,161	1,154,161	1,154,161	1,154,161
6	Existing Leased Space Retained	371,398	371,398	371,398	371,398	371,398
7	New Leased Space	56,148	56,148	56,148	56,148	56,148
8	New Owned Space Acquired/Constructed	521,405	520,670	521,287	512,368	518,249
9	Total Space Provided (5 + 6 + 7 + 8)	2,103,112	2,102,377	2,102,994	2,094,075	2,099,956
10	Lease Space Terminated	337,487	337,487	337,487	337,487	337,487
11	Owned Space Terminated	30,152	30,152	30,152	30,152	30,152
12	Total Space Terminated	367,639	367,639	367,639	367,639	367,639
13	Existing Space Inventory (Adjusted)	1,893,198	1,893,198	1,893,198	1,893,198	1,893,198
14	Less Existing Space Terminated (12)	367,639	367,639	367,639	367,639	367,639
15	Subtotal (13 - 14)	1,525,559	1,525,559	1,525,559	1,525,559	1,525,559
16	Plus New Space Acquired (7 + 8)	577,553	576,818	577,435	568,516	574,397
17	Total Space Provided	2,103,112	2,102,377	2,102,994	2,094,075	2,099,956
18	Space to Remodel (Level "A")	35,000	35,000	35,000	10,000	10,000
19	Space to Remodel (Level "B")	262,441	262,441	213,401	179,401	179,401
20	Space to Remodel (Level "C")	50,000	50,000	45,000	50,000	50,000
21	Total Space to Remodel (18 + 19 + 20)	347,441	347,441	293,401	239,401	239,401
22	Number of Personnel to Relocate	3,901	4,013	3,665	3,515	3,483
23	Number of Personnel to Rearrange	876	575	956	395	395

In this case (Option 1 again is used as an example) newly-constructed or acquired space totals 521,405 NSF which represents over 90% of the solution. New lease space provides approximately 10% of the need with the addition of 56,148 NSF of lease space after the lease terminations are completed. These two allowances, as presented in Exhibit VIII.22 for Option 1, total 577,553 NSF or again roughly equal to the approximated need for 575,000 NSF.

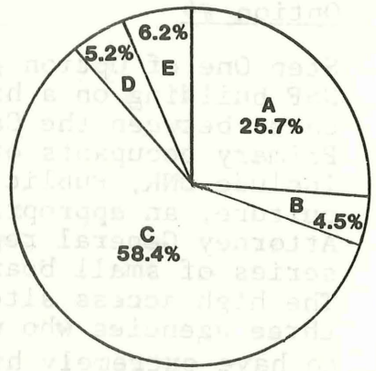
Each option requires the remodeling of an extensive amount of existing space - not to improve space utilization for departments remaining in the space, but to allow for the rearrangement and relocation of departments that are moving within each of the options. The total amount of space to be remodeled is shown on Exhibit VIII.20, line 21 and varies between 239,000 and 347,000 NSF.

Some space requires a level "A" remodeling because of a significant change in the occupancy pattern. This will cost $24/NSF. The majority of the space requires a level "B" remodeling at $12/NSF which reflects general office remodeling levels. A small amount of space requires a level "C" remodeling at $6/NSF as new occupancy patterns will be very similar to existing conditions.

In each of the five options, approximately 4,000 personnel will relocate to a different floor and, in most cases, to a different building to complete implementation.

EXHIBIT VIII. 23

ADDITIONAL SPACE REQUIRED
OPTION 1



A. GROWTH TO SUPPORT ADDITIONAL PERSONNEL 148,320

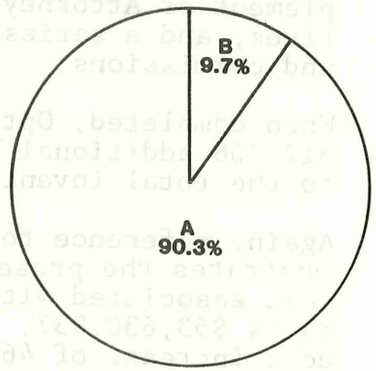
B. MODIFICATION OF EXISTING SPACE 26071

C. LEASE REPLACEMENT 337,387 26,071

D. OWNED SPACE TERMINATED 30,152

E. SURPLUS/FLEXIBILITY 35,523 577,553

SOURCE OF ADDITIONAL SPACE
OPTION 1



A. OWNED SPACE ACQUIRED/CONSTRUCTED 521,405

B. NEW LEASED SPACE 56,148 577,553

Between 400 and 1,000 personnel will be rearranged, generally within existing space, to allow for improved space utilization and to make necessary space density adjustments within each building.

DEFINITION OF FIVE MASTER PLAN OPTIONS

In all five options presented, certain assignments were "fixed". This is consistent with information discussed in Chapter VI. Elected officials, Historical Society, Veterans Services, and certain other departments were assigned fixed locations. In total, 927,504 SF of space was "fixed" in all five options. This information was presented in detailed area space assignment diagrams during the third planning session.

OPTION #1

Option #1 purchases and renovates an existing facility of approximately 300,000 NSF in the CBD area as the first component of implementation. The second component of implementation is the construction of a suburban site of 221,405 NSF in a building with an efficiency of 87%. When completed, Option #1 provides 521,405 additional NSF of space.

Step One and Step Two are identified as the procedures to complete the option. In all cases, Phase One is the first significant activity and Phase Two is the second significant activity necessary to complete the option and support a 1% growth pattern through the year 1990.

Option #2

Step One of Option #2 constructs a building on a suburban site of approximately 269,718 NSF to support the Department of Transportation, PCA, and related activities. Step Two constructs a State-owned facility in the Capitol Complex totaling 254,505 NSF with the primary occupants being Welfare, Agriculture, Personnel, State Planning, a variety of small boards and commissions, plus an appropriate complement of Attorney General personnel. When completed, 524,223 NSF of space would be added to the State's space inventory.

Exhibit VIII.24, page 140, indicates the total present value life-cycle cost associated with all activities to complete Option #2 is $50,759,312. This represents a cost increase of 38% over the present value life-cycle cost associated with Option # 1.

Option #3

Step One of Option #3 entails the construction of a suburban site of approximately 196,408 SF for the Department of Public Safety, the Department of Transportation Laboratories, and PCA. Step Two develops the Centennial East site with a State-owned facility of 331,924 SF with primary occupants being DNR, Public Welfare, Agriculture, State Planning and a number of small boards. When completed, Option #3 provides 528,332 additional SF.

Again, reference to Exhibit VIII. 24 indicates the present value life-cycle cost of implementing Option #3 is $51,246,532. This represents a 39% cost increase over those costs associated with implementing Option #1.

Option #4

Step One of Option #4 develops a 302,484 NSF building on a high access site located between the Capitol and the CBD. Primary occupants of this facility include DNR, Public Safety, PCA, Agriculture, an appropriate complement of Attorney General representatives, and a series of small boards and commissions. The high access site includes those three agencies who were initially thought to have extremely high interaction patterns and common clientele.

Step Two of Option #4 develops a 209,884 SF facility in the Capitol Complex area. Primary occupants include State Planning, Personnel, Welfare, the Secretary of State, an appropriate complement of Attorney General representatives, and a series of small boards and commissions.

When completed, Option #4 provides 512,368 additional NSF of space to add to the total inventory.

Again, reference to Exhibit VIII.24 demonstrates the present value life-cycle cost associated with implementing Option #4 is $53,630,937. This represents a cost increase of 46% over those incurred if Option #1 is implemented.

Option #5

Step One of Option #5 changes the combination of components included in other options. Option #5 commences with the procurement and renovation of a large existing facility in the CBD area totaling 300,000 NSF. Primary occupants are the same as those included in Option #1 - DNR, Welfare, Personnel, PCA, an appropriate complement of Attorney General representatives, and a series of small boards and commissions.

Step Two of Option #5 then develops a 213,249 NSF facility adjacent to the Capitol Complex. Primary occupants are the Department of Public Safety, Agriculture, State Planning, the Secretary of State, an appropriate complement of Attorney General representatives and a series of small boards and commissions.

When completed, Option #5 provides 518,249 additional square feet of space.

Finally, Exhibit VIII.24 indicates the total present value life-cycle cost of implementing Option #5 is $39,105 638. This represents a 6% cost increase over those incurred if Option #1 is implemented.

During the third planning session, the Consultant presented detailed area assignment profiles that supported a 1% growth pattern through the year 1990 for all departments in all space, including new space that was to be acquired or constructed. Additionally, the Consultant prepared space profiles and area assignments for departments reflecting occupancy patterns in support of a 2½% annual growth pattern through the year 1990. The 2½% growth pattern was presented primarily for comparative purposes and was therefore not analyzed to the same degree as is the 1% growth pattern. This information is provided in the appendix submitted under separate cover.

Calculations were developed and presented to the State in the second planning session indicating that total construction, renovation, rearrangement, and other related life-cycle costs of $36,775,814 would be encountered if Option #1 was implemented. The calculation of this data for all options is presented on Exhibit VIII.23.

EXHIBIT VIII 24

Comparative Analysis of Alternatives

NO.	COST CATEGORIES	OPTIONS 1	2	3	4	5
1	New Construction - Centennial East	$ -	$18,623,777	$24,289,027	$15,431,747	$16,967,075
2	New Construction - High Access	-	-	-	24,527,264	-
3	New Construction - Suburban	14,378,600	17,516,169	12,754,735	-	-
4	New Construction - Downtown Renovation	11,020,000	-	-	-	11,020,000
	Land and Site Development	254,000	3,049,097	2,965,097	4,382,577	2,740,097
5	Total New Construction (1 + 2 + 3 + 4)	25,652,600	39,189,043	40,008,859	44,341,588	30,727,172
6	Plus 20% Overhead (20% X 5)	5,130,520	7,837,808	8,001,772	8,868,317	6,145,434
7	Plus Special Costs (Lab, Vaults, Structure)	2,500,000	2,400,000	2,400,000	1,145,178	500,000
8	Total Development/Const. Costs (6 + 7)	33,283,120	49,426,851	50,410,630	54,355,083	37,372,606
9	Space to be Renovated ("A" X $24 NSF)	840,000	840,000	840,000	240,000	240,000
10	Space to be Renovated ("B" X $12 NSF)	3,149,292	3,149,292	2,560,812	2,152,812	2,152,812
11	Space to be Renovated ("C" X $ 6 NSF)	300,000	300,000	270,000	300,000	300,000
12	Total Renovation Costs (9 + 10 + 11)	4,289,292	4,289,292	3,670,812	2,692,812	2,692,812
13	Annual Oper. Costs - New Const.(@ $3)	1,564,215	1,572,669	1,584,996	1,537,104	1,554,747
14	New Lease Space Annual Costs (@ $8.50)	477,278	477,258	477,250	477,258	477,258
15	Total Annual Cost Increase (13 + 14)	2,041,973	2,049,927	2,062.156	2,014,362	2,032,005
16	Less Ann Cost Lease Termination (@ $7.00)	2,350,775	2,350,775	2,350,775	2,350,770	2,350,770
17	Net Annual Cost Decrease (16 - 15)	(309,302)	(300,848)	(288,619)	(336,408)	318,765
18	Present-value for 30 yrs. - 8% Discount	3,482,055	(3,386,881)	(3,249,210)	(3,787,208)	(3,588,587)
19	Relocation Costs @ $100/employee	390,100	401,300	366,500	351,500	357,500
20	Rearrangement Costs @ $50/employee	43,800	28,750	47,800	19,750	19,750
21	Miscellaneous Life-cycle Costs	2,251,557	-	-	-	2,251,557
22	Subtotal R/A, R/L, Misc.(19 + 20 + 21)	2,685,457	430,050	414,300	370,250	2,628,807
23	Total P.V.L.C. Costs (8 + 12 + 22 - 18)	36,775,814	50,759,312	51,246,532	53,630,937	39,105,638
24	Minimum P.V.L.C. Cost	36,775,814	36,775,814	36,775,814	36,775,814	36,775,814
25	Cost Increase Over Minimum (23 - 24)	0	13,983,498	14,470,718	16,855,123	2,329,824
26	% Cost Increase Over Minimum (25 ÷ 24)	0	38%	39%	46%	6%

Q. COMPARATIVE ANALYSIS OF ALTERNATIVES

Exhibit VIII.25 presents a comparison of all space additions and costs the five options. For each option the NSF of new construction, the NSF feet of leases terminated, the amount of space that is to be re-arranged or relocated, the number of personnel requiring a change of work place assignments, the total development and construction costs, the total present value life cycle cost, and the percentage of cost increase over the minimum cost option are presented.

Exhibit VIII.25 suggests that Options #1 and #5 should receive strong consideration for implementation as they represent the lowest possible initial construction and life-cycle costs. There is a dramatic difference between the present value life-cycle costs and the initial capital costs for these two alternatives versus Options #2, #3, and #4.

EXHIBIT VIII.25

COMPARATIVE COST/SPACE ANALYSIS

	MASTER PLAN OPTIONS				
	I	II	III	IV	V
Total New Construction Required(NSF)	521,405	524,223	528,332	512,368	518,249
Total Lease Terminations.....(NSF)	337,487	337,487	337,487	337,487	337,487
Total Space Moving.....(NSF)	654,592	679,968	627,408	566,029	566,028
Total People Moving.....	3,901	4,013	3,665	3,515	3,505
Total Implementation Costs.....	$ 33,283,120	$ 49,426,851	$ 51,545,026	$ 54,355,084	$ 36,017,625
Total Present Value, Life-Cycle Costs	$ 31,168,627	$ 46,346,925	$ 47,969,644	$ 49,524,447	$ 33,438,346
% Cost Increase Over Minimum Cost	Ø	48.7%	53.9%	58.9%	7.3%

The material included in Exhibit VIII.24 page 140, is presented essentially as it was in a previous planning session with the State. Refinements in the calculation of present value employee cost differentials for travel and the economic impact due to lost profits and taxes to the CBD have been incorporated.

Exhibit VIII.26 adds the present value life cycle cost for each option, as recorded on Exhibit VIII.26 to the present value cost to the State for additional support and transportation services that would be necessary. Also added are additional transit costs which would be encountered by employees commuting to work in different locations.

Finally, a value for the lost profit and in some cases revenue to CBD businessmen and landlords as a result of shifting State occupancy patterns and any identifiable tax losses to the City of St. Paul are added in line 6.

Line 7 indicates total present value costs of each option which are a combination of real State expenditures, employee transit costs, business revenue gain or loss, and tax differences to the City of St. Paul.

Options #1 and #5 which utilize the highly cost effective alternative componet of "acquisition and renovation" of a large existing facility are

EXHIBIT VIII 26

Comparative Analysis of Alternatives

NO.	COST CATEGORIES	OPTIONS 1	2	3	4	5
1.	Total present-value, life-cycle cost of facility acquisition and operation for 30 years	$36,775,814	$50,759,312	$51,246,532	$53,630,937	$39,105,638
2.	Present-value cost to State for additional support and transit	3,693,840	3,693,840	3,693,840	1,846,920	1,846,920
3.	SUB-TOTAL ACTUAL COST (1 - 2)	33,081,974	47,065,472	47,552,692	51,784,017	37,258,718
	RANK	(1)	(3)	(4)	(5)	(2)
4.	Employee transit cost differential: (present values)	11,133,840	8,866,806	9,723,798	12,121,322	13,409,441
	Suburban location	(3,000,000)	(3,783,806)	(2,894,825)	-	-
	Downtown location	(8,133,840)	-	-	-	(8,133,840)
	Capitol location		(5,083,000)	(6,828,973)	(12,121,322)	(5,275,601)
5.	SUB-TOTAL (3 + 4)	44,215,814	55,932,278	57,276,490	63,905,339	50,668,159
	RANK	(1)	(3)	(4)	(5)	(2)
6.	Present-value of lost profit and tax to Central Business District	7,434,030	16,131,253	16,248,618	6,126,184	7,010,892
7.	SUB-TOTAL (5 + 6)	51,649,844	72,063,531	73,525,108	70,031,523	57,679,051
8.	RANK	(1)	(4)	(5)	(3)	(2)
9.	COMPOSITE RANK	(1)	(4)	(5)	(3)	(2)

dramatically more cost effective than all other options which rely solely on new construction.

Option #1 includes a suburban site which is more cost effective than a new facility in the Capitol Complex, as included in Option #5, and is therefore slightly preferred over Option #5 from the standpoint of initial minimum cost, present value, life-cycle cost, total cost incurred to the State, employee transit cost differentials, and all economic criteria other than the present value cost of lost profit and taxes to CBD operations. Only in this category is Option #5 preferred to Option #1.

A comparison of the difference in lost profits and taxes to CBD operations between Option #1 and #5 is approximately $400,000 on a present value, life-cycle cost basis.

Penalties to the downtown business community would result if Option #2 and #3, which develop all space in the Capitol Complex or suburban locations were implemented. However, these penalties, in real bottom line terms, would not be really as great as the cost difference experienced by the State.

Qualitative Analysis Of The Five Options

To assist in the evaluation of the five options and to assure that the selection of the options to be developed in the Master Plan recommendation incorporated certain qualitative criteria in the decision making process, 28 evaluation criteria were analyzed for each option.

A total of 14 quantitative parameters and 14 qualitative parameters were identified as shown in Exhibit VIII.27. Each parameter was assigned a weight that expressed its relative importance to the other 27 parameters. This analysis utilized slightly different weights than those presented in the table on page 134 because these rankings are specific to options and include more criteria than those in the previously discussed conceptual evaluation.

The Consultant assigned a second weight that allowed the composite of all quantifiable parameters to be worth 70% of the total evaluation while the qualitative parameters, those that did not have definitive numerical differentials, were assigned a 30% overall weight. Each of the five options were tested for compatibility with each of the 28 criteria. Scores ranging from 0 for total noncompliance or inapplicability to 5 for full compliance were awarded to each of the five options for each of the 28 criteria. The score given to each option for each of the criteria was then multiplied by the assigned weight to determine the number of points.

Each option's points for all quantifiable parameters were totalled and multiplied by 70% and added to the result of multiplying the total qualitative points by 30%. The result is the total points assigned to each option. A comparison of the points awarded to each option on Exhibit VIII.27 indicates 337 points are achieved by Option #5, 331 points by Option #1, 305 points by Option #4, 291 points by Option #2, and 260 points by Option #3.

The ranking of the preference for the options is in direct relationship to the points assigned. A ranking priority of Option #5, #1, #4, #2, and #3 results. It is of significance to note that the ranking based on points applied to qualitative and quantitative creteria produced nearly the same ranking of the five options as that found by utilizing only real present value life-cycle cost data. Options #1 and #5 are clearly preferable to all others and are nearly identical in the scores while the remaining three options are consistently distant in an order of preference of #4, #2, and #3. Options #1 and #5 are so close that a shift in emphasis of quantifiable criteria from 70% to 73% would then indicate preference should be given to Option #1 and Option #5. Graphic depiction of both weighted points and total cost may be seen in Exhibit VIII.28.

Composite Ranking and Recommendations

Based on the above comparisons, and recognizing that Options #1, #4, and #5 include at least one significant facility located in or very close to the CBD, these three options were selected by the State for further development in more detailed Master Plan implementation recommendations in Chapter X.

EXHIBIT VIII 27

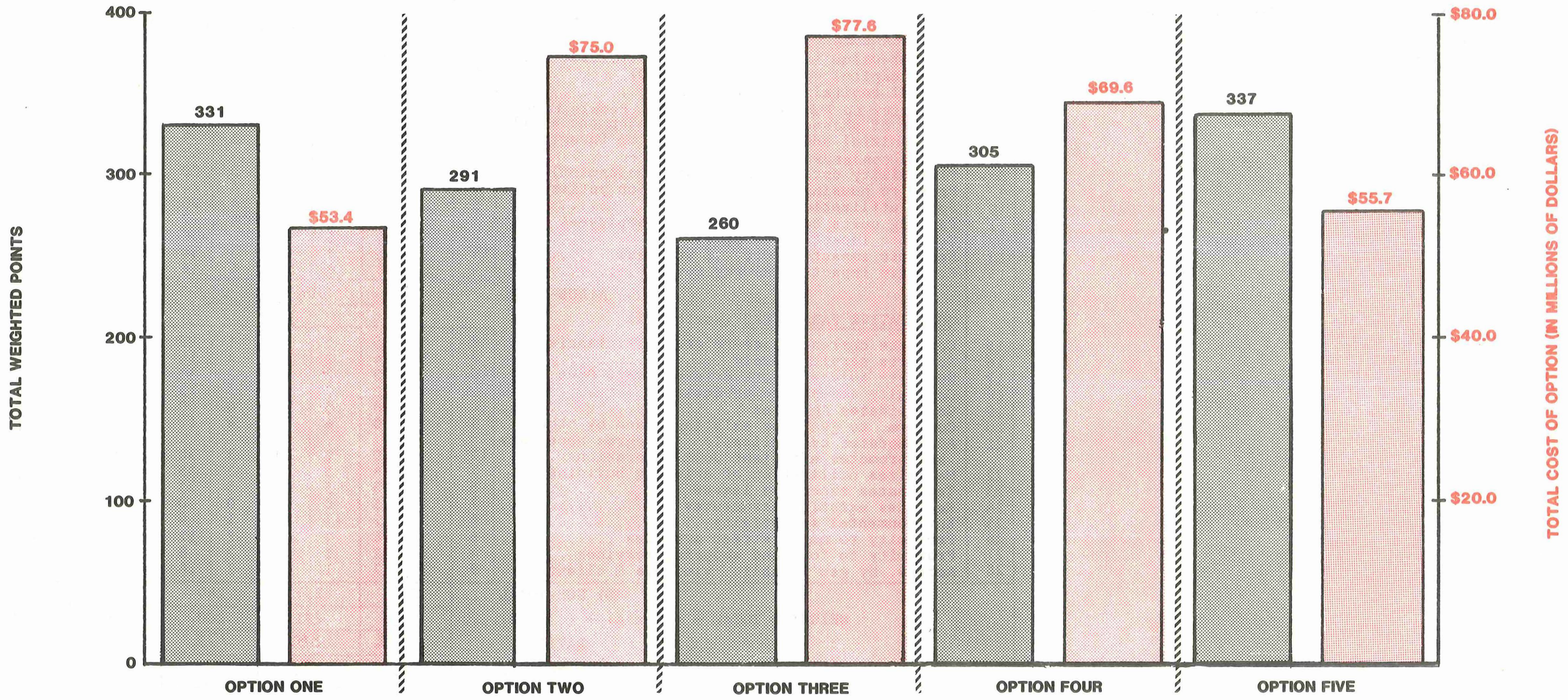
ALTERNATIVE FACILITY - MASTER PLAN EVALUATION CRITERIA

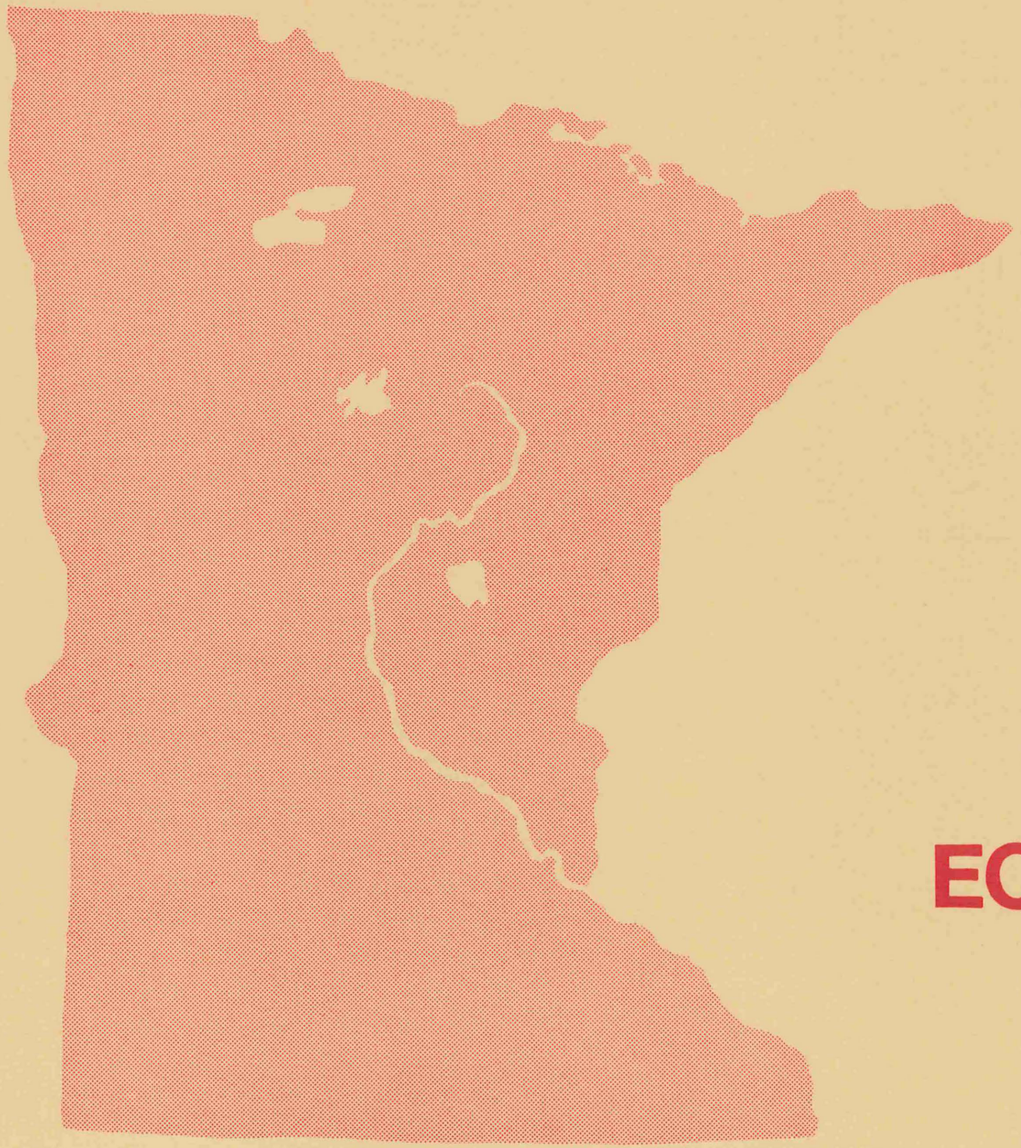
NO.	CRITERIA	WGT.	OPTIONS 1 SC.	1 PTS.	2 SC.	2 PTS.	3 SC.	3 PTS.	4 SC.	4 PTS.	5 SC.	5 PTS.
	QUANTIFIABLE PARAMETERS (Worth 70%)											
1	Present-value life-cycle costs	10	5	50	3	30	2	20	1	10	4	40
2	Total capital costs (1979 to 1990)	4	5	20	2	8	2	8	3	12	4	16
3	Initial capital cost (1979-1983)	8	5	40	3	24	2	16	1	8	4	32
4	Proximity to Public Transit/Pot'l People Mover.	8	5	40	3	24	2	16	1	8	4	32
5	Number of phases or steps of development avail.	5	5	25	4	20	4	20	3	15	5	25
6	Min. initial addt'l space to add to inventory	3	5	15	4	12	3	9	5	15	2	6
7	Energy conservation characteristics	10	3	30	5	50	4	40	3	30	2	20
8	Flexibility options (level of development)	4	3	12	5	20	5	20	5	20	4	16
9	Prox. to housing and transportation patterns	6	5	30	4	24	4	24	2	12	3	18
10	Space utilization efficiency	5	2	10	5	25	4	20	3	15	1	5
11	Parking costs to be absorbed by employees	3	3	9	5	15	4	12	2	6	1	3
12	Economic impact on downtown	8	3	24	1	8	0	0	5	40	4	32
13	Economic impact on City of St. Paul	10	3	30	3	30	3	30	5	50	5	50
14	Economic impact on Ramsey County	4	2	8	4	16	4	16	5	20	2	8
	A) SUB-TOTAL		343		306		251		261		303	
	QUALITATIVE PARAMETERS (Worth 30%)											
15	Corrects current space-related deficiencies	7	5	35	5	35	5	35	5	35	5	35
16	Supports service levels	8	3	24	2	16	2	16	4	32	5	40
17	Supports adjacency criteria of State Govt.	10	1	10	2	20	3	30	5	50	4	40
18	Community acceptance potential	5	4	20	3	15	3	15	3	15	5	25
19	Consolidates Agencies	10	4	40	5	50	4	40	5	50	5	50
20	Conform. to gen'l or existing plans by others	3	0	0	4	12	4	12	5	15	3	9
21	Accommodates centralization to degree necessary and promotes efficient Govt. operations	10	1	10	2	20	3	30	5	50	4	40
22	Maximizes utilization of existing buildings	7	5	35	5	35	3	35	5	35	3	21
23	Terminates expensive leases	5	5	25	5	25	5	25	5	25	5	25
24	Recycles existing structures	7	5	35	0	0	0	0	0	0	5	35
25	Environmental sensitivity	4	3	12	1	4	1	4	2	8	4	16
26	Proximity to major street arteries	6	3	18	2	12	2	12	5	30	4	24
27	Proximity to food and shopping services	4	3	12	1	4	2	8	4	16	5	20
28	Access. by gen'l public, visitors & clients	9	3	27	1	9	2	18	5	45	4	36
	B) SUB-TOTAL		303		257		280		406		416	
	WEIGHTED TOTAL = (.7 x A) + (.3 x B)		331		291		260		305		337	
	RATIO		98%		86%		77%		91%		100%	
	RANK		(2)		(4)		(5)		(3)		(1)	

EXHIBIT VIII. 28

WEIGHTED POINTS / TOTAL COST

ALL FIVE OPTIONS





ECONOMIC IMPACT IX

CHAPTER IX

ECONOMIC IMPACT EVALUATION

A. INTRODUCTION

The purpose of this evaluation is to identify the economic impacts on specific geographical areas which would most likely result from implementing any of the three available alternative Master Plan options to satisfy State space requirements to support a 1% annual growth rate through the year 1990.

This information is relevant due to the State's significant presence within the Twin Cities Metropolitan Area. Of particular interest are the potential contributions to the economic vitality of downtown St. Paul and the definition of potential economic gains which might be experienced by other geographical areas should the State decide to expand and disperse its facilities into those areas.

There is a widely held belief within the Twin Cities area that the location of State facilities is significant to the economic well-being of the localities they are located in. The following analysis will quantify that significance to place it in a proper perspective and to provide a useful tool to decision makers who must formulate future State facility location actions in light of not only their functional requirements but also their actual costs to the State and their impacts on the economic conditions of affected communities.

Since the early 1970's, the State's increased facility needs have primarily been satisfied by the addition of substantial leased space within the downtown St. Paul area. Today, the State leases approximately five times as much space in the downtown area as it did in 1971, and leased space has more than doubled since 1975.

The concern regarding future State actions is probably best highlighted by the fact that the State accounted for approximately one-third of the total downtown area leased office space absorption between 1974 and 1978. The primary emphasis of this study is to assess the impact of the State's current and future downtown area presence and the potential economic effects of the three alternative Master Plan options recommended.

Information gathered for this analysis was gained through conversations with and data provided by:

- State of Minnesota Departments of Administration, Finance and Revenue;
- Ramsey County Tax Assessor;
- Coldwell Banker Commercial Brokerage Company;
- City of St. Paul's Mayor's Office and Department of Planning and Economic Development;
- Building Owners and Managers Association (BOMA);
- Surveys by James B. McComb and Associates; and
- Reports regarding St. Paul Economic Development and the proposed Dowtown People Mover by Hammer, Siler, George.

This analysis is based on the three recommended Master Plan options to support a 1% annual growth rate through the year 1990.

B. MAGNITUDE OF THE STATE'S PRESENCE IN THE DOWNTOWN ST. PAUL AREA

The Hammer, Siler, George Associates' report, "The Downtown People Mover and Economic Development in St. Paul," identified the 1977 downtown central business district employment as 65,100. This is 36% of the city's total employment.

Excluding the new Agriculture Building, Capitol Square and Space Center, the State's current total central business district employment is approximately 3,000 or 5% of the central business district total. Hammer, Siler, George Associates' information indicates that total office space contained in the downtown area, including the Capitol Complex, is approximately 8.1 million square feet. The State occupies approximately 2 million square feet, or 25% of that total. Excluding the Capitol Complex which contains 1.3 million square feet, the total remaining downtown area office space is approximately 6.8 million square feet. The State occupies approximately 11% of this total.

Based on Coldwell Banker's calculation of 2.4 million square feet of "tenant occupied" space available in the central business district, the State occupies approximately 365,000 square feet after excluding the Agriculture Building and Space Center.

This totals approximately 15.2% of available rental space.

Thus, while the State's presence in the total CBD leasing market is significant, it is not nearly as large as commonly believed.

The State does, however, occupy significant portions of four major downtown area lease buildings, two of which are within the CBD. For purposes of this evaluation, the building at 390 Robert, occupied by Economic Security, is not considered to be leased space. Outside the CBD, the State occupies all 64,000 NSF of the new Agriculture Building and 126,000 NSF (64%) of the Space Center. Within the CBD the State occupies 107,000 NSF (54%) of Metro Square and 87,000 NSF (35%) of American Center.

C. ST. PAUL DOWNTOWN ECONOMIC VITALITY

The Hammer, Siler, George study indicates that downtown employment has been relatively stable in the 1970's even though the City of St. Paul as a whole, like Minneapolis, has lost employment to the suburbs. The current downtown office vacancy rate is 4.3%. (National Real Estate Investor - September, 1979). This level is extremely positive, indicates leasing rates may escalate, and is primarily due to the absence of new office space since 1975. This last factor is primarily due to the 1974-75 recession. Historically, office space absorption has been 100,000 to 180,000 NSF per year.

St. Paul has been characterized as a "built" city, with few buildable properties remaining, a relatively large proportion of properties which are economically underutilized, and numerous buildings and neighborhoods which are "visibly aging," particularly in the Lowertown area. There is however, a high degree of neighborhood stability. The downtown area is largely service oriented, retailing activities having lost much of their patronage to newer suburban shopping centers in recent years.

The City has a relatively inelastic tax base due not only to its "built city" characteristics but also due to its extremely high proportion of tax exempt properties occupied by churches, educational institutions and government. These properties constitute in excess of 30% of the City's tax base with the State being the City's largest employer. The proportion of City revenue from property taxes has been decreasing in recent years, 38% in 1978 versus 48% in 1974, and St. Paul is, as a result, increasingly dependent on State aid. It is within this context that the City of St. Paul is highly interested in potential State construction and relocation activities which would further reduce tax revenues if leased space is vacated to occupy State owned tax exempt property. At this juncture, it should be noted that the City and State are currently joint participants in a study being conducted by James B. McComb and Associates to further identify potential economic and planning impacts.

The future of the economic vitality of St. Paul looks positive and the City appears to be entering a renaissance period. It may, for all practical purposes, be totally developed within five to ten years. It is also moving in the direction of becoming a "24-hour city" with an active downtown core area supported by thriving entertainment, dining, and shopping industries. A number of in-process or planned activities and developments will undoubtedly strengthen the downtown area's economic vitality. Among these are the following:

1. Office and Retail Construction

- Town Square: A $75 million office, retail and hotel complex is scheduled to open in 1980 with a first phase of 430,000 SF of office space. This phase includes the new 250-room Radisson Plaza Hotel, a major new Donaldsons Department Store, parking facilities for 500 cars and a four-level glass-enclosed public park. The Town Square project, which includes a proposed second phase with approximately 130,000 SF of office space, will also include a roof-top theatre and extensive shopping facilities. It is expected to set a new standard for Class A office space in St. Paul. That is, $14-15 per rentable square foot versus the $8-11 for currently available buildings. The Town Square will also serve as the major new attraction to the downtown area and is potentially the "magnet" to revitalize that area. At the time of this writing, it should be noted that although only 70,000 SF have been pre-leased, the rental rates are expected to soon increase by

about $1/SF. Finally, a third phase of the Town Square project is possible.

- Minnesota Mutual Building: This is a 450,000 SF office building of which 290,000 SF will be owner-occupied. The remaining 160,000 SF of space will be available in 1981 at approximately $15/SF. A 400,000 SF second phase is currently planned.

- St. Paul Companies: This is a 250,000 SF owner-occupied headquarters.

- Minnesota Public Radio and Farm Credit Banks: Additional new office buildings for these commercial space users is planned.

- Bremer Towers: Renovation of this 10-story building will provide 53,000 SF of space at $10/SF/year.

- Wabasha Court: Renovation of this retail area is planned.

2. Housing: The number of downtown residential units has tripled in the past few years. Gallery Towers is a proposed 200-unit condominium project. Seventh Place Residence and Mears Park Plaza will add 430 apartment units. Finally, the downtown resident population is expected to double within the next few years from 5,000 to 10,000 people.

3. Hotel Rooms: In addition to the recently renovated Radisson St. Paul and an eventual 240 rooms at the new Budget Inn, a $24 million redevelopment project is planned for the Hotel St. Paul. This project will include significant office rental space.

4. Science Museum and McKnight Omnitheatre: These facilities have traditionally attracted quite a number of people to the downtown area.

5. Lowertown: Seed money of $1 million has instituted a significant restoration project which may transform the existing warehouse area to provide upwards of 2,800 new housing units near the new Mears Park. This project could provide as many as 5,000 new jobs and retail and entertainment facilities will most likely be included. Finally, this restoration could ultimately include as much as $300 million.

6. Transit Systems

- Skyways: Ten more are planned.

- Fringe Parking: Two ramps served by shuttle buses have opened with more planned for the future. This additional parking may accommodate 8,000 to 10,000 spaces.

- Downtown People Mover: This project, which is currently uncertain due to a lack of funding, would provide a 2.6 mile transit system providing access to retail markets and connecting major activity centers to three associated inexpensive fringe parking lots planned to provide 8,000 parking spaces. If undertaken, this project will most probably facilitate significant economic and development expansion within the downtown area.

The main leg of the proposed system would connect the Capitol Complex with the new 7th Place-Galleria-Town Square complex in the heart of the central business district. The system would link the Capitol Complex, hospitals, Convention Center and Lowertown with the central business district.

In the "Downtown Development Plan," Hammer, Siler, George and Associates project significant economic benefits which would result from the institution of the Downtown People Mover. Among these is the addition of 14,500 new jobs to the downtown area by the year 1990, representing a 1.6% annual growth rate.

Two thirds of these jobs, 9,600, are thought to be directly attributable to the presence of the Downtown People Mover and the resulting development near proposed stations. Of these 9,600 jobs, 7,200 would result in new facility development and 2,400 would be accommodated in existing facilities. The balance, 4,900, represent a .6% annual growth rate and, in the Consultant's opinion, appears conservative in light of other growth pressures described above.

Hammer, Siler, George Associates conclude that the Downtown People Mover would most likely be a "decisive factor" in the private development by the year 1983 of:

- 1,100,000 SF of office space;
- 500,000 SF of retail space;
- 450 hotel rooms; and
- 1,560 housing units.

Between the years 1983 and 1990, the following additional space might be expected:

- 1,350,000 SF of office space;
- 530,000 SF of retail space;
- 900 hotel rooms; and
- 1,800 housing units.

It should be noted that Hammer, Siler, George indicates the presence of the Downtown People Mover could facilitate the economic growth of the downtown area but its absence would not necessarily suggest that any of the above would not occur. Finally, the above-mentioned impacts include neither significant rehabilitation projects which are likely in affected areas nor public or institutional developments which may occur.

Associated with the Downtown People Mover would be three fringe parking areas providing 8,000 parking spaces. This would be five to seven times greater than the State needs in any of the three options being evaluated. As noted above, two lots offering more than 800 spaces served by shuttle buses are already in use.

Hammer, Siler, George and Associates projects office space absorption of 100,000 SF annually without the Downtown People Mover and 180,000 SF/year should it be instituted. This would translate into absorption of 600,000 to 1,080,000 SF of office space by the year 1985 plus an additional 1,100,000 to 1,980,000 SF by the year 1990.

D. EVALUATION FACTORS AND ASSUMPTIONS

An evaluation of the economic impacts of State employee presence in the downtown area should consider the following factors:

- Retail Spending Patterns: This includes parking, shopping purchases, lunches and after-work entertainment in the affected area resulting from the location of the workplace.

- Rental Income Loss to Building Owners: This includes specific buildings and overall occupancy rates.

- Taxes: This includes sales, income, property, and special taxes such as the utility franchise fee ("Utility Companies Gross Earnings Tax" applicable in certain localities), hotel surcharges and other entertainment oriented surcharges applied to ticket sales or liquor purchases.

- Effects on Municipal Services Requirements: This includes fire and police protection, provision of utilities, street maintenance, and community services.

- Hotel Occupancy

- Housing Demand

- Transit Costs: This includes revenues to the Metropolitan Transit Commission plus transit costs and savings experienced by employees.

Each of these factors will be reviewed in light of the facility options recommended in Chapter X. It should be noted that this evaluation is not intended to define specific dollar values which would be gained or lost, but rather the magnitutes of economic impact which would be associated with alternative State actions. Because the following evaluation is necessarily based on a number of premises and assumptions, the specific dollar amounts associated with each alternative is not as relevant to any resulting decision as is the magnitude of the differences between each of the alternatives and the relative importance associated with the potential recipients/losers i.e., retailers, landlords, and the city tax coffers.

It is also important to evaluate these impacts in light of the proportion of total revenues which they represent.

Thus, factors which would be minimally affected by the State actions recommended herein have not been extensively evaluated or quantified because such analysis would be less than cost effective. Likewise, the identification of the potential magnitudes of economic impacts resulting from facility policies which are not recommended, because they run counter to the State's best

interests as established within this master planning process, are presented "for informational use only." These impacts have not been extensively evaluated due to cost considerations.

The following evaluation primarily identifies economic impacts which would be experienced in the future rather than current economic conditions. Also, certain of the above mentioned factors may change in the future and this information is incorporated into the analysis where appropriate.

E. POTENTIAL STATE ACTIONS

Three viable facility master planning options are detailed in Chapter X. Each initially provides newly developed office space in two buildings for approximately 3,000 Executive branch administrative employees. Based on the option selected, the two buildings could be in one of four general locations: downtown St. Paul, a high access site near downtown, the Capitol Complex and/or a suburban site located within a five mile radius from the Capitol Complex. It should be noted that the Capitol Complex is the only site specific location referenced in this analysis.

Each alternative contains approximately the same number of employees in existing Capitol Complex buildings. In each case the same amount of currently leased space is vacated, a total of 294,000 NSF of which 61,000 NSF is within the central business district. Exhibit IX.1, on page 151, illustrates where the future building occupants currently are housed. From the perspective of the central business district, all employees except those listed in Columns B and C, i.e., from the Space Center and Agriculture Building or leased CBD space, can be considered "new" employees as their presence does not currently impact the central business district.

It should be noted that approximately 74,000 NSF of lease space would actually be vacated in the CBD but a 13,000 NSF Economic Security lease to be vacated in the American Center Building would be replaced in another CBD location. Thus, the net change is 61,000 NSF.

Current leases to be continued within the central business district would require an additional 56,000 NSF of expansion space under all alternatives. This would, in the long run, nearly offset the 61,000 NSF reduction of leased space. This action is not, however, considered within this evaluation because the effect and net change would be the same in all cases. Furthermore, the expansion of leases to be continued is also not considered in the Master Plan except that any new leases should adhere to the general leasing policies suggested in this report. It should be noted that all three options result in the addition of approximately 300 new State government employees in the 56,000 NSF of lease space. Because these additions are consistent between options and represent expansion of the status quo, their economic impact is not included herein. Additionally, approximately 650 Space Center/Agricultural occupants and 350 leased CBD occupants vacate under all options. Those not accounted for in Exhibit IX.1 relocate into existing Capitol Complex buildings in all options.

F. IMPACTS OF FACTORS AND ASSUMPTIONS

With respect to the three facility options, the factors identified in Section D have the following impacts:

1. Retail Spending Patterns

A 1979 survey of State employees conducted by James B. McComb & Associates provided data which led to the identification of the following monthly downtown spending patterns by the average State employee based on his or her work location.

TYPE OF EXPENDITURE	MONTHLY EXPENDITURES BY LOCATION	
	DOWN TOWN	CAPITOL COMPLEX
Parking	$31 ...	$ -
Lunch	21 ...	15
Shopping & Entertainment	16 ...	8
TOTAL	$68	$23

EXHIBIT IX. 1

STAFF RELOCATIONS TO NEW BUILDINGS
AT 1% ANNUAL GROWTH RATE

OPTION	BUILDING	PERSONNEL RELOCATING TO A BUILDING LOCATED IN: TOTAL STAFF[7]	PERSONNEL RELOCATING FROM AREAS A CAPITOL COMPLEX	B SPACE CENTER/ AGRICULTURE	C LEASED CBD	D LEASED SUBURBS	E NEW
I[5]	Downtown Renovation	1,773	901[1]	369	35	312	156
	Suburban	1,273	1,174[2]	---	32	---[6]	67
	TOTAL OPTION I	3,046	2,075	369	67	312	223
IV	High Access[3]	1,956	929	463	37	312	215
	Centennial East[4]	1,274	921[4]	115	61	24	153
	TOTAL OPTION IV	3,230	1,850	578	98	336	368
V	Downtown Renovation	1,773	901	369	35	312	156
	Centennial East[4]	1,444	936[4]	209	63	24	212
	TOTAL OPTION V	3,217	1,837	578	98	336	368

1. Welfare vacates 20,000 square feet of leased space (approximately 180 staff) from 690 North Robert (included as "Capitol Complex").
2. Transportation vacates 7,500 square feet of leased space (51 staff) from 461 Rice (included as Capitol Complex).
3. Assumed (for economic impact evaluation) to be located on the north side of downtown (displaying Capitol Complex spending patterns).
4. Investment Board vacates 4,894 square feet of leased space (27 staff) from MEA Building (Capitol Complex).
5. Agriculture to Transportation Building (similar spending patterns).
6. The 24 staff relocated in Options IV and V go to existing Capitol Complex buildings in Option I.
7. Approximately 650 Space Center/Agricultural occupants and 350 leased CBD occupants vacate under all options. Those not accounted for here relocate into existing Capitol Complex buildings.

A statistically significant sample size was not available for the Space Center but, based on Capitol Complex data and its physical and transit relationships to the central business district, it is assumed that the average Space Center occupant currently spends approximately one-half or $12 in the central business district as does the typical Capitol Complex employee.

The new Agriculture Building was not occupied at the time the survey was conducted, but its monthly downtown spending patterns are assumed to approximate the $12 associated with Space Center occupants. The "High Access" site included in Option IV is assumed to display the same spending patterns as the Capitol Complex. The recommendations contained herein are not, however, site specific, and should the State decide to adopt Option IV, a site might be selected which would display characteristics more akin to a downtown location. This would increase retail spending by $14/month/"high access" employee.

Based on the above data, noting that Options I and V call for a downtown renovation without State-provided parking and the continuation of payments to private or city lots, monthly loss of consumer spending can be associated with particular site selections and current employee locations.

Each additional employee relocating within various options would have the following monthly economic impact on the CBD:

- Addition of a new employee or relocation from a "suburban" site to the CBD .... + $68
- Addition of a current Space Center or Agriculture Building employee to the CBD ..... + $56
- Movement of an employee currently in downtown leased space to the Capitol Complex or the "High Access" or "Centennial East" sites ..... - $45
- Addition of a new employee to the Capitol Complex or relocation to there from the suburbs ..... + $23
- Relocation from the Space Center or Agriculture Building to the "Centennial East" or "High Access" sites ..... + $11
- Relocation from downtown leased space to the "downtown renovation" project .. No Change

The alternative monthly downtown retail and parking expenditure differentials as compared to current patterns are as follows:

PERSONNEL RELOCATION IMPACT CATEGORY	NET ADDITIONAL PERSONNEL AND MONTHLY CBD EXPENDITURE IMPACT					
	Option I.		Option IV.		Option V.	
	PEOPLE	VALUE	PEOPLE	VALUE	PEOPLE	VALUE
+ $68	1,337	$90,916	-	-	1,369	$93,092
+ $56	369	$20,664	-	-	369	$ 20,664
- $45	-	-	98	($4,410)	63	($2,835)
+ $23	-	-	2,554	$58,742	1,172	$ 26,956
+ $11	-	-	578	$ 6,358	209	$ 2,299
TOTAL	1,706	$111,580	3,230	$60,690	3,182	$140,176

An additional retail spending of approximately $29,300/month might be expected in the suburban site in Option One. This represents an average expenditure of $23/month for each of 1,273 staff personnel.

Should the "High Access" site be located downtown, 1,956 total employees would spend an additional $14/month on retail sales for a total of $27,384. This yields a total monthly expenditure differential, actually an increase, of $88,074 for Option IV.

2. Rental Income Loss To Building Owners

The projection of future office space absorption rates, overall occupancy rates and rapidity of re-leasing space the State might vacate is complicated by the factors listed in Section C.

Additionally, history does not provide an adequate baseline for future absorption patterns. This is primarily due to the lack of available new space in the early to mid-1970's as compared to the significant amount of new space currently under construction or in the planning stage.

Whereas the 7th Place/Galleria/Town Square Complex, new housing expansion and the Lowertown development project will no doubt instill new life to the downtown area, projection of future absorption rates is largely a matter of conjecture. This is because it is difficult to identify the magnetic power of these developments to draw potential tenants from both existing downtown buildings and from the suburban or downtown Minneapolis areas.

At this time it would be unwise to plan on the existence of the Downtown People Mover. Hammer, Siler, George Associates suggests planning for a minimum annual absorption of 100,000 SF of office space. This, in turn suggests the office space currently under construction would not be absorbed until the year 1985 and that office space currently planned would satisfy needs beyond the year 1990.

A number of other authorities have expressed concern that the Twin Cities area may become overbuilt in the next few years due to a number of upcoming large projects. Based on the historical experience of 100,000 to 180,000 SF of annual office space

absorption, Hammer, Siler, George's non-Downtown People Mover related 100,000 SF absorption projection appears conservative in light of other growth pressures. More appropriately, a rate of 150,000 SF per year would absorb space currently under construction by the year 1983.

As indicated above, numerous forces which will affect the marketplace complicate identification of the absorption of what will primarily be new Class A office space. Existing space is effectively 100% occupied and will therefore have minimal impact on absorption needs. The potential re-absorption of State vacated space is, however, not directly related to absorption rates of new space. This is due to the fact that the State primarily occupies Class C space which would not be in direct competition with new space.

Much of this State occupied space serves full-floor tenants in what is generally known as a "small tenant-town." The fact that 57% of the Space Center/American Center/Metro Square space is non-State occupied suggests, however, there are other non-State full-floor tenants. This fact, plus the indication that St. Paul office tenants, many in the finance, insurance and law fields, are becoming more image conscious suggests that State vacated space may not be rapidly occupied. These image conscious tenants would most likely vacate Class B space and relocate in Town Square or the Minnesota Mutual Building.

This ripple effect could result in a number of Class C tenants moving up to Class B space resulting in additional vacancies in State vacated buildings. A counteracting factor, however, may be that potential tenants will be drawn to the downtown area who cannot afford the new high rent space and who would be satisfied with Class C space whose rental rate increases, unlike Class A and B space, will most likely lag behind the inflation rate. Newer Class A buildings may be considered too expensive in a "gloomy" economy and lower end space may be enhanced as an alternative.

In the absence of any dependable Class C office absorption predictors within the future "new" St. Paul environment, the magnitude of rental loss due to State vacated space may be approximated by taking into consideration the following factors: Absorption sluggishness is anticipated for two to three years. This results in a 50% to 60% occupancy followed by a long-term occupancy rate of 75%. Suburban or "other Ramsey County" space is assumed to be less adversely affected by new downtown construction. The specific building to be vacated is within an area of increasing rental rates. A long-term occupancy rate of 85% is used for this analysis, and an average lease rate of $7 is projected. Based on these assumptions the below listed rental losses might

SPACE VACATED IN NSF AND LEASE INCOME LOSS AT $7/NSF	IMPACT ON LOCATION			
	CENTRAL BUSINESS DISTRICT	① OTHER ST PAUL LOCATIONS	② OTHER RAMSEY COUNTY	TOTAL AREA
Space Vacated	61,000	189,000	44,000	294,000
40% Space for 2 Years	24,400	75,600	17,600	117,600
Annual Income Loss	$170,800	$529,200	$123,200	$823,200
Long-term Vacancy Rate	25%	25%	15%	23.5%
Long-term Vacancy	15,250	47,250	6,600	69,100
Annual Long-term Income Loss ..	$106,750	$330,750	$ 46,200	$483,700

① Capitol Complex area, Space Center, Agriculture, Griggs-Midway

② Buetow Building - losses are less likely than those in St. Paul.

result if the State vacates significant amounts of lease space in the central business district.

These calculations take into consideration the fact that building owners will probably decrease rental rates in a competitive market place so as to reduce vacancy rates. Thus, $7/SF represents a weighted average rental in current dollars at the projected vacancy rates.

3. Taxes

Those taxes which must be taken into consideration in this economic analysis are as follows:

Utility Franchise Fee: Also known as the Utility Companies Gross Earnings Tax, this fee is levied by certain localities as a percentage of gross revenues. For example, St. Paul - 8.67%, Minneapolis - 3%, South St. Paul - 5% and White Bear Lake - 1.5%. Unlike sales taxes, the State is not exempted and pays these fees either directly for owned space, or indirectly through leases.

At an annual utility expense of $1.25 per rentable SF, each SF the State occupies is worth 10.8¢ to the City of St. Paul, irrespective of whether the space is leased or owned by the State. The suggested options call for the following changes in St. Paul occupied space subject to the annual St. Paul Utility Franchise Fee. Note that the current Roseville leased space does not generate St. Paul Utility Franchise Fees and is therefore not included in the "vacated leases" amount.

Option	NET SQUARE FEET OF SPACE		
	Additional Space (1)	Vacated Leases	Net Addition
I	294,000	250,000	44,000
IV	512,000	250,000	262,000
V	512,000	250,000	262,000

(1) Excludes 56,000 SF of expansion in continued lease space.

This numerical display assumes no releasing of state-vacated space and therefore represents the most negative situation. A more realistic long term franchise fee reduction can be determined by the application of two assumptions: (1) a long term occupancy rate of 70% for State-vacated space and (2) a recognition that utilities associated with vacant spaces would not be totally disconnected unless the affected space constituted full floors. Thus, the long term effect might be a two-thirds reduction of the utilities associated with the 30% vacated space not re-leased. In other words, the net effect of vacating lease space is more appropriately a franchise fee reduction of 20% from current levels.

Where new space is included in the calculation, a long term franchise fee net gain is the result. This is displayed as follows:

Option	Income Increase for Add'l Space @ 10.8¢	Income Loss for 20% Vacated Space @ 10.8¢	Annual Gain
I	$ 31,752	$ 5,400	$26,352
IV	55,296	5,400	49,896
V	55,296	5,400	49,896

Property Taxes: Property tax revenues would decrease as a result of the State adopting either Option I or V, which call for the purchase and renovation of a downtown building. Upon purchase this building would be removed from the property tax rolls.

A typical property in the downtown area currently accounts for approximately $100,000 in annual property tax payments. The City of St. Paul receives 28% of property taxes collected within its boundaries and would thus suffer a loss of $38,000 annually on such a purchase and renovation. Ramsey County receives 25.6% of property taxes collected and would therefore lose $25,600 annually.

A second potential direct impact on property tax revenues is the possibility that property assessments and taxes might actually decrease if the State vacated space remained unoccupied for an extended period of time.

As previously indicated in the discussion of potential losses of rental income, the State would not, under any of the options, vacate more than 12% of the total space available in a central business district building. Based on the October 1979 occupancy survey, if the State vacated space in the Metro Square and American Center were not re-leased, the occupancies in those buildings would still be 84% and 87% respectively. Even these minimum occupancy levels would certainly not justify property assessment reductions, and therefore there would be no reduction in property tax collections.

On the other hand, for each alternative locational strategy, the State would vacate all of a building in Roseville, the entire Agriculture Building and the entire IBM Building at 690 North Robert. Vacating 78,000 SF from the Space Center would leave that building only 60% occupied. It is likely that at least one-half of the remaining Space Center space would be released within two years, yielding an 80% occupancy level.

If it is assumed the remaining 40,000 vacant SF in the Space Center results in a 50% property tax reduction, this will translate into a $20,000 total tax loss. This is calculated by multiplying 50% times the current tax assessment rate of $1 per rentable square foot times total square feet of 40,000. The City of St. Paul's share of this $20,000 loss will be 28% or $5,600. The County would lose $5,120. It may be reasonable to assume a 25% tax reduction for both the Agriculture and the IBM Buildings. At a current property tax assessment of $1/SF, 25¢ times 86,000 NSF yields total reduction of roughly $21,000. The City's share would be 28% or $5,880 annually.

In summary, should the State decide to proceed with a downtown renovation, the City's share of property tax losses would be approximately $28,000 annually. The County's share would be $25,600.

In addition, the City might suffer a temporary loss of property tax revenues, because of vacancies, in the neighborhood of $11,500 for the IBM, Space Center and Agriculture buildings. The County might temporarily lose perhaps $14,000 in property tax revenues - $5,400 for the IBM and Agriculture Buildings, $5,100 for the Space Center and perhaps $3,300 for the Buetow Building in Roseville, its share of the $10,000 annual property tax loss at 25¢ times 40,000 SF. Total maximum annual losses to the City might approach $40,000 and losses to the County would be equivalent in amount.

It should be noted that the Fiscal Disparities Act, which redistributes certain revenues resulting from increased valuations of commercial properties, is not herein considered due to its involved application.

Various taxes will be excluded from consideration in this analysis. These taxes and the reasons for their exclusion are as follows:

Hotel and Entertainment Surcharges:

Information provided by James McComb from local surveys suggests that one-quarter to one-third of total downtown hotel receipts are related to the State Capitol. Whereas this magnitude is notable, the addition of staff to existing departments in the central business district/Capitol Complex vicinity, without significantly augmenting their responsibilities, would not in itself suggest changes in lodging requirements.

No attempt was made to associate overnight lodging with specific State departments. Based on questionnaire responses regarding the average duration of visits to departments, there is no indication that the establishment of a suburban location for 1,273 employees in Option V, only 11% of the total projected executive agency staffing, would significantly impact lodging requirements either within St. Paul proper or in the suburban location which would probably be within five miles of the downtown area.

Additionally, no specific data was gathered regarding employee entertainment or liquor expenditures as this spending category is much less

work-location oriented than are parking, lunch and retail spending which primarily occur during the lunch hour and for short periods after work. In any case, these expenditures are included in the Retail Spending Patterns totals within Section 1 of this Chapter. Their tax impact however, would be minimal and is therefore excluded from this analysis.

Sales and Income Taxes: These have been excluded from consideration because they are not point-of-sale oriented. In other words, no matter where sales or income taxes are generated, the revenue goes into the State Treasury and is distributed to localities based on applicable formulas. Thus, the city of St. Paul does not gain or lose revenue based on whether an incremental tax dollar is generated within its boundaries.

It could be argued that total statewide sales and income taxes would increase if more people worked in or near centralized business districts or near major shopping centers. Such increases and the resultant differential distribution of additional tax revenues would, however, be infinitesimal.

4. Effects on Municipal Services Requirements

The following table reflects the estimated additional number of employees and their proportion of the current total downtown employment population levels of 65,100 workers for each option for both the central business district and the Capitol Complex. The total State Capitol Complex employment is defined as approximately 7,000 State government employees.

MASTER PLAN OPTION	CBD		CAPITOL COMPLEX		TOTAL	
	Add'l Pers'l	%	Add'l Pers'l	%	Add'l Pers'l	%
I	1,738	2.7	-	-	1,738	2.4
IV	1,858	2.9	1,274	18.2	3,132	4.4
V	1,675	2.6	1,444	20.6	3,119	4.3

As shown above, the potential addition of employees to the downtown and total downtown/Capitol Complex areas represents an extremely small percentage of the existing employment population, and an even smaller proportion of future downtown total employment levels. Thus, the incremental addition of traffic congestion and municipal services (police, fire, utilities) required should have minimal impact. Furthermore, approximately 450 of these additional employees are currently located in the downtown area and are merely being more centrally located from the Space Center or Agriculture Building.

Options IV and V add relatively large numbers of employees to the Capitol Complex. The location of the potential building site at the periphery near Interstate 94 and the fact that it would include parking should minimize potential congestion and any requirements for additional municipal services.

Option I calls for a suburban site housing 1,273 employees. Because a site within a four to six mile radius of the Capitol Complex is suggested, preferably to the northwest, any site chosen would be within a reasonably well developed area and should not require significant additions to municipal services. There could be some additional services required depending on the specific site chosen. The potential additional costs should not be excessive but would nevertheless require additional special studies to fully evaluate. Should Option I be chosen, the reduction of employees within the downtown/Capitol Complex area would not be so significant as to reduce the magnitude of municipal services provided by the City.

5. Hotel Occupancy

As indicated in Item #3 above, any alternative State action should not significantly affect hotel occupancy rates. It is possible, although unlikely, that the selection of Option I, and the resultant relocation of departments to a suburban location, might result in a minor reduction

in the number of future rooms added to the downtown area and the addition of a few additional rooms to the suburbs.

6. Housing Demand

With regard to permanent housing, a number of factors are notable:

- The St. Paul geographical area is not so large nor are travel times so great within even a seven and one-half mile radius of the Capitol and central businsss district that employees would be expected to relocate their residences to any significant degree. It is notable that 55% of current employees presently drive at least five miles to work. This would tend to indicate than an employee's decision as to where to live is not directly related to the location of his or her place of employment.

- A partial sample of downtown survey respondents indicated a one-way driving distance from home to work of 10.9 miles versus a partial sample of Capitol Complex respondents indicating 10.3 miles for the same question. This is relatively consistent with the previously identified center of employee housing at five to six miles from the Capitol since this is a "straight line" distance and "driving" distances are not.

  It appears that Capitol Complex and central business district workers display effectively the same housing patterns since the distance between the two housing areas, approximately one half mile, is roughly equal to the difference in travel distances, 10.9 versus 10.3 miles. Thus, a relocation from one area would not suggest a resulting change in housing locational patterns.

- When the question was asked: "What are your residence plans over the next 3 to 5 years in terms of distance/access to work?", it was found that less than 7% of all employees surveyed planned to move closer to work, while between 5% and 6% planned to move further from the downtown core area. This relative balance between those employees desiring to move closer to and farther from their workplaces in the downtown/Capitol Complex area suggests that relocation of the workplace within the general vicinity of current State buildings would not result in significant shifts of housing patterns. If the State chooses to build on a suburban site, it is recommended that the location be to the northwest of the Capitol Complex. This is closer to most existing employee housing.

- A significant amount of housing will be developed within the downtown area during the next few years. Based on the draw of the new retail and entertainment complex and the forecast of a future "24 hour downtown," it appears that housing patterns will develop largely independent of the State's actions. The current downtown environment is characterized by a large daytime working population which vanishes to the suburbs after dark, partially due to limited downtown evening activities. After new housing is developed and additional afterwork shopping and entertainment facilities are available, it is likely that many of the 65,000 downtown employees will choose to rent apartments or purchase condominiums in or near the CBD as it will then be viewed as a good place to live as well as to work.

- Many State jobs are typically "starter" jobs taken by young single people who would likely be apartment renters rather than homeowners. Development of Options IV and V would concentrate more employees near the downtown area than would Option I, approximately 2,500 new area jobs for Options IV and V versus 1,400 under Option I, and would therefore supply more potential renters for currently nonexistent downtown units. Should the State decide to develop Option I, a suburban site would likely draw a certain number of these potential renters away from the future downtown rental market but, because the site would be within roughly five miles of the Capitol, the effect should be minimal.

  Currently 28% of survey respondents live in rental housing. Assuming that one in five renters would relocate

to be close to work, roughly 5% of total employees would do so and thus Options IV and V could result in approximately 55, or 5% of the 1,100 differential employees identified above, more rental units being occupied by State employees than would result from selection of Option I.

Again, it is likely that the State's future actions will affect housing patterns less than will the planned downtown development. The establishment of a suburban site could minimally contribute to urban sprawl by motivating some employees to relocate slightly further from the Capitol than at present. Because the Capitol Complex and downtown area would not lose State employees as compared to today's levels, there would be no resulting identifiable housing loss.

7. Transit Costs

Survey data indicates that at present 10.7% of downtown State employees and 6.2% of Capitol Complex employees ride the bus to work. This differential is assumed to be due to the inconvenience associated with transferring buses to get to the Capitol Complex from the downtown area. A 6% bus ridership is therefore assumed for Space Center and Agriculture employees. Overall, 7.7% of these State employees utilize public transportation to and from work. Employees will experience differences in expenditures for transit to work as a result of a shift from mass transit to private automobile with a relocation to a suburban site.

Bus Revenues:

Referring to Exhibit IX.1, Page 151, and assuming minimal utilization of public transit with a suburban site, the impact on public transit ridership volumes for Options I, IV and V are as follows:

Option I

- Additions due to a relocation of office location from the Space Center and Agriculture facilities to downtown .....(369 x 4% = 15)
- Reduction due to relocation from the CBD to the suburban location .....(32 x 10% = 3)
- New downtown workers who will use public transit...(1369 x 10% = 137)

The net increase for Option I will be 149 bus riders.

Option IV

- Reductions due to relocation from the CBD .....(98 x 4% = 4)
- New "High Access/Centennial East" workers .....(2554 x 6% = 153)

The net increase for Option IV will be 149 bus riders.

Option V

- Additions due to relocation from the Space Center and Agriculture facilities to downtown .....(369 x 4% = 15)
- Reduction due to relocation from the CBD to Centennial East .....(63 x 4% = 3)
- New downtown workers who will use public transit...(1369 x 10% = 137)
- New Centennial East workers who will use public transit.(1172 x 6% = 70)

The net increase for Option V will be 219 bus riders.

At an average round trip fare of $1.10 per day times 250 days/year, or a total of $275/year/bus rider, the above calculated volume changes would result in the following additional Metropolitan Transit Commission revenues on an annual basis:

OPTION	AMOUNT
I	$ 40,975
IV	$ 40,975
V	$ 60,225

Automobile Expense

Along with the increased Metropolitan Transit Commission ridership as calculated above, there will be changes in the number of cars used depending on

the option chosen. At an average round trip of 20 miles and an incremental cost of 15¢ per mile, each driver would spend $3/day plus an allocation for parking at his trip termination. If a minimum parking allocation of $15/month in a suburban site is assumed, parking costs approximate 75¢ daily and the total daily commuting cost would be $3.75 versus $1.10 for bus riders. A suburban site located near the center of current employee housing five to six miles to the northwest of the Capit 1 Complex might reduce round trip length for affected employees by two-thirds to approximately seven miles. This results in a daily commuting cost for suburban workers of $1.80 calculated at 7 miles at 15¢ per mile plus 75¢ for parking.

Utilizing the parking assumptions developed in Chapter X and assuming that Space Center and Agriculture requirements are similar to those of the Capitol Complex, the following changes in automobile expenses will result:

Option I

- Reduction in drivers due to relocation from Space Center and Agriculture facilities to downtown .....(369 x 5% = 18)
- Reduction due to relocation from suburban leased space to downtown .....(312 x 30% = 94)
- New downtown drivers who will drive private vehicles..(1057 X 50% = 529)
- Additions due to relocation from downtown to the suburbs .....(32 x 20% = 6)
- New suburban drivers who will drive private vehicles..(1241 x 70% = 869)

The net change for Option I will be 1,292 additional drivers.

Option IV

- Increase due to relocation from downtown to the high access or Centennial East facilities .....(98 x 5% = 5)
- New employees...(2218 x 55% = 1220)
- Decrease due to relocation from suburbs to the high access and Centennial East facilities .....(336 x 15% = 50)

The net change for Option IV will be 1,175 additional drivers.

Option V

- Impact of downtown renovation project (same as Option I) Addition of .....(417)
- Reduction due to relocation from downtown to the Centennial East site.....(63 x 5% = 3)
- Addition due to relocation from suburbs to the Centennial East site .....(24 x 15% = 4)
- New employees....(1148 x 55% = 631)

The net change for Option V will be 1,049 additional drivers.

Based on annual automobile expense differentials of $938 ($3.75 x 250 days) for most drivers and $638 ($2.55 x 250 days) for drivers coming from or going to suburban sites, the three options would yield the following differential annual automobile expenses for travel and parking.

OPTION	AMOUNT
I	$ 977,596
IV	$ 1,117,150
V	$ 1,076,562

Significant additional costs for downtown parking might be incurred by employees assigned there. These costs, as will be developed in Chapter X, could approach $50/month and are not included in the above analysis.

G. SUMMARY OF ECONOMIC IMPACTS

Exhibit IX.2, Page 160 , identifies the annual economic impacts on the Central business district, the City of St. Paul and Ramsey County for the three recommended options detailed in Chapter X. Potential employee transit, parking and housing related changes are not included

EXHIBIT IX. 2

ANNUAL ECONOMIC IMPACTS ON CBD, ST. PAUL AND RAMSEY COUNTY
OF ALTERNATIVE STATE ACTIONS*

ANNUAL ECONOMIC IMPACT, POSITIVE AND (NEGATIVE) OF DIFFERENT LOCATIONAL STRATEGIES	DATA FOUND ON EXHIBIT	MASTER PLAN OPTION		
		OPTION I RENOVATE/ SUBURB	OPTION IV HIGH ACCESS/ CENTENNIAL	OPTION V RENOVATE/ CENTENNIAL
CENTRAL BUSINESS DISTRICT				
1) Changed Sales Revenue (Lunch, Parking, Retail)	X.2	$1,339,000	$ 728,300[1]	$1,682,100
2) Reduced Annual CBD Landlord Income	X.3	(106,800)[3]	(106,800)[3]	(106,800)[3]
3) Subtotal: Additional Gross Income to CBD Businessmen		1,232,200	621,500	1,575,300
ST. PAUL IMPACTS				
4) Additional Annual Reduced Landlord Income	X.3	(330,800)	(330,800)	(330,800)
5) Subtotal: Reduced CBD/St. Paul Landlord Income (2+4)	X.3	(437,600)	(437,600)	(437,600)
6) Subtotal: Gain to CBD/St. Paul Businessmen (3+4)		901,400	290,700	1,244,500
7) Property Tax Loss Due to Removal from Tax Rolls		(28,000)	-	(28,000)
8) Property Tax Reductions		(21,000)	(21,000)	(21,000)
9) Utility Franchise Fees Charge	X.4	26,400	49,900	49,900
10) Subtotal: Net City Tax Charge (7+8+9)		(22,600)	28,900	900
RAMSEY COUNTY IMPACTS				
11) Additional Reduced Landlord Income	X.3	(46,200)	(46,200)	(46,200)
12) Subtotal: Reduced CBD/St. Paul/County Rentals (5+11)	X.3	(483,800)	(483,800)	(483,800)
13) Additional Suburban Retail Sales (1273x$23/Mo.x12)		351,300	-	-
14) Subtotal: Gain to Ramsey County Businessmen (6+11+13)		1,206,500	244,500	1,198,300
15) Property Tax Loss Due to Building Removal from Tax Rolls		(25,600)	-	(25,600)
16) Property Tax Loss Due to Suburban Land Removal		(17,000)[2]		
17) Property Tax Reductions		(24,000)	(24,000)	(24,000)
ESTIMATE OF REDUCTION OF COUNTY WIDE BUSINESS PROFIT[4]		$ 126,700	$ 25,700	$ 125,800
CITY/COUNTY TAX GAIN (LOSS)		($ 89,200)	$ 4,900	($ 48,700)

[1]Plus an additional $328,608 if the high access site were downtown.
[2]Includes both the county and locality's shares (assumes ½ of 2% tax on $1.45M).
3Reduces in subsequent years as a result of decreased vacancy rates
4Line #14 times 15% profit less 30% for income and business taxes)
*Losses are shown in parentheses

because of their extremely indeterminate nature. The Exhibit shows an annual estimated reduction in landlord income within the central business district of $106,800 under all three options. Sales revenues will show increases in all cases, ranging from $728,300 under Option IV, the "High Acess/Centennial East" alternative, to $1,682,100 under Option V, the "downtown renovation/Centennial East" alternative.

The Exhibit indicates that the estimated effect on countywide business profits, not revenues, from food service, retail sales, parking and landlord income is a net increase at today's levels under all options. These profit increases range from $25,700 for Option IV to $126,700 for Option I annually.

With respect to taxes, the only option which results in a tax loss to St. Paul is Option I which calls for a suburban site and downtown renovation. The loss is, however, insignificant in relationship to total tax revenues and State differential costs. Options IV and V would yield net annual tax gains to St. Paul of $28,900 and $900 respectively. On a combined City/County basis, Option IV shows a $4,900 annual gain in taxes, Option V shows a $48,700 loss and Option I shows an $89,200 loss. The substantial loss associated with Option I is due to the removal of both a downtown building and suburban land from property tax rolls.

In conclusion, it appears that the potential economic impacts of State actions are less than generally believed when placed in a total city/county/downtown economic perspective. The three options recommended herein will increase private business revenues in all cases and result in an appreciable City and County tax loss in only one case.

H. IMPACT OF POTENTIAL ACTIONS ON OTHER GEOGRAPHIC AREAS

Based on information presented in this chapter, it is possible to generalize as to the economic impacts of alternative State action on a number of other geographic areas.

The addition of approximately one half million SF within Minneapolis would result in annual Utility Franchise Fees of roughly $19,000 - 3% x $1.25 per foot. If these employees were located within the Central Business District, their monthly expenditures would most likely be higher than those of State employees currently located in downtown St. Paul due to higher parking rates and a larger commercial area. At $75/month/employee, 3,000 people would generate a $2,700,000 annual expenditure.

If space were leased at roughly $12/SF, if available, annual landlord income would be $6,000,000. If 500,000 NSF were purchased by the State and removed from the tax rolls, the annual tax loss to both the City of Minneapolis and Hennepin County would be approximately 50¢/SF for each jurisdiction for a total tax loss of $250,000. If the State were to build in downtown Minneapolis, the City and County would lose taxes currently collected on vacant or underutilized land. This loss might amount to $10,000 to $20,000 annually for each jurisdiction. Although difficult to quantify, residence patterns would shift from the St. Paul area to Minneapolis and Hennepin County with associated increases in property taxes and other expenditures.

If the State were to locate in suburban Hennepin County, Minneapolis would not gain Utility Franchise Fees or property taxes. The city would also not suffer tax losses due to removal of properties from the tax rolls. Total property taxes paid indirectly by the State through lease space would be lower in suburban areas primarily due to lower land values, $2 - $5/SF in suburban areas versus $30 - $50/SF in downtown Minneapolis. Rental gains to potential landlords would also be lower in suburban areas than in either downtown St. Paul or Minneapolis by an estimated 30 - 40%. A suburban Minneapolis location, if close to the downtown area, would generate approximately $690,000 annual lunchtime spending in the downtown area and at suburban shopping centers. This is calculated at 3,000 people at $23/month.

I. REFERENCE TO APPENDIX

The appendix of this report, under separate cover, contains further discussion of economic issues as they relate to general facility planning and the Minnesota environment. This discussion also includes various methodologies for capital project financing which may be of benefit to the reader.



MASTER PLAN RECOMMENDATIONS X

CHAPTER X

MASTER PLAN RECOMMENDATIONS

During the third planning session, the State selected master plan Options One, Four, and Five for further detailing to provide the Legislature with three acceptable courses of action to take to support a 1% annual growth rate through the year 1990. The Consultant then developed more detailed area assignments reflecting the location of each department at an assumed staff level as presented in Exhibit V.5. Two facilities are added to buildings available in the inventory. The total amount of space required by each of these three options is identical and in accordance with departmental space requirements found in Exhibit V.5, page 48 .

Chapter X will explain each of the three master plan options and will indicate the development sequence, new construction required, and general rearrangement scheme necessary to support an annual 1% growth rate through 1990. It then indicates, in a more generalized manner, how each option could evolve to support continuing growth and provide space requirements in accordance with the 2½% annual growth plan and beyond.

Each of the three master plan options is discussed as three sequential phases of development. Phase I supports a 1% growth rate through 1990, Phase II supports a 2½% growth rate through 1990, and Phase III accommodates either a 2½% growth rate through the year 2000 or a 4% growth rate through the year 1992, which have space requirements equal to a 2½% growth rate through the year 2000.

Exact space and personnel capacities of each of the three phases, regardless of the year those staff levels are attained, are shown below. They are the same for all three options. Exhibit X.13 on page 178 shows the capacity of each phase in terms of total personnel and relates when that capacity will be reached at different annual growth rates.

In all cases, Phase II is compatible with all actions that would be taken in Phase I. Phase II is implemented after Phase I and would allow a continuation of a 1% growth pattern well beyond the year 2000. If a 2½% growth rate were realized, Phase II would have to be completed by 1990. Phase III adds to existing facilities and develops an extensive suburban facility that incorporates new spaces and activities.

A Phase IV goes beyond the year 2000 at all growth rates that might be realized and develops a significant suburban service center that incorporates new decentralized activities that were not involved in Phase I and Phase II.

A. RECOMMENDED FACILITY MASTER PLAN OPTIONS

Before discussing each of the three recommended facility master plan options and presenting each of the three phases of those options, it is necessary to establish certain

	PHASE I	PHASE II	PHASE III
State Employees	11,021	12,961	17,000
Net Square Feet	2,090,000	2,470,000	3,220,000
Net Area Factor	190	190	189
Incremental Space Acquired by Construction (owned)	525,000	275,000	700,000
Cumulative New Construction & Acquisition (owned plus leased)	575,000	850,000	1,550,000
Cumulative Space Added to Inventory	575,000	875,000	1,675,000

"fixes" or constants that are identical in all three options.

Actions Common to All Options

All three options begin by identifying a certain amount of current lease space to be terminated. All options have a minimum and constant amount of personnel and space relocating and rearranging within included facilities. Those activities that are constant throughout all three options are presented in Exhibit X.1 for review.

The constant "lease terminations" will, in all cases, be in addition to the amount of lease space terminated as shown in individual option details. Exhibit X.2 (previously presented in Chapter VI and included in this chapter on the following page) shows the total priority consolidations of existing leases into owned space. This 337,487 NSF will be moving in all situations and includes the total space and number of people relocating that is common to all options.

It should be noted that these option descriptions included in Chapter X deal with the major buildings and major moves. Therefore, some minor discrepancies that may appear in numerical totals are explained by the fact that some small agencies or boards are not designated on the separate option charts even though they will be relocating.

The amount of "constant" lease termination space in all cases is 74,090 NSF. A point should be made relative to the Economic Security leases in American Center and Space Center. An assumption is made that the total current space of 41,877 NSF will be terminated and that Economic Security will move into new leased space in the CBD area. Therefore, while the Department may be moving from leased space to leased space (yielding no net change), it is still terminating lease space in American Center and Space Center and is therefore included in Exhibit X.2.

EXHIBIT X. 1

ACTIONS COMMON TO ALL THREE OPTIONS

BUILDING LOCATION AND DEPARTMENT	LEASE TERMINATIONS	SPACE MOVING	PEOPLE MOVING
• CAPITOL SQUARE			
Education	3,864	3,864	23
Education-related	14,839	14,839	80
MOIS	2,180	2,180	13
Retirement Systems	5,700	5,700	38
• DNR LICENSE CENTER			
P.O.S.T.	1,662	1,662	6
Ethical Practices		1,434	7
• MATERIALS MANAGEMENT			
Health Boards		5,350	44
Indian Affairs Intrtribal Bd.	1,049	1,049	7
• VETERANS BUILDING			
Tax Court	1,819	1,819	6
Municipal Bd.	1,100	1,100	4
• MISCELLANEOUS			
Economic Security	41,877	41,877	175
TOTALS TO INCLUDE IN ALL OPTIONS	74,090	80,874	403

EXHIBIT X. 2

PRIORITY LEASE SPACE CONSOLIATIONS

AGENCY/DEPARTMENT - LOCATION	SQUARE FOOTAGE LEASED	REASON FOR CONSOLIDATION CANDIDATE: GROWTH GREATER THAN 20%	LESS THAN 5,000 SQ.FT.	CONSOL-IDATIONS REQUIRED	ADJA'CY PREFER.	DOWN TOWN LOC'TN	CAP. COMPL. LOC'TN	# OF PERS-ONNEL
1. Agriculture - Agriculture Bldg.	64,000				●		●	208
2. Metro State University - Metro Sq.	13,639			●				41
3. Pollution Control - Buetow	41,551			●				312
4. State Auditor - 390 N. Robert	186		●	●				1
5. P.O.S.T.	1,662		●	●				6
6. Water Resources BD. - 555 Wabasha	1,312		●					3
7. DOA - Energy Conservation - MEA	1,458	●	●	●			●	9
8. DOA - State Register - Hamm Bldg.	1,200	●	●					1
9. DOA - Bldg IISAC - Hanover	181			●			●	24
10. DOA - Bldg Coe - Metro Square	6,046	●						14
11. DOA - Bd. of Electricity - Griggs Midway	2,273			●				13
12. MOIS - Amer. Center	2,180	●	●					10
13. Council on Handicapped - Metro Square	1,645			●		●		129
14. Economic Security - American Center	28,288			●		●		46
15. Economic Security - Space Center	13,589			●				1
16. Education - Hanover	3,024		●	●				1
17. Education - Rossmor	840		●		●			2
18. Higher Ed. Facility Authority - Metro Sq.	1,200	●	●					7
19. Indian Affairs Intertribal Bd - Griggs - Midway	1,049		●					19
20. Livestock Sanitary Bd. - Metro Square	4,430	●	●				●	27
21. Investment Bd. - MEA	4,894	●	●				●	11
22. Law Examrs/Lwyrs. Pro.Respn.Bd. - 200 S. Robert	2,381		●					2
23. Personnel Bd. - Space Center	221		●					4
24. Municipal Bd. - Metro Square	1,100	●		●				38
25. Minnesota St. Retirement -521-529 Jackson	5,700			●				255
26. Natural Resources - Space Center	35,661	●		●				2
27. Public Safety - American Center	652		●	●				15
28. Public Safety - Hanover	3,514		●					10
29. Ombudsman for Corrections - Nalpak	2,088	●	●	●				18
30. Public Employees Relat. Bd. - Space Center	198		●					1
31. Public Welfare - Metro Square	4,943	●	●	●				25
32. Revenue - Nalpack	12,776			●			●	10
33. Revenue - 1266-1276 University	7,956			●			●	35
34. Transportation - Trans. Annex.	7,500			●			●	51
35. Transportation (Maint.) - 521-529 Jackson	5,388			●			●	32
36. Tax Court - Space Center	1,819		●					6
37. Public Welfare - 690 N. Robert	21,821			●				168
38. Attorney General - Space Center	4,707		●		●			26
39. Personnel - Space Center	24,415			●				112
TOTAL AMOUNT OF LEASE SPACE TO BE TERMINATED	337,487	65200	43,958	237496	69547	29933	108583	1695
% OF TOTAL		19.3	13.0	70.4	20.6	8.9	32.2	

EXHIBIT X. 3

OPTION ONE

1% Growth

EXISTING BUILDINGS

•ADMINISTRATION	53,149 NSF
DOA	24,199
ATTORNEY	1,557
FINANCE	18,768
TREASURER	7,511
TOTAL	52,035 NSF
SURPLUS/OVERFLOW	1,114
• 127 UNIVERSITY AVENUE	3,355 NSF
HUMANE SOCIETY	940
GOV. OFC. VOL. SVCS.	780
TOTAL	1,720 NSF
SURPLUS/OVERFLOW	1,635
•CAPITOL BUILDING	19,745 NSF
GOVERNOR	7,998
LT. GOVERNOR	1,440
LAW LIBRARY/ATTY.	9,115
TOTAL	18,553 NSF
SURPLUS/OVERFLOW	1,192
•CAPITOL SQUARE	167,931 NSF
EDUCATION	91,410
EDUC. BLTD	43,011
LOIS	2,180
ATTY. GENL.	2,631
DOA (Publctns)	1,500
RETIREMENT SYST.	25,622
TOTAL	167,354 NSF
SURPLUS/OVERFLOW	577
•CENTENNIAL BUILDING	227,232 NSF
REVENUE	133,980
DOA (ISD)	37,892
DOA (Publctns)	2,200
ATTY. GENL.	9,827
DOA	25,550
CAAPB	1,100
TOTAL	210,549 NSF
SURPLUS/OVERFLOW	16,683
•HEALTH BUILDING	112,430 NSF
HEALTH DEPT.	113,210
TOTAL	113,210 NSF
SURPLUS/OVERFLOW	780
•CHAMPION BUILDING	35,858 NSF
DOA (Motor Pool)	22,603
CENTRAL STORES	13,255
TOTAL	35,858 NSF
SURPLUS/OVERFLOW	0
•DNR LICENSE CENTER	4,814 NSF
P.O.S.T.	3,216
ETHICAL PRACTICES	1,230
TOTAL	4,446 NSF
SURPLUS/OVERFLOW	368
•FORD BUILDING	42,553 NSF
DOA	23,116
LAW LIBRARY	11,345
ATTY. GENL.	5,155
TOTAL	39,616 NSF
SURPLUS/OVERFLOW	2,937
•GROUNDS SERVICES	7,290 NSF
DOA	7,290
TOTAL	7,290 NSF
SURPLUS/OVERFLOW	0
•HISTORICAL SOCIETY	68,408 NSF
HISTORICAL SOC.	68,966
TOTAL	68,966 NSF
SURPLUS/OVERFLOW	558
•MAINTENANCE/POWER HOUSE	24,619 NSF
DOA	24,619
TOTAL	24,619 NSF
SURPLUS/OVERFLOW	0
•MATERIALS MANAGEMENT	9,302 NSF
HEALTH BOARDS	7,150
INDIAN AFFAIRS	1,500
TOTAL	8,650 NSF
SURPLUS/OVERFLOW	652
•1246 UNIVERSITY	62,338 NSF
PUBLIC SAFETY	62,338
TOTAL	62,338 NSF
SURPLUS/OVERFLOW	0

EXISTING BUILDINGS

•VETERANS BUILDING	40,039 NSF
ALL VETS BLTD	29,184
MEDIATION SRVCS	5,340
STATE AUDITOR	5,365
TAX COURT	1,386
MUNICIPAL BD.	1,025
TOTAL	42,300 NSF
SURPLUS/OVERFLOW	2,261
•1500 MISSISSIPPI	70,000 NSF
HISTORICAL SOC.	70,000
TOTAL	70,000 NSF
SURPLUS/OVERFLOW	0
•TRANSPORTATION BUILDING	234,214 NSF
PUBLIC SAFETY	74,742
AGRICULTURE	65,280
WATER RES. BD.	950
ATTY. GENL.	6,122
LIVESTOCK SAN. BD.	3,280
PUB. EMP. REL. BD.	396
STATE PLANNING	34,540
SEC. OF STATE	8,406
LAW EX./LWYRS PRO	2,951
INVESTMENT BD.	7,178
COUN. ON HNDCPD	2,145
HEARING EXMRS.	4,875
DOA (Publctns)	4,840
TOTAL	215,705 NSF
SURPLUS/OVERFLOW	18,509

•SPACE OCCUPIED IN LEASED BUILDINGS

AMERICAN CENTER	55,759
BREMER ARCADE	14,590
HANOVER	13,649
HENNEPIN SQUARE	2,200
390 N. ROBERT	94,199
NALPAK	53,626
METRO SQUARE	73,944
SPACE CENTER	48,137
2829 UNIVERSITY	6,534
1015 CURRIE	8,760
SUBTOTAL	371,398
NEW LEASES (@ 1%)	12,707
FARM CREDIT BANK	43,441
TOTAL	427,546

NEW BUILDINGS

• DOWNTOWN RENOVATION	300,000 NSF
DNR	98,022
PUB. WELFARE	110,360
PERSONNEL	25,403
PERSONNEL BD.	222
ATTY. GENL.	4,913
OMBUD. - CORR.	2,090
POLLUTION CONT.	53,108
TOTAL	294,118 NSF
SURPLUS/OVERFLOW	5,882
•SUBURBAN SITE	221,405 NSF
DOT	214,020
ATTY. GENL.	7,385
TOTAL	221,405 NSF
SURPLUS/OVERFLOW	0
TOTAL SPACE PROVIDED	2,132,228
TOTAL SPACE OCCUPIED	2,083,838
NET SURPLUS	48,390

The total amount of space moving is the actual NSF area being transferred from one site to another. For example, if a department is moving 80,000 NSF from the Transportation Building and 20,000 NSF from terminated downtown leases into the Centennial Building, the total amount of space moving is shown as 100,000 NSF.

The same holds true for the total number of people moving, providing a basis for determining total relocation costs to the State.

In all three options, certain departments are held constant or "frozen" in specific buildings. These conditions are designated by department names which are shaded in a gray tone in Exhibits X.3, X.5, and X.7. A total of 16 buildings out of 19 state owned facilities have identical space profiles in all three options. Additionally, all Options use the same ten buildings and assign the same departments to them. The remaining departments vary in their location for each of the options.

The options show the need for significant additional space due to the termination of leases. The Consultant has established three options to assign space for all departments to accommodate both 1% and 2½% annual growth rates. Following is a description of these three options first for Phase I, and then for Phases II and III. The options retain the same numerical designations one, four and five as in Chapter VIII.

Option One - Phase I

The main components of Option One are the purchase and renovation of a downtown St. Paul facility of 300,000 NSF and the construction of 221,405 NSF at an unspecified semi-suburban location. The first step of implementation would be to purchase and renovate the downtown structure and relocate departments when the structure is ready for occupancy. The major tenants would be DNR, Public Welfare, PCA, Personnel, plus related Attorney General staff and small boards and commissions. Detailed occupancy profiles showing the assignment of all space users to all existing and new facilities are presented in Exhibit X.3.

The next action would be to backfill the Centennial Building space vacated by the move of DNR. This space would be filled by divisions of the Department of Administration currently located in leased space or the State Administration Building, the Capitol Area Architecture and Planning Board (CAAPB) and the expansion and consolidation of Revenue.

The second step is to build a facility of 221,405 NSF on a suburban site of at least 25 acres for occupancy by DOT and support groups. After this project is completed, the Transportation Building can be remodeled for Agriculture, State Planning, and a number of smaller boards and departments. Details of the steps and tasks required are shown in Exhibit X.4. For Option One a building would be purchased and renovated at 300,000 NSF, another building would be constructed at 221,405 NSF, 337,487 NSF of leases would be terminated, 694,592 NSF of space would be relocated, and a total of 3901 people would be moved. A total of 2,132,228 NSF of space is provided 2,083,838 NSF is occupied and all the vacant or unassigned space totals 48,390 NSF.

Suboptions

If Mechanic Arts High School were to be renovated and made available without substantial modification to the existing structure, an additional 80,655 NSF would be available for occupancy.

This alternative would have Agriculture, the Livestock Sanitary Board, and the Water Resources Board move to Mechanic Arts rather than move to the Transportation Building. The available space in the Transportation Building would then be occupied by PCA and Personnel which would otherwise relocate to the downtown renovation site. Some reshuffling of small boards would then occur to balance available space. In any case, this alternative would not change the amount or size of lease terminations, the total amount of space moving, or the total number of people moving. The downtown site would then either be underutilized by about 80,000 NSF (thus not requiring renovation) and could be subleased at very

low rates until needed by the State, or would allow the further termination of up to 80,000 NSF of leases in the CBD. This would yield cost savings if the space in the renovation project would otherwise be vacant.

If Mechanic Arts High School were extensively renovated and the available space increased to 100,000 NSF and if the Agriculture Building lease were extended a number of years, the need for the suburban site project could be postponed four or five years. Extensive reassignment of space from that shown in Exhibit X.3 would be necessary.

As previously discussed in Chapter VIII, renovation costs were established as $25.57 per GSF and $45.52 per NSF. This was assuming a 56% building efficiency. This ratio could increase if a total renovation were performed on the building. While the renovation costs would be substantially higher (approximately $40.00 per GSF and $57.00 per NSF) the net to gross ratio would be substantially higher than 56%. On a lesser scale, a minimum remodeling for occupancy with no electrical or mechanical improvements could be accomplished for as low as $15.00 per GSF.

EXHIBIT X. 4

DETAILS OF 1% GROWTH OPTIONS

OPTION ONE

	NEW CONSTRUCTION	LEASE TERMINATIONS	SPACE MOVING	PEOPLE MOVING
Step One - Buy and renovate Downtown Site	300,000			
Task A - Move in:				
1 - DNR		35,661	77,780	517
2 - Public Welfare		26,764	76,019	650
3 - Personnel		24,415	24,415	112
4 - Pollution Control		41,551	41,551	312
5 - Attorney General			4,736	22
6 - Small Boards		2,309	2,309	12
Task B - Backfill Centennial Building				
1 - DOA		11,158	22,872	132
2 - CAAPB			964	2
3 - Expand Revenue		20,732	29,668	
Step Two - Construct Suburban Site	221,405			
Task A - Move in:				
1 - DOT		12,888	171,922	1,165
2 - Attorney General			2,118	33
Task B - Backfill DOT Building				
1 - Move in Agriculture		64,000	64,000	208
2 - Move in State Planning			24,498	179
3 - Move in Secretary of State			6,947	31
4 - Move in Small Boards		19,753	19,753	88
5 - Expand Public Safety		4,166	4,166	35
SUB-TOTAL	521,405	263,397	573,718	3,498
ADD CONSTANTS (SPACE POPULATION)	0	74,090	80,874	403
TOTAL	521,405	337,487	654,592	3,901

EXHIBIT X. 5

OPTION FOUR

1% Growth

EXISTING BUILDINGS

•ADMINISTRATION		53,149 NSF
DOA	24,199	
ATTORNEY	1,557	
FINANCE	19,768	
TREASURER	7,511	
TOTAL		52,035 NSF
SURPLUS/OVERFLOW		1,114
• 127 UNIVERSITY AVENUE		3,355 NSF
HUMANE SOCIETY	940	
GOV. OFC. VOL. SVCS.	780	
TOTAL		1,720 NSF
SURPLUS/OVERFLOW		1,635
•CAPITOL BUILDING		19,745 NSF
GOVERNOR	7,993	
LT. GOVERNOR	1,440	
LAW LIBRARY/ATTY	9,115	
TOTAL		18,553 NSF
SURPLUS/OVERFLOW		1,192
•CAPITOL SQUARE		167,931 NSF
EDUCATION	91,410	
EDUC. BLTD	43,011	
MOIS	2,180	
ATTY. GENL.	2,631	
DOA (Publctns)	1,500	
RETIREMENT SYST.	26,622	
TOTAL		167,354 NSF
SURPLUS/OVERFLOW		577
•CENTENNIAL BUILDING		227,232 NSF
REVENUE	133,980	
DOA (ISD)	37,892	
DOA (Publctns)	2,200	
ATTY. GENL.	9,827	
DOA	25,550	
CAAPB	1,100	
TOTAL		210,549 NSF
SURPLUS/OVERFLOW		16,683
•HEALTH BUILDING		112,430 NSF
HEALTH DEPT.	113,210	
TOTAL		113,210 NSF
SURPLUS/OVERFLOW		780
•CHAMPION BUILDING		35,858 NSF
DOA (Motor Pool)	22,603	
CENTRAL STORES	13,255	
TOTAL		35,858 NSF
SURPLUS/OVERFLOW		0
•DNR LICENSE CENTER		4,814 NSF
P.O.S.T.	3,216	
ETHICAL PRACTICES	1,230	
TOTAL		4,446 NSF
SURPLUS/OVERFLOW		368
•FORD BUILDING		42,553 NSF
DOA	23,116	
LAW LIBRARY	11,345	
ATTY. GENL.	5,155	
TOTAL		39,616 NSF
SURPLUS/OVERFLOW		2,937
•GROUNDS SERVICES		7,290 NSF
DOA	7,290	
TOTAL		7,290 NSF
SURPLUS/OVERFLOW		0
•HISTORICAL SOCIETY		68,408 NSF
HISTORICAL SOC.	68,966	
TOTAL		68,966 NSF
SURPLUS/OVERFLOW		558
•MAINTENANCE/POWER HOUSE		24,619 NSF
DOA	24,619	
TOTAL		24,619 NSF
SURPLUS/OVERFLOW		0
•MATERIALS MANAGEMENT		9,302 NSF
HEALTH BOARDS	7,150	
INDIAN AFFAIRS	1,500	
TOTAL		8,650 NSF
SURPLUS/OVERFLOW		652
•1246 UNIVERSITY		62,338 NSF
PUBLIC SAFETY	62,338	
TOTAL		62,338 NSF
SURPLUS/OVERFLOW		0

EXISTING BUILDINGS

•VETERANS BUILDING		40,039 NSF
ALL VETS BLTD	29,184	
MEDIATION SRVCS	5,340	
STATE AUDITOR	5,365	
TAX COURT	1,386	
MUNICIPAL BD.	1,025	
TOTAL		42,300 NSF
SURPLUS/OVERFLOW		2,261
•1500 MISSISSIPPI		70,000 NSF
HISTORICAL SOC.	70,000	
TOTAL		70,000 NSF
SURPLUS/OVERFLOW		0
•TRANSPORTATION BUILDING		234,214 NSF
DOT	214,020	
DOA (Pub)	4,840	
TOTAL		218,860 NSF
SURPLUS/OVERFLOW		15,354

•SPACE OCCUPIED IN LEASED BUILDINGS

AMERICAN CENTER	55,759
BREMER ARCADE	14,590
HANOVER	13,649
HENNEPIN SQUARE	2,200
390 N. ROBERT	94,199
NALPAK	53,626
METRO SQUARE	73,944
SPACE CENTER	48,137
2829 UNIVERSITY	6,534
1015 CURRIE	8,760
SUBTOTAL	371,398
NEW LEASES (@ 1%)	12,707
FARM CREDIT BANK	43,441
TOTAL	427,546

NEW BUILDINGS

•HIGH ACCESS SITE		302,484 NSF
DNR	98,022	
PUB. SAFETY	74,742	
PCA	53,108	
AGRICULTURE	65,280	
ATTY. GENL.	7,102	
LIVESTOCK SAN BD	3,280	
WATER RES BD.	950	
TOTAL		302,484 NSF
SURPLUS/OVERFLOW		0
•CENTENNIAL EAST SITE		209,884 NSF
STATE PLANNING	34,540	
PERSONNEL	25,403	
PERSONNEL BD.	222	
HEARING EXAMINRS	4,875	
ATTY GENL	11,218	
SEC. OF STATE	8,406	
OMBUD - CORRS	2,090	
PUB. EMP. REL BD	396	
PUBLIC WELFARE	110,360	
LAW EX/LEVPS PRO	2,951	
HANDICAPPED COUN	2,145	
INVESTMENT BD	7,178	
TOTAL		209,884 NSF
SURPLUS/OVERFLOW		0
TOTAL SPACE PROVIDED		2,123,191
TOTAL SPACE OCCUPIED		2,083,838
NET SURPLUS		39,353

Option Four - Phase I

The new construction in Option Four totals 512,368 NSF with 302,484 NSF at a high access site and the remaining 209,884 NSF to be built at a site east of the Centennial Building in the Capitol Complex. Detailed area assignments for all departments in all included facilities are presented in Exhibit X.5, page 168.

The first step would be to construct the high access site of approximately 302,484 NSF. "High access" could be described as a site along a major arterial, fixed somewhere between the Capitol Complex and the CBD. The prime attractions of this site would be its centrality and good access. The initial task would be to relocate DNR, Public Safety, PCA, Agriculture, and some Attorney General staff and small boards. The backfill of the Centennial Building would be by the same contingent of the Department of Administration and the CAAPB as in Option One. The next move would be to backfill the Transportation Building space made available by the departure of Public Safety. The expansion and consolidation of DOT would occupy the remaining space in the building.

The second step would be to construct a new facility on the Centennial East site. Again, the main advantage of this site is the location and immediate adjacency with other State buildings in the Capitol Complex. Prime tenants in this site would be

EXHIBIT X. 6

DETAILS OF 1% GROWTH OPTIONS

OPTION FOUR

	NEW CONSTRUCTION	LEASE TERMINATIONS	SPACE MOVING	PEOPLE MOVING
Step One - Build High Access Site	302,484			
Task A - Move in:				
1 - DNR		35,661	77,780	517
2 - Public Safety		4,166	63,736	703
3 - PCA		41,551	41,551	312
4 - Agriculture		64,000	64,000	208
5 - Attorney General			6,846	32
6 - Small Boards		5,742	5,742	22
Task B - Backfill Centennial Building				
1 - DOA		11,158	22,872	132
2 - CAAPB			964	2
Task C - Backfill DOT Building				
1 - Expand/consolidate DOT		12,888	12,888	83
Step Two - Build Centennial East Site	209,884			
Task A - Move in:				
1 - State Planning			24,498	179
2 - Personnel		24,415	24,415	112
3 - Public Welfare		26,764	76,019	650
4 - Attorney General			10,909	51
5 - Secretary of State			6,947	31
6 - Small Boards		16,320	16,320	78
Task B - Backfill Centennial Bldg.				
1 - Expand Revenue		20,732	29,668	
SUB-TOTAL	512,368	263,397	485,155	3,112
ADD CONSTANTS (SPACE POPULATION)	0	74,090	80,874	403
TOTAL	512,368	337,487	566,029	3,515

State Planning, Public Welfare, Personnel, Secretary of State, the related Attorney General staff and small boards. Further backfill of the Centennial Building would accommodate consolidation and expansion of Revenue. The detailed phasing of Option Four is shown on Exhibit X.6, page 169 for review.

This option includes two buildings to be constructed of 512,368 total NSF, a total of 566,029 NSF of space moving, and 3515 total people relocating to a new facility.

A total of 2,131,964 NSF of space is provided, 2,083,838 NSF is occupied and the vacant or unassigned space is 39,353 NSF.

Suboptions

If Mechanic Arts High School were renovated and used for occupancy by some of the departments included in this study data base, the scale of initial construction of the new Centennial East facility could be reduced by almost one half or that project could be deferred by about three or four years. If the Agriculture Building lease were continued and the school extensively renovated, the Centennial East project could be deferred as much as eight years as long as the High-Access Site project was initiated as soon as possible.

Option Five - Phase I

Option Five new construction totals 518,249 NSF with 300,000 NSF in a renovated downtown site as in Option One and 218,249 NSF of new construction on the Centennial East site. Detailed space assignments are shown in Exhibit X.7, page 171 .

The first step is to purchase and renovate the downtown site. When the building is ready for occupancy, the first task would be to relocate those large departments also identified in Option One into it and then backfill the Centennial. Building in the same manner as in Option One. Details of the phasing of Option Five are shown in Exhibit X.8, on page 172.

The next step would be to build on the Centennial East site. Primary tenants in that building would be Public Safety, Agriculture, State Planning, Secretary of State and some Attorney General staff and small boards. The backfill of the Transportation Building, similar to that in Option Four, would accommodate the expansion and consolidation of the Department of Transportation.

Totals for Option Five are as follows: new construction of two buildings at 518,249 NSF, lease terminations of 337,487 NSF, 566,028 NSF of space moving, and 3,483 total State employees relocating.

A total of 2,138,045 NSF is provided, 2,083,838 NSF is occupied and the vacant or unassigned space is 50,967 NSF.

Suboptions

The alternative to this option involves the utilization of the Mechanic Arts site **in** the same way as in Option Four. Agriculture and related boards would not relocate in the Centennial East Building reducing new construction requirements at Centennial East to 157,856 NSF or deferring the project three years. If the Agriculture Building lease is continued, the project could be deferred up to eight years with the use of the school.

B. PHASE II AND III DEVELOPMENT

In all options presented, five potential sites are employed:

- a Centennial East site;
- a high access site;
- a suburban site;
- a general office building within the Capitol Complex; and,
- a downtown building acquisition and renovation.

Phase II expands upon Phase I while Phase III utilizes sites not previously included in the Option. Phase II adds about 300,000 NSF to the inventory and is roughly equal to the difference

OPTION FIVE
1 % GROWTH

EXHIBIT X. 7

Existing Buildings

•ADMINISTRATION 53,149 NSF

DOA	47,569
ATTORNEY	1,557
FINANCE	28,768
TREASURER	7,511
TOTAL	52,035 NSF
SURPLUS/OVERFLOW	1,114

•CAPITOL ANNEX 3,755 NSF

HUMANE SOCIETY	940
GOV. OFC. VOL. SVCS.	780
TOTAL	1,720 NSF
SURPLUS/OVERFLOW	1,535

•CAPITOL BUILDING 19,745 NSF

GOVERNOR	7,998
LT. GOVERNOR	1,440
LAW LIBRARY/ATTY	9,115
TOTAL	18,553 NSF
SURPLUS/OVERFLOW	1,192

•CAPITOL SQUARE 167,931 NSF

EDUCATION	91,410
EDUC. RLTD.	43,011
MOIS	2,180
ATTY. GENL.	2,631
DOA (Publicens)	1,500
RETIREMENT SYST.	26,622
TOTAL	167,354 NSF
SURPLUS/OVERFLOW	577

•CENTENNIAL BUILDING 227,232 NSF

REVENUE	133,980
CAAPB	1,100
DOA (ISD)	37,892
DOA (Publicens)	2,200
ATTY. GENL.	9,827
DOA	25,550
TOTAL	210,549 NSF
SURPLUS/OVERFLOW	16,683

•CHAMPION BUILDING 35,858 NSF

DOA (Motor Pool)	35,858
TOTAL	35,858 NSF
SURPLUS/OVERFLOW	0

•DNR LICENSE CENTER 4,814 NSF

E.O.E.T.	3,216
FIL.PRCTCS.	1,230
TOTAL	4,446 NSF
SURPLUS/OVERFLOW	368

•FORD BUILDING 42,553 NSF

DOA	23,116
LAW LIBRARY	11,345
ATTY. GENL.	5,155
TOTAL	39,616 NSF
SURPLUS/OVERFLOW	2,937

•GROUNDS SERVICES 7,290 NSF

DOA	7,290
TOTAL	7,290 NSF
SURPLUS/OVERFLOW	0

•HISTORICAL SOCIETY 68,408 NSF

HISTORICAL SOC.	68,966
TOTAL	68,966 NSF
SURPLUS/OVERFLOW	558

•MAINTENANCE/POWER HOUSE 24,619 NSF

DOA	24,619
TOTAL	24,619 NSF
SURPLUS/OVERFLOW	0

•MATERIALS MANAGEMENT 9,302 NSF

HEALTH BOARDS	7,150
INDIAN AFFAIRS	1,500
TOTAL	8,650 NSF
SURPLUS/OVERFLOW	652

•1246 UNIVERSITY 62,338 NSF

PUBLIC SAFETY	62,338
TOTAL	62,338 NSF
SURPLUS/OVERFLOW	0

•HEALTH BUILDING 112,430 NSF

HEALTH DEPT.	113,210
TOTAL	113,210 NSF
SURPLUS/OVERFLOW	780

•VETERANS BUILDING 40,039 NSF

ALL VETS RLTD	29,134
MEDIATION SRVCS	5,340
STATE AUDITOR	5,365
TAX COURT	1,386
MUNICIPAL BD.	1,025
TOTAL	42,300 NSF
SURPLUS/OVERFLOW	2,261

•1500 MISSISSIPPI 70,000 NSF

HISTORICAL SOC.	70,000
TOTAL	70,000 NSF
SURPLUS/OVERFLOW	0

•TRANSPORTATION BUILDING 234,214 NSF

DOT	214,020
DOA (Pub)	5,840
TOTAL	218,860 NSF
SURPLUS/OVERFLOW	15,354

•SPACE OCCUPIED IN LEASED BUILDINGS

AMERICAN CENTER	55,759
BREMER ARCADE	14,590
HANOVER	13,649
HENNEPIN SQUARE	2,200
390 N. ROBERT	94,199
NALPAK	53,626
METRO SQUARE	73,944
SPACE CENTER	48,137
2829 UNIVERSITY	6,534
1015 CURRIE	8,760
SUBTOTAL	371,398
NEW LEASES (@ 1%)	12,707
FARM CREDIT BANK	43,441
TOTAL	427,546

New Buildings

•DOWNTOWN RENOVATION 300,000 NSF

DNR	98,022
PUBLIC WELFARE	110,360
PERSONNEL	25,403
PERSONNEL BD.	222
ATTY. GENL.	4,913
POLLUTION CONT.	53,108
OMBUD.- CORRS.	2,090
TOTAL	294,118 NSF
SURPLUS/OVERFLOW	5,882

•CENTENNIAL EAST SITE 218,249 NSF

PUBLIC SAFETY	74,742
AGRICULTURE	65,280
ATTY. GENL.	13,506
STATE PLANNING	35,540
HEARING EXMRS	4,875
LIVESTOCK SAN BD	3,280
SEC. OF STATE	8,406
PUB. EMP. REL BD	396
LAW EX/LWYRS PRO	2,951
HANDICAPPED COUN.	2,145
INVESTMENT BD.	7,178
WATER RESOURCES	950
TOTAL	218,249 NSF
SURPLUS/OVERFLOW	0

TOTAL SPACE PROVIDED	2,129,072
TOTAL SPACE OCCUPIED	2,083,838
NET SURPLUS	45,234

between 1% and 2½% growth requirements. Phase III would require construction of 750,000 NSF beyond the Phase II space requirement of 2,470,000 NSF. Details of how Phases II and III evolve follow:

Option One - Phase II and III

In Option One, Phase II adds a new 206,000 NSF general office building in the Capitol Complex and expands the suburban building by approximately 80,000 NSF. Phase II adds 284,595 NSF in total.

In Phase III, a Centennial East Building would be developed to provide 450,000 NSF and a high access site of 300,000 NSF would be completed. Total space added by the conclusion of Phase III would be 1,556,000 NSF, an increase of the current space inventory by over 80%. A total space inventory of 2,466,114 NSF is provided as shown in Exhibit X.9. Phase II is an easy transition from Phase I.

In Option One, significant changes to evolve to Phase II include:

- TRANSPORTATION BUILDING - State Planning, Secretary of State and some small boards vacate and are replaced by all Retirement Systems personnel, Department "X" and the expansion of agencies then in the building.

EXHIBIT X. 8

DETAILS OF 1% GROWTH OPTIONS

OPTION FIVE

	NEW CONSTRUCTION	LEASE TERMINATIONS	SPACE MOVING	PEOPLE MOVING
Step One - Buy and Renovate Downtown Site	300,000			
Task A - Move In:				
1 - DNR		35,661	77,780	517
2 - Public Welfare		26,764	76,019	650
3 - Personnel		24,415	24,415	112
4 - Pollution Control		41,551	41,551	312
5 - Attorney General			4,736	22
6 - Small Boards		2,309	2,309	12
Task B - Backfill Centennial Building				
1 - DOA		11,158	22,872	132
2 - CAAPB			964	2
3 - Expand Revenue		20,732	29,668	
Step Two - Build Centennial East Site	218,249			
Task A - Move In:				
1 - Public Safety		4,166	63,736	703
2 - Agriculture		64,000	64,000	208
3 - Attorney General			13,018	61
4 - State Planning			24,498	179
5 - Small Boards		19,753	19,753	78
6 - Secretary of State			6,947	31
Task B - Backfill DOT Building				
1 - Expand/Consolidate DOT		12,888	12,888	83
SUB-TOTAL	518,249	263,397	485,154	3,102
ADD CONSTANTS (SPACE POPULATION)	0	74,090	80,874	403
TOTAL	518,249	337,487	566,028	3,505

- DOWNTOWN RENOVATION PROJECT - Pollution Control moves out and the Indian Affairs Intertribal Board moves in and existing agencies located there expand.

- SUBURBAN SITE - Pollution Control moves in, increasing the amount of space from 221,405 to 298,132 NSF and the Department of Transportation expands.

- GENERAL OFFICE BUILDING - A new building to be constructed on a site northwest of the State Capitol Building would contain State Planning, Secretary of State, smaller boards, and a sizable portion of Department "X". The building would total 206,525 NSF.

Option Four - Phase II and III

In Option Four, Phase II expands the high access site to 355,000 NSF and expands the Centennial East site to 465,000 NSF. A total of 307,632 NSF are added to increase the total inventory to 2,460,708 NSF. In Phase III, Centennial East grows by 125,000 NSF, a General Office Building is developed at 250,000 NSF, and a suburban service center would be programmed at 385,000 NSF, similar in occupants to the one developed in Option One. A total of 760,000 NSF is added in Phase III, bringing the total space inventory increase to 1,580,000 NSF.

In Option Four the following changes would occur:

- HIGH ACCESS SITE - The building would grow from 302,484 to 334,719 NSF, an increase of 32,235 NSF. Both the Livestock Sanitary Board and the Water Resources Board would move out, and the space vacated would be occupied by the expansion of the agencies then in the facility.

- CENTENNIAL EAST SITE - This site would increase from 209,884 to 464,532 NSF, an increase of 254,648 NSF. All Retirement Systems Personnel, Livestock Sanitary Board, Water Resources Board, Indian Affairs Intertribal Board, Ethical Practices Board, and a significant portion of Department "X" would occupy the added space.

Option Five - Phase II and III

Phase II in Option Five simply adds 281,751 NSF to the Centennial East Building. When Phase II is completed, the space inventory will total 2,460,708 NSF. In Phase III, a suburban site service center is added at 300,000 NSF, a general office building is developed in the Capitol Complex at 185,000 NSF, and a high access site facility is added at 265,000 NSF. A total of 750,000 NSF is added to the inventory.

Option Five requires the following changes to evolve from Phase I to Phase II:

- DOWNTOWN RENOVATION - Pollution Control and Ombudsman for Corrections leave the facility to allow for the expansion of remaining agencies and the inclusion of some portion of Department "X".

- CENTENNIAL EAST SITE - The Handicapped Council vacates and Pollution Control, Ombudsman for Corrections and a large portion of Department "X" moves in. These additions, along with the growth of the remaining agencies, account for the 281,002 NSF of growth from 218,249 to 499,251 NSF at Centennial East.

Comparison of All Phases for All Three Options

A comparison of construction or renovation levels of activity for all three development phases for the three options is presented in Exhibit X.9 for review. As can be seen in Exhibit X.9 the three options are very consistent and provide nearly identical incremental and total amounts of net area in each of the three phases of development. By the time Phase III is completed, just over 1.5 million NSF will have been added to the total space inventory which will then equal nearly 3.25 million NSF. All three Options are comparable and accommodate the same growth level. Exhibits X.10 through X.12 on the next pages illustrate the main components of the Phases I and II of all three options.

C. GROWTH BEYOND PHASE II AND III

Once the personnel and space inventory grows beyond the 2½% rate which supports a maximum of 13,000 State employees and provides 2,470,000 NSF, Phase II is completed and Phase III initiates.

It is clear that the Capitol Complex will become increasingly congested and that, even with at least one new site to accommodate growth at both 1% and 2½% levels, long range trends must lead to an eventual decentralization of those agencies that have less than critical needs to be in or near the Capitol Complex.

Exhibit X.13 on page 178, presents staffing projections through the year 2000 at five different growth rates. This exhibit focuses on long term growth and the need for flexibility. Phase III will support upwards of 17,000 employees and provides a total of nearly 3,200,000 NSF of space.

Beyond Phase III, growth will continue and be satisfied by the further development of the suburban site that was used in earlier phases and by the construction of a suburban service center to allow the relocation of departments and special purpose facilities (i.e., records center, warehouse, maintenance) from existing buildings in the Capitol Complex that can then be used to support further growth of departments that have a critical need to remain adjacent to one another within the Capitol Complex.

Suburban Service Center

The suburban service center developed in Phase IV for all three options, is the only site included in Phase IV where potential occupants could be presently identified. The other sites for Phase III and Phase IV would be programmed as general office space for unspecified tenants at this time.

EXHIBIT X. 9

TOTAL NSF SPACE PROVIDED

	TOTAL NET SQUARE FEET PROVIDED		
PHASED DEVELOPMENT	OPTION ONE	OPTION FOUR	OPTION FIVE
Phase I Total	521,405	512,368	518,249
Phase II Additional	284,595	307,632	281,751
Phase II Total	806,000	820,000	800,000
Phase III Additional	750,000	760,000	750,000
Phase III Total	1,556,000	1,580,000	1,550,000
Phase I Space Provided	2,132,228	2,123,191	2,129,072
Phase I Space Occupied	48,390	39,353	2,083,838
Surplus NSF			
Surplus %	2.27%	1.85%	2.12%
Phase II Space Provided	2,466,114	2,460,708	2,460,708
Phase II Space Occupied	2,470,000	2,470,000	2,470,000

EXHIBIT X.10

OPTION ONE

PHASE ONE

SUBURBAN SITE

221,405 NSF

- Transportation	214,020
- Atty. Gen.	7,385

DOWNTOWN RENOVATION

300,000 NSF

- Natural Resources	98,022
- Public Welfare	110,360
- Personnel	25,403
- Pollution Control	53,108

PHASE TWO

SUBURBAN SITE

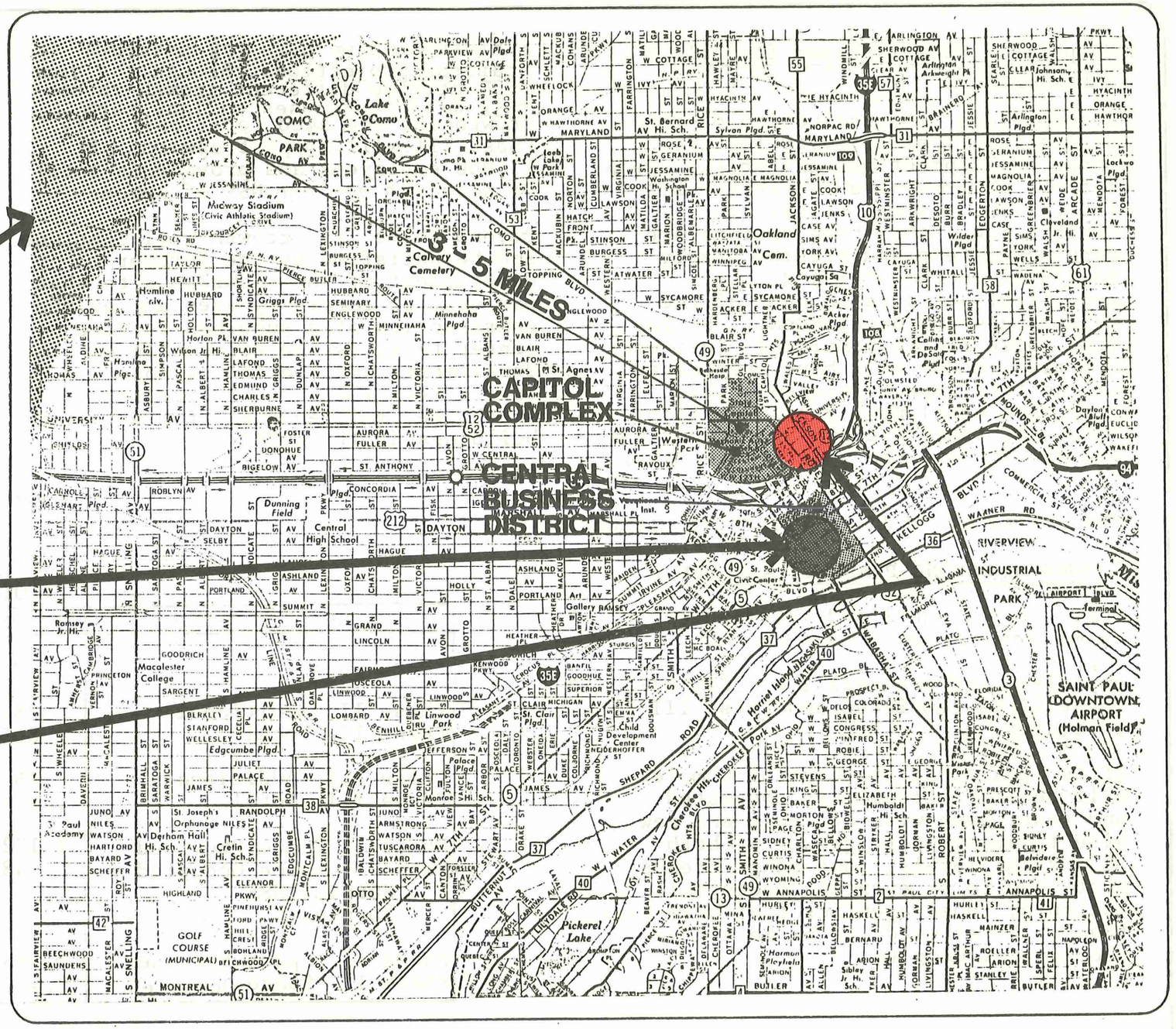
78,070 Additional NSF

-Add PCA	55,238

CENTENNIAL EAST SITE

206,525 NSF

-Add State Planning	39,564
-Add Department 'X'	128,734
-Add Secretary of State	8,650



MINNESOTA STATE FACILITIES MASTER PLANNING PROCESS

FACILITY SCIENCES CORPORATION - HODNE/STAGEBERG PARTNERS

EXHIBIT X.11

OPTION FOUR

PHASE ONE

CENTENNIAL EAST SITE

209,884 NSF

- State Planning	34,940
- Personnel	25,403
- Public Welfare	110,360
- Sec. of State	8,406
- Atty. General	11,318

HIGH ACCESS SITE

302,484 NSF

- Natural Resources	98,022
- Public Safety	74,742
- Pollution Control	53,108
- Agriculture	65,280

PHASE TWO

HIGH ACCESS SITE

32,235 Additional NSF

CENTENNIAL EAST SITE

254,648 Additional NSF

- Add Retirement Systems 29,756

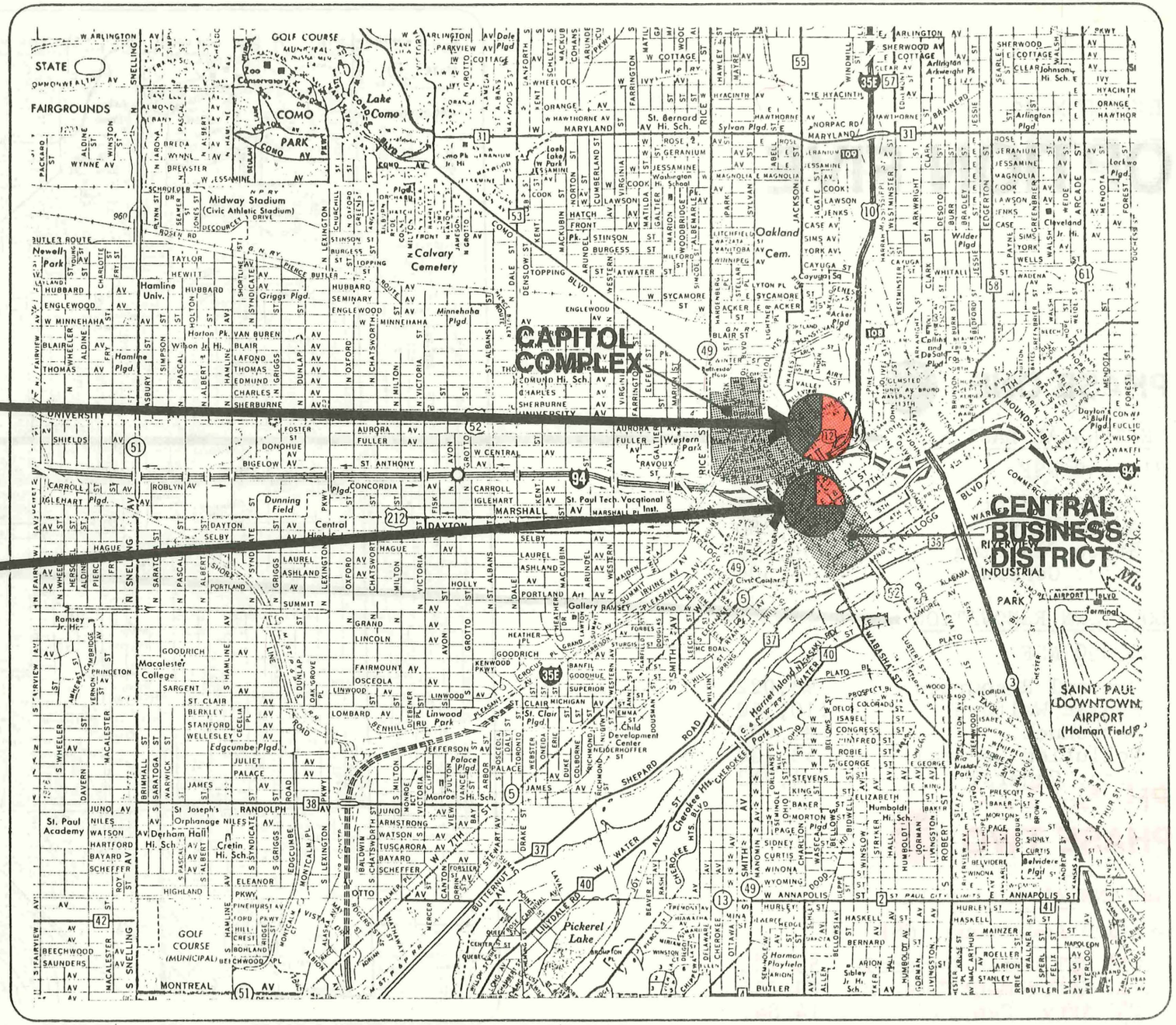


EXHIBIT X. 12

OPTION FIVE

PHASE ONE

CENTENNIAL EAST SITE

218,249 NSF

- Public Safety	74,742
- Agriculture	65,280
- State Planning	34,540
- Atty. General	13,506

DOWNTOWN RENOVATION

300,000 NSF

- Natural Resources	98,022
- Public Welfare	110,360
- Personnel	25,403
- Pollution Control	53,108
- Atty. General	4,913

PHASE TWO

CENTENNIAL EAST SITE

281,002 Additional NSF

- Add Pollution Control	53,108
- Add Retirement Systems	29,756
- Add Atty. General	14,841

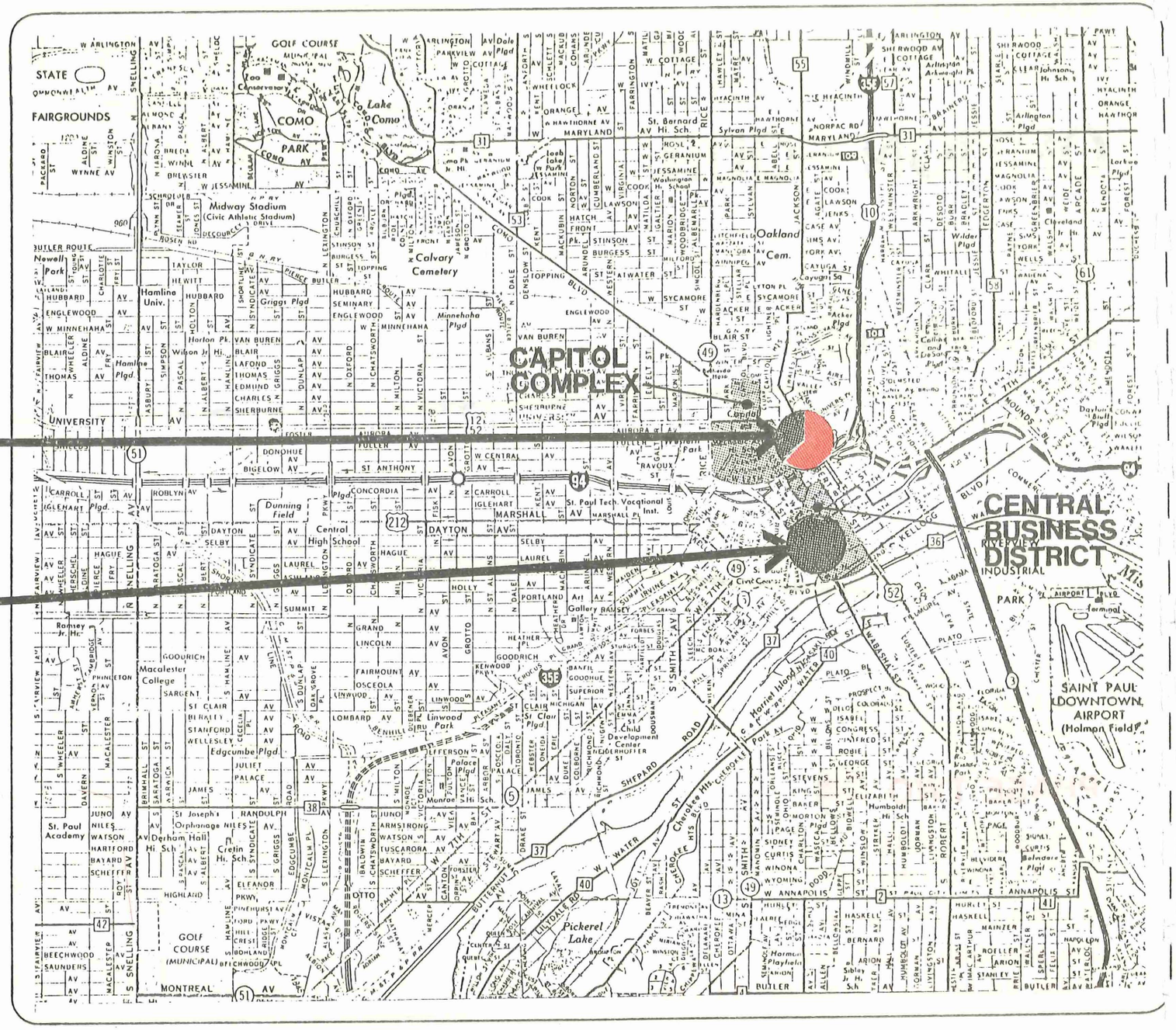


EXHIBIT X. 13

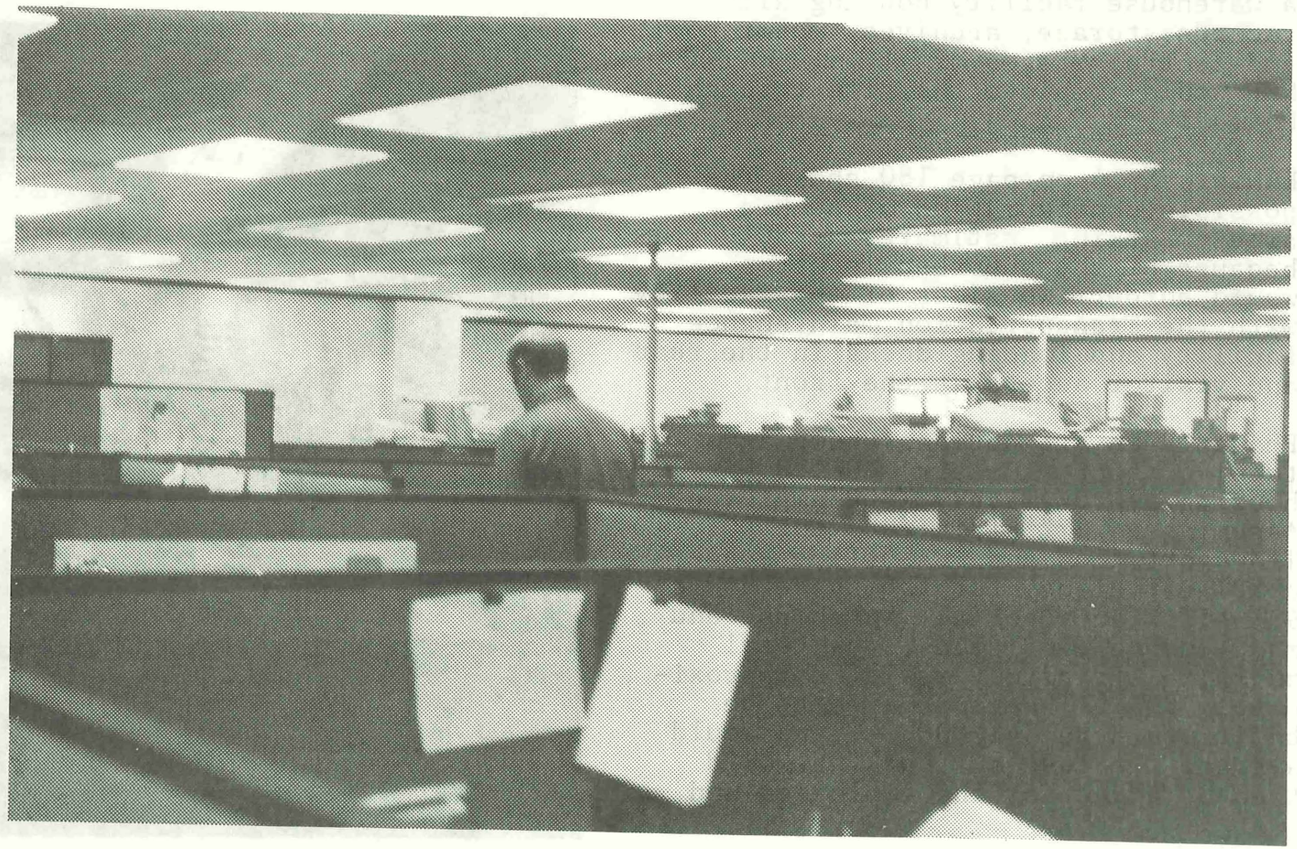
STATE EMPLOYEE GROWTH - CURRENT TO YEAR 2000

Annual Compound Growth Rate

Year	1%	2%	2½%	3%	4%	
1979	9,878	9,878	9,878	9,878	9,878	
1980	9,977	10,076	10,125	10,174	10,273	← Phase I CAPACITY
1981	10,077	10,277	10,378	10,480	10,684	
1982	10,177	10,483	10,638	10,794	11,111	
1983	10,279	10,692	10,903	11,118	11,556	
1984	10,382	10,906	11,176	11,451	12,018	← Phase II CAPACITY
1985	10,486	11,124	11,455	11,795	12,499	
1986	10,591	11,347	11,742	12,149	12,999	
1987	10,696	11,574	12,035	12,513	13,519	
1988	10,803	11,805	12,336	12,889	14,059	
1989	10,911	12,041	12,645	13,275	14,622	
1990	11,021	12,282	12,961	13,673	15,207	← Phase III CAPACITY
1991	11,131	12,528	13,285	14,084	15,815	
1992	11,242	12,778	13,617	14,506	16,448	
1993	11,355	13,034	13,957	14,941	17,106	
1994	11,468	13,294	14,306	15,390	17,790	
1995	11,583	13,560	14,664	15,851	18,501	
1996	11,699	13,832	15,031	16,327	19,241	
1997	11,816	14,108	15,406	16,817	20,011	← Beyond Phase III
1998	11,934	14,390	15,791	17,321	20,811	
1999	12,053	14,678	16,186	17,841	21,644	
2000	12,174	14,972	16,591	18,376	22,510	

EMPLOYEE/SPACE PROJECTIONS

PHASE	STATE EMPLOYEES	SPACE REQS.	AREA FACTOR
I	11,021	2,090,000	190
II	12,961	2,470,000	190
III	17,000	3,220,000	189



A suburban service center would be phased in its growth. The initial tenant at the suburban site, no matter when developed, would be the Transportation laboratories with 60,000 NSF and the Transportation Maintenance facility, including yard storage, requiring 80,000 NSF. The next step would be to relocate about 175,000 NSF of DOT general office space. Next, the remainder of DOT and PCA including about 6,000 NSF of laboratory space and totaling 55,000 NSF, would move in. Finally, a warehouse facility housing all records storage, archives, motor pool, and central stores of about 100,000 NSF would complete the site through Phase IV.

Exhibit X.14 on page 180 shows the possible configuration of such a site. Parking, estimated at 70% because of the suburban location, would border two sides of the facility with the Transportation maintenance facility and loading docks in the rear and visitor access at the front.

Phase IV in all options shows a total of approximately 470,000 NSF housing approximately 1800 employees. Assuming an 87% efficiency for DOT, Transportation and PCA office space, a 70% efficiency for lab space and a 95% efficiency for all warehouse and maintenance facilities, the total building efficiency would be approximately 87%. The gross area to be built would be 541,000 GSF and would average two levels. Parking would then be added for the employees and visitors. A total of 1350 spaces, at 325 square feet per space would require approximately 439,000 square feet of land. Finally, landscaping, setbacks, exterior circulation, and other related factors would add an additional 450,000 square feet - requiring the total site to be approximately 1,250,000 square feet or almost 30 acres.

This 30 acres could be reduced if certain options were utilized. For instance, if parking were developed in a three level ramp bordering the building, the size of the site could be reduced to 25 acres. In addition, if landscaping, setbacks and external circulation were reduced to a minimal level, the site could be reduced to 20 to 22 acres. A variety of options



EXHIBIT X. 14

PROTOTYPICAL SUBURBAN SERVICE CENTER

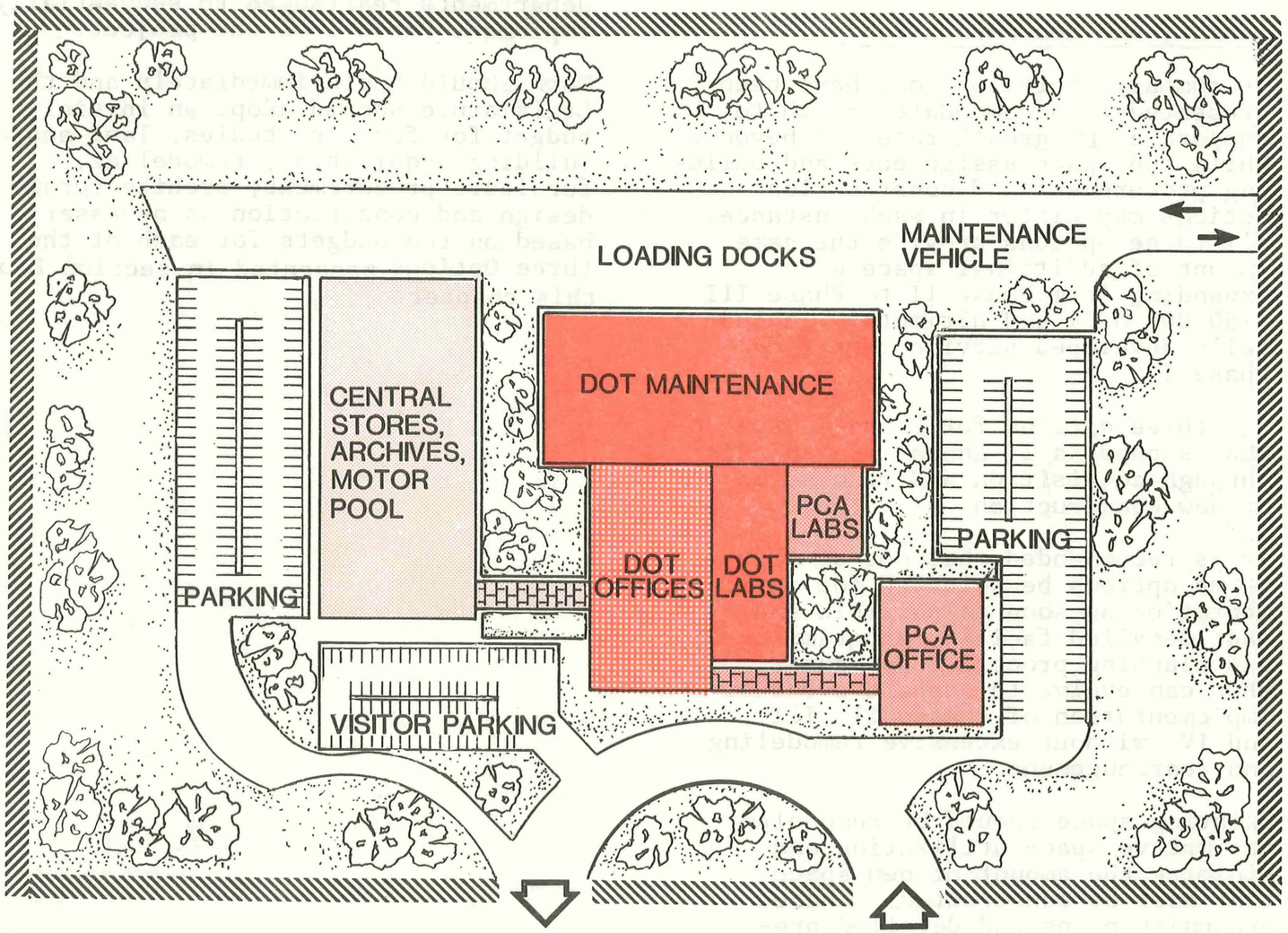
TOTAL SITE COVERAGE (EST.):	35 ACRES
DOT LABS:	60,000 NSF
DOT MAINTENANCE:	80,000 NSF
DOT OFFICE:	175,000 NSF
PCA LABS:	6,000 NSF
PCA OFFICE:	49,000 NSF
CENTRAL STORES, ETC.:	100,000 NSF
TOTAL ASSIGNABLE NSF:	470,000 NSF
GROSS SQUARE FOOTAGE:	553,000
PERSONNEL (EST.):	1800 EMPLOYEES
PARKING (1800 @ 70%):	1260 SPACES

STEP ONE

STEP TWO

STEP THREE

STEP FOUR



for building configurations and building heights are available to further reduce the site area.

Summary and Recommendation

In summary, three options have been presented to accommodate growth to support a 1% growth rate and beyond. While the space assignments and building procurement and construction actions may differ in each instance, all three options provide the same amount of additional space when expanding from Phase II to Phase III (750,000 NSF) and ultimately include a fully developed service center in Phase IV.

All three options for Phase I development support a 1% annual growth rate through acquisition and renovation or new construction.

It is recommended that one of the three options be selected for implementation as soon as possible and that detailed facility programming and planning proceed in a manner that can evolve to support eventual implementation of Phases II, III, and IV without extensive remodeling and rearrangement.

Existing space should be remodeled to improve space utilization and minimize the amount of new space that must be constructed. Phased expansion plans and detailed pre-architectural studies should be an integral part of the planning process.

Open office planning concepts should be explored and space utilization can be improved as spaces are remodeled and departments rearranged to sequentially implement Phase I of the project.

Work should begin immediately and the Legislature should adopt an initial budget for further studies, land and/or building acquisition, remodeling, furniture procurement, architectural design and construction as necessary based on the budgets for each of the three Options presented in section E of this chapter.

D. PARKING REQUIREMENTS

The provision of adequate and properly-located employee parking in the Capitol Complex has been a problem to the State for a long time. History has shown there is not enough parking available for State employees who drive to work, particularly during the Legislative Session. The Hiwayan Club has gone so far as to rent an additional 300 spaces on privately owned land for State employees. This still however, does not alleviate the total problem.

Through questionnaire responses and interviews with department management, requirements for employee parking, visitor parking, and State-owned vehicle storage was determined. In addition, prior studies relative to carpooling and parking requirements in the Capitol Complex, most notably the "Parking Plan for the Minnesota State Capitol Area 1973" and two carpooling studies, "Carpooling: A Summary Report; Twin City Area, 1974" and "Evaluation of the Capitol Complex Carpool Match of November, 1975" were used to establish a portrait of parking in the Capitol Complex area. Exhibit X.15 summarizes this data below.

EXHIBIT X. 15

PARKING REQUIREMENTS DATA SOURCE	% PARKING
1. Carpool study - 1975	68%
2. Twin City carpool study - 1974.	65%
3. Current allocation/utilization (3300 - 6000) + visitors	60%
4. 1979 employee survey - CBD	49%
5. 1979 employee survey - Capitol.	60%

Estimates of the current number of State employees driving to work, the quantity and duration of visitor stays and State-owned vehicle parking requirements were calculated and are presented in Exhibit X.16. These estimated parking requirements were then projected through 1990 in proportion to the 1% and 2½% growth rates.

EMPLOYEE PARKING REQUIREMENTS IN THE CAPITOL COMPLEX

Analysis indicates that currently 58% of the State employees require parking on a daily basis. This figure was derived from a detailed analysis of questionnaire responses plus information generated in the referenced studies. Assuming an allocation of one parking space per person driving to work alone, one space per five riders in a van pool and one space for every three riders in a car pool, a parking allocation percentage of 58% of the total Capitol Complex State employee population would be required. The Consultant subsequently reduced the reliance on this parking allocation for the Captiol Complex by anticipating future increased reliance on car pools and existing (or new) mass transit systems. Thus, a 55% parking allocation rate for State employees in the Capitol Complex is assumed. This percentage is to be applied to both 1% and 2½% growth rate levels.

DOWNTOWN EMPLOYEE PARKING REQUIREMENTS

Because of the existing transit systems available for downtown use, projections show that a 50% parking allocation for downtown State employees is reasonable. This reduction of 5% from the Capitol Complex percentage is due to the availability and efficiency of public transit systems and the resultant employee accessibility to work.

In support of available space in the CBD area, in October of 1979, the Mayor of St. Paul announced the beginning of a campaign to improve the downtown parking situation. In November of 1979, 800 additional parking spaces were made available to all downtown workers, utilizing a shuttle system to transport workers from fringe parking sites to the downtown area. Indications are for more parking being made available by this service.

EXHIBIT X. 16

CAPITOL COMPLEX PARKING

	PARKING REQ'MENTS		
EMPLOYEE PARKING	NOW	1%	2½%
Total employees	5,290	5,902	6,941
Current (58%)	3,068	-	-
Projected (55%)	-	3,246	3,817
Total employee parking			
Stalls req'd (off st.)	3,068	3,246	3,817
Total stalls avail.	2,861	2,861	2,861
Shortage of Spaces	207	385	956
VISITOR PARKING			
Tot. avg. visitor spaces required	235	262	308
Total available on street parking	633	633	633
Surplus Spaces	398	371	325

PARKING REQUIREMENTS AT A SUBURBAN LOCATION

If a suburban location is chosen for a new facility, it will be necessary to increase the allocation of parking spaces for employees to 70% to reflect the probable decease in availability of mass transit and a decrease in the use of car pooling by employees who previously pooled with other State employees who continue to work in the Capitol Complex Area.

INVENTORY OF PARKING SPACES

An inventory of available parking spaces indicates the State currently provides 3090 off-street parking spaces either in parking ramps or open lots within the Capitol Complex. Of this total, 529 spaces are contract parking available year round for use by the Legislature. In addition, the Hiwayan Club rents 300 spaces. A total of 2861 parking stalls are currently available for those State employees included within this study after excluding those assigned to the Legislature.

EMPLOYEE PARKING REQUIREMENTS

Assuming a current parking allocation rate of 58%, 3068 State employees within the Capitol Complex population of 5290 employees require parking. Compared to the 2861 total spaces available, a current shortfall of 207 parking spaces is indicated. This shortfall reflects the shortage of employee parking spaces in the Capitol Complex and results in employees using on-street facilities that could be used by visitors. Many of those State employees interviewed stated they parked in metered parking during the day and periodically had to leave work to add more coins to the parking meter.

Utilizing a 55% allocation level, employment projections for 1990 at a 1% growth rate indicate a need for 3246 parking spaces (a shortage of 385 stalls) and at 2½, a need for 3817 spaces (a shortage of 956 spaces). This data is detailed in Exhibit X. 16, pg. 182.

VISITOR PARKING REQUIREMENTS

The survey found that a total of 235 spaces should be provided to accommodate visitors to the Capitol Complex. For planning purposes, a ratio of one visitor parking space for every twenty State employees is assumed.

Currently in the Capitol Complex, there are 233 city-metered, on-street and 84 state-metered, on-street parking spaces for a total of 317 available on-street spaces in the Capitol Complex area. In addition, approximately 316 metered spaces, mostly in parking ramps, are provided, raising the available visitor parking total to 633 spaces.

While it would appear the required number of visitor spaces of 235 would easily be accommodated by the available meters, this is not necessarily the case. While visitor loads were expressed as an average, during the summer months visitor and tourist levels increase considerably, filling up the excess spaces. While the Legislature is not in session during these months and their demands on visitor parking spaces eased, the situation could become strained as the population within the Capitol Complex grows.

SUMMARY OF ADDITIONAL PARKING REQUIREMENTS

Available parking within the Capitol Complex is insufficient to accommodate current needs and will become more acute at both 1% and 2½% growth levels. Assuming peripheral growth occurs around the Capitol Complex and the legislative allotment of 529 spaces remains constant over the next ten years, an increased need of approximately 400 spaces at a 1% growth rate and 950 spaces at a 2½% growth rate are presented in Exhibit X.16.

This 2½% growth allotment of 950 additional spaces at the 55% allocation level would support an additional 1727 employees located within the Capitol Complex. Allowing for an area factor of 190 NSF per person, this would call for adding approximately 328,000 NSF to support a 2½% growth. This 328,000 NSF is well within space allocations for a new building at the Centennial East site. Thus, the shortfall of parking spaces projected for the future at either a 1% or 2½% growth rate can be accommodated by the

parking provided by the construction of a new facility. If an option is selected for implementation that does not include a new facility in the Capitol Complex, the growth would be stabilized and only the current shortage of 277 parking spaces needs to be satisfied by the land acquisition and the construction of a small, but expandable, parking structure.

PARKING COST ANALYSIS

A comparative analysis of the costs associated with developing additional parking in three different areas through the use of surface parking and parking structures was developed. The analysis was done on an overall level and costs per parking space and total life-cycle costs for parking assumed the development of the total number of spaces that would be required at a 2½% growth rate at different locations. This results in around 1,100 additional spaces required in either the Capitol Complex or "high access" areas and 1,363 spaces required in a suburban location. As indicated in Exhibit X.17, development costs, average cost per car, unit operating costs, life-cycle costs, and total operating costs are calculated for each of the three site alternatives. The wide range in development costs between an urban location and a suburban location is due primarily to the differing land costs between the two areas. It is important to note that the cost analysis includes those costs associated with providing employee parking over a thirty year period. Initial capital development costs range from $7,288 per car in the urban area to $2,242 per car in a suburban site.

The unit operating cost per stall per year would remain constant at $110 for both the Capitol Complex and urban St. Paul areas, but is reduced to $30 in a suburban site. Therefore, the total costs of providing parking in the Capitol Complex ($10,164,685) and the St. Paul Central Business District ($10,936,888) vary dramatically from the suburban location costs of $4,283,228.

CONCLUSIONS AND SUMMARY OF PARKING RECOMMENDATIONS

The State must take into account a number of issues in determining the site(s) for locating new parking and new office space. Such issues as downtown development, the people mover, and the selection of the master plan option to implement will all dictate the most logical location for a new parking facility. Obviously, cost performance is given to a suburban location where employees would only have to reimburse the State around $15 per month to park as opposed to a CBD location where a break-even cost of over $50 per stall per month is calculated.

Adequate parking facilities should be provided for all State employees, expected visitors, and State owned vehicles that may be "housed" in the parking facilities that are directly related to the departments included in any new building. The State must assure an adequate number of parking spaces are in fact available at a ratio of one space per 1.82 employees (a ratio of 55% in the Capitol Complex area); at a ratio of one space per 2 employees at a downtown location (an allocation of 50%); and at a ratio of 1 space per 1.43 employees in a suburban location (an allocation of 70%).

Additional allowances must be made in any new facility to accommodate the expected number of visitors. When a particular building project is selected for implementation and departments to be included are determined, a re-analysis of specific visitor parking requirements for those departments should be completed. In general, visitor parking for each department or agency may range from as low as 1 visitor space per 100 employees (a 1% allocation) to as high as 1 visitor space per 10 employees (a 10% allocation). Certain very small agencies or those with extensive public contact would need the higher allocation.

Overall, the survey found that visitor parking requirements for 235 autos in the State Capitol Complex adequately support the employee population of approximately 6000 employees. This represents an allocation of approximately one visitor parking space per 25 employees (a ratio of 4%). Thus, if the employee parking allocation in a

downtown location was assumed to be one space per 2 employees (50%) and visitor parking was required to the same extent as the current "average" of 4%, then an overall parking level of 54% (a ratio of one space per 1.85 employees) should be provided.

The State must assure that adequate parking is available. However, this doen not mean the State must invest capital funds to construct that parking if private enterprise can provide the facilities. Thus, employees could make their own arrangements for parking and the State could lease, construct, or in other ways acquire additional parking to provide convenient parking facilities for visitors. The State may have to assume responsibility for constructing parking facilities, particularly when significant new construction is required in a location where parking is not available, such as the Centennial East site or a suburban location. In downtown areas, additional parking facilities could be provided by private enterprise and made available to employees on a "pay-as-you-go" basis.

If the State is required to procure additional land and construct additional parking facilities, be they surface parking lots or structured facilities, the parking policy recommended by the Consultant requires all costs associated with the acquisition and construction of parking facilities and the annual maintenance and operation of those

EXHIBIT X. 17

ANALYSIS FACTOR	PROJECT LOCATION URBAN	CAPITOL COMPLEX	SUBURBAN
REQUIREMENTS			
1. Total Additional Employees	1,651	1,651	1,651
2. Parking Requirement Allocation	50%	55%	70%
3. Spaces Required for Add'l Employees	826	908	1,156
4. Current Space Deficient	207	207	207
5. Total Parking Space Shortage	1,033	1,115	1,363
COST AND SPACE FACTORS			
6. Land Costs/GSF	$25	$15	$3
7. Operating Cost/Stall/Year	$110	$110	$30
8. Construction Cost/GSF - Surface	---	---	$3
9. Construction Cost/GSF - Structure	$15	$13	---
10. Space Per Stall	385 GSF	365	325
11. Total Area Required	397,705 GSF	406,975	442,975
12. Land Area Required	62,497 GSF	97,674	575,868
13. Levels of Parking	7	4	1
14. Site Circulation and Open Area	10%	20%	30%
COST ANALYSIS			
15. Total Land Cost	$1,562,413	$ 1,465,110	$1,727,603
16. Construction Cost	$5,965,575	$ 5,290,675	$1,328,925
17. Total Initial Cost	$7,527,988	$ 6,755,785	$3,056,528
18. Unit Developmemt Cost Per Car	$ 7,288	$ 6,059	$ 2,242
19. Life-Cycle Operating Cost (1)	$3,408,900	$ 3,408,900	$1,226,700
20. Total Life Cycle Cost	$10,936,888	$10,164,685	$4,283,228
21. Total Life Cycle Cost Per Car	$ 10,587	$ 9,116	$ 3,143
MONTHLY COSTS			
22. Operating Cost	$ 9.17	$ 9.17	$ 2.50
23. Construction Amortization (2)	$ 43,164	$ 38,736	$ 17,526
24. Construction Amortization/Car	$ 41.78	$ 34.74	$ 12.86
25. Total Monthly Break-Even Cost	$ 50.95	$ 43.91	$ 15.36

(1) Assumes operating cost inflation equals discount rate

(2) 30 yr. financing at 5½%, discounted at 8%

facilities be passed on to State employees. The transfer of parking costs to employees would be proportioned to all employees so that no particular employee group would be "penalized" by having to personally absorb the extremely high monthly parking costs that would be required as a result of the construction of a large new parking structure. These costs, as noted in Exhibit X.17, could exceed $50 per parking stall per month. The total cost to the State of providing all parking facilities and amortizing the initial construction cost of these parking facilities should be calculated and then distributed, to all employees utilizing all parking facilities, on a proportionate basis. This basis should recognize cost differentials for surface parking lots, covered parking structures and enclosed and possibly heated garages.



E. MASTER PLAN OPTION BUDGETS

After the Legislature selects one of the three master plan options presented in Chapter X for implementation, it will be necessary to adopt a budget for the next two years that provides necessary funding for land acquisition, building procurement, continuing space programming and pre-architectural facility planning studies, furniture acquisition, and a number of remodeling projects.

Budgets for each of the three options for all activities that could be completed within the next two years (prior to funding construction of a major new facility) are presented in Exhibit X.18. Budgets appropriate for new construction are also provided in the budget for 1982 and latter years through the completion of all included projects by 1986. All costs are presented within the context of current, early year 1980 costs. Allowances for inflation should be incorporated into resultant budgets after a particular option and time frame is chosen for implementation.

The budget clearly indicates those costs that are common to all three options, those costs that are likely to be incurred during calendar years 1980 and 1981, and those costs likely to be incurred after the beginning of 1982. All of these expenditures will be necessary to complete Phase I of the development process and provide an additional 525,000 NSF of State owned space.

EXHIBIT X. 18

MASTER PLAN OPTION BUDGETS

NO.	COST CATEGORY	CURRENT COST OF ACTIVITY		
		OPTION ONE	OPTION FOUR	OPTION FIVE
	COMMON ACTIVITIES			
A.1	Remodel 400,000 NSF to improve space utilization	$ 4,666,000	$ 4,666,000	$ 4,666,000
A.2	Procure Furniture Systems and installation	3,600,000	3,600,000	3,600,000
A.3	Programming, planning, and interior design	500,000	500,000	500,000
A.4	Contingency for remodeling(15%)	1,314,900	1,314,900	1,314,900
	• Subtotal	($10,080,900)	($10,080,900)	($10,080,900)
B.1	Terminate 74,909 NSF leases and relocate 403 employees into new quarters totaling 80,874 NSF	450,000	450,000	450,000
	UNIQUE ACTIVITIES			
C.1	Purchase existing facility	4,000,000	-	4,000,000
C.2	Planning and design fees	875,000	-	875,000
C.3	Renovation and contingency	8,365,000	-	8,365,000
C.4	Furniture system for 400 personnel and supplemental components for balance of building	1,265,000	-	1,265,000
	• Subtotal	($14,505,000)	-	($14,505,000)
D.1	Purchase suburban site of 25 acres	4,000,000	-	-
D.2	Detailed program of requirements and pre-architectural studies for new facility and consolidated DOT support	200,000	-	-
	• Subtotal	($ 4,200,000)	-	-

(continued)

Inflationary costs are not taken into account nor are any costs associated with the procurement of land for surface level parking or the construction of a parking facility included. As previously indicated, these costs could be born by the State employees who utilize new and existing parking on an actual cost reimbursement basis.

Parking Budgets

Should the cost of procuring land and constructing parking facilities require budgeting by the State even though employees would reimburse these costs at a later date, the parking facility cost analysis discussed earlier in Chapter X indicated total initial costs would be between $3,000,000 and $8,000,000 depending on the option selected for implementation.

In order to support Option Four, the high access site and the Centennial East site costs approaching $8,000,000 would be expected. Should the State select Option One and privately owned parking facilities provide accommodations for those employees assigned to the purchase renovation project and the balance of parking requirements are satisfied at a suburban site, a total initial development cost of $3,000,000 might be anticipated. The Option Five initial development cost would be approximately $5,000,000, again assuming privately provided parking for the downtown renovation.

EXHIBIT X.18
MASTER PLAN OPTION BUDGETS

NO.	COST CATEGORY	CURRENT COST OF ACTIVITY		
		OPTION ONE	OPTION FOUR	OPTION FIVE
E.1	Remodel Centennial Building space vacated by DNR and Welfare	$ 750,000	$ -	$ 750,000
E.2	Planning and design fees	50,000	-	50,000
E.3	Backfill Centennial using existing furniture and rearrange	200,000	-	200,000
	• Subtotal	($ 1,000,000)	-	($ 1,000,000)
F.1	General rearrangement of personnel and miscellaneous remodeling	351,800	200,000	351,800
G.1	Purchase and prepare high-access site	-	3,000,000	-
G.2	Detailed programming and pre-architectural studies for high-access site	-	200,000	-
	• Subtotal		$ 3,200,000	
H	TOTAL 1980-1981 BUDGET	$30,587,700	$13,930,900	$26,387,700

(continued)

Total Budget

For major activities such as land procurement, new construction, or the procurement and renovation of an existing facility, the total initial costs previously presented in Exhibit VIII.24 are used as they have been adjusted to reflect exact net and gross area requirements for each of three master plan options.

A review of Exhibit X.18 indicates that a budget of $30,587,700 is appropriate for funding for 1980 and 1981 for Option One (line H). The budget necessary to support activities for the next two years for Option Four of $13,930,900 is indicated. A similar two year budget for Option Five would be $26,387,700.

Clearly Option Four requires one half the level of expenditures necessary during the next two years as compared to Options One and Five. This results because Option Four does not provide additional space until at least 1984 and construction costs would not be incurred during the first two years. Very little cost difference is noted during the first two years between Option One and Option Five.

Activities that would begin in 1982 and continue well past 1985 are summarized on line O of Exhibit X.18. A budget for subsequent years for Option One of $19,450,000 is indicated. A much larger budget of $61,022,000 is indicated for Option Four.

EXHIBIT X.18
MASTER PLAN OPTION BUDGETS

NO.	COST CATEGORY	CURRENT COST OF ACTIVITY		
		OPTION ONE	OPTION FOUR	OPTION FIVE
	UNIQUE ACTIVITIES-1982 & LATER			
I	Construct suburban facility including design fees, furniture, and contingency of 15%	$16,500,000	-	-
J	Remodel and backfill DOT facility including design fees, furniture, and contingency of 15%	2,600,000	1,300,000	1,300,000
K	General rearrangement of personnel and misc. remodeling	350,000	622,000	270,000
L	Remodel Centennial Bldg. including planning and design fees, furniture procurement, and 15% contingency	-	1,000,000	-
M	Construct Centennial East site facility including design fees, furniture, & contingency of 15%	-	21,200,000	24,500,000
N	Construct high-access site including design fees, furniture, and contingency of 15%	-	36,900,000	-
O	TOTAL BUDGET 1982 AND LATER	$19,450,000	$61,022,000	$26,070,000
P	TOTAL CAPITAL BUDGET	$50,037,700	$74,952,900	$52,457,700

Option Five requires subsequent expenditures of a more modest level of $26,070,000.

Line P presents the total capital costs associated with implementing the three master plan options. These costs include all procurement, renovation, re-arrangement, furniture procurement, construction, and programing, planning and design fees associated with providing approximately 525,000 NSF of additional State owned space but specifically exclude inflationary factors and any costs associated with the development of parking facilities.

A total budget of $50,037,700 is indicated for Option One. Option Five is nearly as cost effective with an indicated budget of $52,457,700. Significant additional capital investment is required to implement Option Four - a total budget of $74,952,900.

Summary Of All Comparative Costs For Master Plan Options

A review of Exhibit VIII.24 on page 140 indicates that Option One has the lowest present value, life-cycle cost and is therefore the most cost effective. It is 6% more cost effective than Option Five and 46% more cost effective than Option Four. A review of Exhibit VIII.25 indicates that total initial implementation costs for new construction only for Option One are 7.3% more cost effective than for Option Five and 58.9% more cost effective that for Option Four.

The data presented in Exhibit X.18 indicates that total capital requirements for Option One activities are $2,414,000 less than those for Option Five and are thus approximately 4.8% more cost effective. In comparison to Option Four, a cost reduction or cost avoidance of almost $25,000,000 is indicated - a savings of 33.2% of the costs that would incurred if Option Four were selected.

Options For Final Consideration

Based on this analysis, the Consultant recommends that Option Four be eliminated from further consideration and that only Options One and Five be further reviewed. The extremely small cost defferentials on both a present value life-cycle cost basis and a total capital cost basis between Options One and Five are not significant.

These two options should be reviewed by the State based on philosophy, concept, overall flexibility, and impact on the community rather than giving any consideration to the relatively insignificant cost differences identified between the two options.

F. IMPLEMENTATION

Options One and Five can provide additional office space within one year by procuring an existing large facility. Option Four would require a minimum of four, and possibly five years to implement and provide the the first increment of additional space. This would necessitate leasing additional space, more double moves and intensify the need to remodel existing space. Clearly, Options One and Five support the immediate needs for additional space, Option Four does not. When the State selects a Master Plan Option for implementation, additional work will be necessary to develop a detailed implementation program, to develop formats for detailing space programming and space planning requirements, and to develop prototypical systems for the preparations of pre-architectural programming and facility planning documents if new construction is indicated.

The Legislature should appropriate funds to allow the implementation of the selected master plan option and the State should immediately initiate activity to improve current space utilization and complete a series of open office planning and furniture system remodeling demonstration projects to validate space saving potentials and to demonstrate the advisability of this approach before plans are initiated for any new facility. Space management guidelines presented in a separate document will help the State implement this planning process and establish proceedures to program and plan new facilities.

GLOSSARY

1. ABSORPTION - The rate at which a building, area, neighborhood, or district is "filled up" by occupants.

2. CLASS A, B, C REMODELING - General levels of remodeling which vary from Class A, extensive remodeling which could include significant movement and/or demolition of walls and fixture replacement to Class C - minimum levels which might merely include placement of acoustical screens or furniture relocation.

3. AMORTIZATION - The repayment of loans through a stream of equal payments over time. A fully amortized loan includes equal payments comprised of both principal and interest and results in a zero balance and the end of the terms.

4. B.O.M.A. - The Building Owners and Managers Association is a national organization which maintains statistics on building occupancies and operational expenses.

5. "BREAK EVEN" LEVEL - A level at which two alternatives are equally beneficial on an economic basis. In this context, "break even" is the annual rental cost at which leased space would neither be more or less attractive than the cost of new construction.

6. BUILDING EFFICIENCY - The percentage of total space within a building that is assignable to the occupying agencies. It excludes elements such as stairwells, elevators, bathrooms and central corridors.

7. HORIZONTAL CIRCULATION - All space within a building dedicated to hallways, breezeways, and lobbies. This is not a part of the building "net" space.

8. VERTICAL CIRCULATION - All space within a building dedicated to stairways, escalators, and elevator shafts. This is also not a part of the building's "net" space.

9. NET SQUARE FEET (NSF) - That amount of space that is actually occupied by a specific agency. It does not include hallways, lobbies, stairways, elevators, or mechanical space such as walls and mechanical closets.

10. NET AREA FACTOR - A number resulting from dividing the total amount of square feet in an agency by the number of personnel. The resultant figure is the average amount of space occupied by an employee in that agency.

11. GROSS SQUARE FEET (GSF) - The total amount of <u>built</u> space within a building. This includes all hallways, lobbies, elevators, stairways, bathrooms, mechanical closets, and interior walls.

12. "SUPPORT SPACES" - Those spaces that are not included in assignable square feet of a specific agency, but "support" its functioning within a building. Such spaces as cafeterias and large general meeting rooms are classified as support spaces.

13. "OPEN" versus "CLOSED" OFFICE PLANNING - Closed office planning makes extensive use of private and semi-private offices with full height walls. Open planning minimizes such offices and usually provides for privacy and acoustical needs through the use of furniture systems and acoustical screens.

14. DOA - The Department of Administration.

15. DOT - The Department of Transportation.

16. DPM - The Downtown People Mover.

17. DNR - The Department of Natural Resources.

18. PCA - The Pollution Control Agency.

19. ISB - The Information Systems Bureau of the Department of Administration.

20. MTC - The Metropolitan Transit Commission which provides bus transportation in the Twin Cities area.

21. CBD - The St. Paul or Minneapolis downtown Central Business District.

22. "HIGH ACCESS" - A term used to define a site along a well-travelled arterial. In this case, a street generally located between downtown St. Paul and the State Capitol Complex.

23. THE "SPINE" - A geographic area in St. Paul bounded by Cedar, University, Jackson and Twelfth Streets. This area is considered by both the City of St. Paul and the Capitol Area Architectural and Planning Board to be the preferred location for any new State buildings.

24. "CENTROID" - The area that is the geographic center of residences of all state employees responding to the study survey.

25. CHARRETTE - The interactive meetings held periodically throughout the study to attain feedback from the State on information presented. Also referred to herein as "Planning and Decision Sessions."

26 "BUILT-TO-SUIT" - A leased building that is designed and built to the specifications of the occupying agency.

27. PRESENT VALUE LIFE-CYCLE COST - This term is used for the calculation of costs encountered over the occupancy life of a structure, reduced to current dollar value to remove time sensitive cost differentials.

28. COMPOUND ANNUAL GROWTH RATES - Growth rates which are analogous to compound interest, by which interest is paid on both the principal and the accumulated unpaid interest. This is contrasted with growth rates which accumulate only upon the base quantity as simple interest only accumulates based on the principle.

29. LINEAR PROJECTIONS - Straight line projections based on growth displayed by historical data.

30. COMMON CLIENTELE - Visitors who are not State employees who visit more than one agency or department during a single visit.

31. RECYCLED SPACE - Space which has previously been used for other purposes or which previously was at a lower quality level.