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STATEWIDE HIGHER EDUCATION GOVERNING BOARD DECISION
MAKING IN CAPITAL PROJECT PLANNING

by

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A Dissertation Submitted to the Faculty of
Old Dominion University in Partial Fulfillment of the
Requirements for the Degree of

DOCTOR OF PHILOSOPHY

URBAN SERVICES

OLD DOMINION UNIVERSITY
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DEDICATION

This study is dedicated to my father for instilling in me the vision to dream and to my mother for helping develop my abilities to pursue those dreams.

ACKNOWLEDGEMENTS

Grateful appreciation is expressed to Dr. James L. Bugg, Jr., who guided the development of this project and served as committee chair. Appreciation is extended to Dr. William G. Cunningham and Dr. James R. Vaillancourt for their advice and comment.

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ABSTRACT

STATEWIDE HIGHER EDUCATION GOVERNING BOARD DECISION MAKING IN CAPITAL PROJECT PLANNING

Richard C. Runner
Old Dominion University, 1987
Director: Dr. James L. Bugg, Jr.

Funds spent for capital construction in the United States reached \$4.3 billion in 1985. As the amount of funds for higher education capital construction has increased, so has the concern for adequate controls on capital spending. The scope and size of the existing physical plants and the number of construction or remodeling projects currently underway call for careful scrutiny of the manner in which public governing boards carry out their responsibilities on the public's behalf.

The primary focus of this study was the involvement of statewide higher education governing boards in the review and approval of capital projects. The stated purposes of the study were (1) to identify the decision-making points in planning capital projects for public higher education facilities, (2) to determine what should be the involvement of statewide higher education governing boards in capital planning, and (3) to develop a model which identified the critical decision-making points for statewide higher education governing boards in capital project planning.

The model was developed based on responses to a survey of state higher education executive officers in eight states and

university business officers of selected public universities in the eight states. The results of the survey incorporated into the model show that a statewide governing board's decision-making involvement in capital project planning should include the following actions: approve project scope and budget; approve the program statements; approve selection of architectural consultants; approve schematic design; award construction contract, and accept completed construction project.

This study examined statewide governing boards' responsibility in capital planning, with particular attention to the distribution of decision-making responsibility among the board, the institutions under its governance, and other governmental bodies.

CHAPTER I

INTRODUCTION

In his book, Conflict of Interest, Retrenchment and Reappraisal, Clark Kerr wrote, "This is an era for educational planning."¹ John S. Toll, President of the University of Maryland, stated the case even more firmly when he wrote that in the 1980s planning may well be the most important activity in higher education.²

Those writing about higher education have devoted most of their efforts toward institutional-wide academic planning. Until recently, however, little has been written regarding another of the components of a university, that is, the physical facilities which are essential to the operation of a viable university. A primary responsibility of university governing boards is the planning of new facilities and ensuring that existing facilities are appropriately utilized and properly maintained.

University governing boards are usually charged with oversight responsibility for an institution's land, buildings, and equipment. Specific facilities-related tasks of a governing board include:

1. Ensuring the adequacy and condition of capital assets
2. Developing and updating the physical planning policies for land, buildings and equipment

3. Providing new structures and rehabilitating or removing older structures as dictated by general board policies
4. Controlling plant debt and ensuring adequate levels of funding for plant maintenance³

Physical facilities at public universities in the United States represent a significant investment by the public in the higher education enterprise. The dollar volume of capital construction activity at universities in 1985 was over \$4.3 billion.⁴ Governing boards must understand the planning process and stages of capital projects in order to engage in responsible review and approval of those projects.

A governing board is a group of persons having legal responsibility for the control and management of the affairs of one or more institutions of higher education. A governing board has the authority to make policy decisions for the institutions under its control. A statewide governing board oversees several public universities and has statewide authority for the governance of public higher education in a state.

Though governing boards are responsible for ensuring proper maintenance, operation and planning for facilities, public governing board members are lay individuals, often with no special training, academic background, or experience in planning educational facilities. The most common occupations of public governing board members are educators and lawyers.⁵

Expertise in facilities planning and construction is usually present, however, at universities. Major universities usually have individuals specially trained in planning, utilization, and

management of the physical plant. Thus, while expertise in management of the facilities exists within the university, the responsibility for oversight of the facilities rests with the board. The need exists to research the body of knowledge concerning how governing boards carry out their responsibility for facilities planning.

Statement of the Problem

Higher education governance and the role that governing boards play in the management of public higher education has emerged as an area of study over the last two decades. Much of this research on governing boards focuses on the composition of the boards, or classifies boards by their overall responsibilities. Previous research has examined governing boards' role in broad policy areas including personnel, budget and facilities.

Little has been written of a practical, comprehensive nature to assist statewide boards in their governance role in capital project planning. Considerable research is available on campus planning and long range planning in higher education. A large body of scholarly research has focused on the planning of educational facilities in the secondary school systems, but not in higher education.

Several studies conducted in recent years reviewed the exercise of governing boards' authority. These studies, with few exceptions, took a broad perspective in studying governing board responsibilities. The studies reviewed policy areas such as academic programs, personnel, finances, and facilities, including

capital planning. Because of their broad focus, these studies seldom examined in depth capital project planning. The nature of a governing board's participation in the review and approval of capital projects has not received the in-depth attention it warrants.

Research by Pullar focuses on the general responsibilities of coordinating boards in the facilities area, including utilization of space and determination of space standards.⁶ Researchers have given little attention to the planning process of capital projects, a critical aspect of capital resource management. The nature of the governing boards' responsibility in the area of capital project planning, and how that authority is delegated, deserves serious examination.

The problem, then, is to understand the nature and extent of statewide governing boards' involvement in reviewing and approving capital projects. This study will focus on the process of capital project planning used by statewide governing boards, and particularly on the extent of the board's decision-making involvement.

Significance of the Problem

Higher education systems and how governing boards exercise their authority are topics of timely significance. The public is concerned about the quality of public colleges and universities. The public is further concerned about how effective are the current mechanisms for governing and financing public universities. This has led a number of states to launch formal reviews of their higher

education systems. The studies have varied in their scope, but each has generated increased public awareness of the governance of public higher education.

A recent trend in statewide coordination and governance is toward the statewide governing board. Most public universities now are part of a multicampus or statewide system:

In 1978, only 21 of the 141 member institutions of the National Association of State Universities and Land Grant Colleges (NASULGC) were still governed by their own individual governing boards. Eighty-five percent were part of statewide governing systems. In all, 164 multicampus boards governed 886 institutions enrolling more than fifty percent of all students enrolled full-time in post secondary education.⁷

Therefore, this study is relevant to a large number of higher education institutions and the board members responsible for them.

A survey of state policy leaders conducted by the Education Commission of the States identified five emerging issues in postsecondary education. Among the important issues identified by governors, legislators and state higher education officers was a concern for college and university facilities.

Physical plant renovation and replacement becomes critical as buildings constructed during the boom years of the 1960s begin to reach an end of their useful lives. This situation is made more pressing by skyrocketing utility costs for facilities constructed without the present sensitivity to energy conservation.⁸

The scope and size of the existing physical plants and the number of construction or remodeling projects currently underway call for careful scrutiny of the manner in which the public governing boards carry out their responsibilities on the public's behalf. At the national level, the "total replacement value of higher education's physical plant in 1981 was around \$200 billion, with replacement

value of \$143 billion for buildings, and almost \$60 billion for grounds and equipment."⁹

Another way to look at the problem is to review the growth in the square footage of campus buildings. College and university physical plants, both public and private, contain 2.2 billion square feet. The amount of space has increased dramatically in a relatively short period of time: all the space built before 1950 doubled by 1965, then doubled again by 1981. The states have made a sizeable investment in higher education. It is the governing boards' responsibility to see that this investment is protected and managed wisely.

The growth in the size of the physical plant is often dictated by the growth of technology and the addition of new academic programs. This expansion of programs requires new, specially prepared faculty and, subsequently, the sophisticated facilities designed to accommodate their instructional and research programs. Even with the leveling of enrollments over the past decade, demand for sophisticated, modern and well equipped facilities has increased.

Higher education is dynamic, thus capital construction and major renovations will continue. The academic enterprise is continually in flux as new programs are created to respond to social and technological change, and existing programs are consolidated or replaced.¹⁰

The increasing reliance on "hands-on" instruction and the expanding use of scientific equipment including computers, can be accommodated best through construction of new laboratory facilities, or by major rehabilitation of existing facilities. Properly

designed and maintained facilities can enhance academic programs. At the same time, inadequate facilities can detract from or retard the academic programs.

All these factors create pressure on boards for adequate facilities. The pressure is not only for more space, but for modern, properly designed space. New university buildings are designed with expanded electrical capability, utility connections, and fiber optics cabling for two-way video, voice, and data transmissions. As the demand grows for new and better designed space, escalating construction costs result in increased project costs or a reduction in the amount of space that can be constructed with available funds.

As the competition intensifies on university campuses for adequate space, the competition for funding from government resources also intensifies. The federal government's role in financing capital construction has diminished markedly over the past two decades. Federal dollars for facilities have dropped from \$1.1 billion in 1967 to \$144 million in 1978.¹¹ This has left the states as the principal source of funds for capital construction.

Some public universities are fortunate to have independent financing authority to fund construction or renovation of needed facilities through the sale of revenue bonds. These alternate financing mechanisms relieve some of the pressure on state government to provide the necessary funds to construct new facilities. The public universities in half of the states are authorized to issue tax-exempt bonds.¹² Many states have a public

authority issue the bond. These authorities require the institutions to support the debt from their endowment fund. This often is a requirement that institutions cannot meet.

Funds spent for capital construction in the United States have increased to \$4.3 billion in 1985. As the amount of funds for higher education capital construction has increased, so has the concern for adequate controls on capital spending. It is therefore prudent for statewide governing boards to periodically examine the policies which pertain to capital planning and construction. It is the intent of this study to assist governing boards in that effort.

Purpose of The Study

The primary focus of this study is the involvement of statewide higher education governing boards in reviewing and approving capital projects. The purposes of the study are (1) to ascertain what should be the decision-making involvement of statewide governing boards in the planning, design, and construction of capital projects for universities under their jurisdiction; (2) to determine through a survey of state higher education officers and chief university business officers the extent of involvement governing boards should have in capital project planning; and (3) based on the survey and review of the literature and documents, to develop a model that identifies the decision-making points for statewide governing boards in capital project planning.

This study examines in some depth boards' responsibility in capital planning, with particular attention to the distribution of decision-making responsibility between the board and the

institutions under its governance. The model and descriptive guidelines will provide board members with an outline to guide the review of their capital planning policies.

Basic Assumptions

This study is based on the following assumptions:

1. The public relies on statewide higher education governing boards to provide oversight and balance in capital decision making
2. Capital construction is a significant higher education investment
3. Statewide governing boards' review of capital projects leads to the orderly development of higher education facilities
4. Information concerning capital planning policies of governing boards can be elicited through the use of a carefully constructed survey instrument and the analysis of relevant documents
5. Responses received from governing board officials and institutional officers queried in the study will represent the true situation regarding capital planning
6. The analysis of capital planning procedures can result in improved governance of the planning processes
7. A capital planning model will provide a framework for further improvement in governing board capital planning

Definition of Terms

For this study, the following definitions of terms are utilized:

authority: the major concepts of authority used in this study will be those of (1) legally assigned position and (2) legitimacy. Legal position emphasizes control from superiors and obedience to a legally established order. Legitimacy is the

acceptance of the exercised authority because it is in line with values held by a particular reference group.¹³

autonomy: the capacity of a college or university to act on its own behalf without outside control.¹⁴

capital project: any building construction project or site development project costing in excess of fifty thousand dollars.¹⁵

capital resources: includes land, buildings, campus infrastructure (street and roads, pedestrian ways, roads, underground utility lines, etc.), non-expendable or capital equipment, and other fixed tangible assets.¹⁶

chief business officer: the senior administrative official responsible for the direction of business and financial affairs; supervises administrative departments including accounting, purchasing, physical plant and property management, personnel services, investments and budgets; reports to the university president.¹⁷

facilities: any space, building or structure that supports the instruction, research or administration of a higher education institution.

governance: the structure and process of decision making.¹⁸

governing board: a board which has the legal responsibility to make policy and operating decisions for a higher education institution. In this study, governing board will refer to consolidated statewide boards for higher education at the state level.¹⁹

planning: an analytical process which encompasses an assessment of the future, the determination of desired objectives in the context of that future, the development of alternative courses of action to achieve such objectives, and the selection of a course or courses of action from among those alternatives;²⁰ the action of developing, implementing and evaluating a series of interrelated or sequential actions.

policy: a broad statement of principles for the guidance, control, and management of a university or a university system. Policies establish the overall boundaries that supply the general limits and direction in which action will take place, but do not specify exactly how the purposes and objectives are to be accomplished.²¹

process model: a graphic and narrative representation of the linkage among the steps, tasks, or activities of a system or model.²²

Limitations of the Study

Practical considerations surrounding this study created limitations which should be considered when reviewing the study. By the nature and design of the study, it dealt with only one type of higher education governance structure: a single statewide governing board responsible for state supported universities.

While the evaluation of capital planning policies may be applicable to other settings, the study focused on states with a consolidated statewide governing board. No attempt was made to apply the capital project planning model to private higher

education, community college systems, or individual campus governing boards.

Because the information used as the basis for this study was obtained in part through furnished documents and a mailed survey questionnaire, the base of information was limited by the willingness of state higher education officers and chief university business officers and their staffs to provide policy documents and to complete and return the questionnaire.

Another limitation of the questionnaire was the absence of universally accepted definitions of terms. Therefore, the responses provided by individuals reflect the subjective definitions that have been adopted by those individuals or the wording of the request and survey instrument.

Despite the limitations discussed above, the study revealed important information about the capital planning decision making of governing boards.

ENDNOTES

1. Clark Kerr, "Coordination in a Changing Environment," Change Magazine 12 (October 1980):53.
2. John S. Toll, "Strategic Planning - An Increasing Priority for Colleges and Universities," Change Magazine 14 (May/June 1982):36.
3. Harvey H. Kaiser, Buildings and Grounds Committees. AGB Standing Committees Series (Washington, DC: Association of Governing Boards of Universities and Colleges [1974]), p. 1.
4. Paul Abramson, "Twelfth Annual Report on Educational Construction," American School and University, April, 1986, p. 35.
5. Association of Governing Boards of Universities and Colleges, Composition of Governing Boards, 1985: A Survey of College and University Boards (Washington, DC: Association of Governing Boards of Universities and Colleges [1986]), p. 6.
6. James R. Pullar, "Responsibilities of Coordinating Agencies and Governing Boards in the Planning of Higher Education Facilities" (Ph.D. dissertation, The Florida State University, 1972), p. 22.
7. Carnegie Council, 3000 Futures (New York: Carnegie Council, 1971), p. 23.
8. Education Commission of the States, "Emerging Issues in Post Secondary Education, 1981," (Denver: Education Commission of the States [1982]), p. 3.
9. Harvey Kaiser, Crumbling Academe. Solving the Capital Renewal and Replacement Dilemma (Washington, DC: Association of Governing Boards of Universities and Colleges, 1984), p. 14.
10. Ibid.
11. Lawrence L. Landrey and Rodney Mebane, "Capital Crisis in Higher Education," The Business Officer, February, 1982, p. 20.
12. Ibid, p. 22.
13. Robert L. Peabody, "Perceptions of Organizational Authority," in The Sociology of Organizations, ed. Oscar Grusky and George Miller (New York: The Free Press, 1970), p. 320.
14. Allen Jeffrey Sturtz, "Decision-Making Authority of State Coordinating Boards for Community Colleges and Local Community College Governing Boards in Certain Administrative Policy Areas," (Ed.D. dissertation, The Pennsylvania State University, 1976), p. 5.

15. James W. Duke, "Capital Outlay Approval Procedures for Public Institutions of Higher Learning" (Ed.D. dissertation, University of Southern California, 1962), p. 14.

16. The Carnegie Commission. Governance of Higher Education, Six Priority Problems (Washington, DC: Carnegie Commission on Higher Education 1973).

17. C. H. Torregrosa, ed., 1986 Higher Education Directory (Washington, DC: Higher Education Publications, Inc., 1986), p. 8-11.

18. William J. Griffith, "Capital Resources Management in Higher Education," Council of Educational Facility Planners Journal, (May/June 1984):4.

19. Clyde E. Blocker, Robert Plummer, and Richard C. Richardson, Jr. The Two Year College: A Social Synthesis (Englewood Cliffs, NJ: Prentice-Hall, 1965), p. 181.

20. Brian W. Scott. Long-Range Planning in American Industry (New York: American Management Association, 1965), p. 21.

21. Theodore S. Corin, "An Analysis of the Policy Manuals of Governing Boards of Major American Public Universities," (Ph.D. dissertation, Florida State University, 1964), p. 8.

22. Susie Jane Roberts, "A Process Model for Use by Educational Administrators in Planning Educational Facilities in the State of Alabama (Ph.D. dissertation, University of Alabama, 1977), p. 13.

CHAPTER II

REVIEW OF THE LITERATURE

The focus of this study is on the involvement of statewide higher education governing boards in capital planning. Although there is limited analytical research in this area, several theories are available that help to explain planning and the nature of higher education governance. The following studies on public policy making, higher education governance and statewide coordination provided background for defining the current study.

Research on Public Policy Making and Organizational Planning

One of the primary functions of a governing board is the development of policies which reflect the board's goals and priorities. Generally, a governing board is granted the legal authority to establish policies and to compel the institutions under its jurisdiction to comply with these policies. Governing board policies provide the required continuity of governance that transcends the regular turnover of board membership. In addition, policies are often the primary source of reference for institutional personnel and the general public. Governing board policies also give flexibility to established objectives, clarify authority and provide the coordination necessary for efficient operation. According to Corin, "The effectiveness with which universities are

governed depends in considerable measure upon the adequacy, clarity, distribution and implementation of governing board policies."¹

In Sturtz's study of the community college coordinating boards in six states, he found the greatest concern over decision-making authority in the areas of curriculum and facilities when the statutory designation of authority was not clear.² He found that efforts to make individual community colleges more accountable to a statewide coordinating board decreased the ability of the local community college to carry out its mission. He concluded that rules and regulations which constrict the institutional operations tend to make all institutions identical in operations, reduce autonomy, and destroy individuality and vitality.

A number of scholars have attempted to explain public policy making through development of models. Among these is one by Dror. His model identifies three major levels of public policy making:

1. Meta policy making--deciding on how to make policy
2. Policymaking--making policy on substantive issues
3. Post policy making--evaluating and redesignating the policy making process³

The three parts of Dror's model are interconnected by communication and feedback networks.

Meta policy making most closely relates to the present study of governing boards policy making. Sanders took this first level of Dror's model and subdivided it into seven phases:

1. Processing values
2. Processing reality
3. Processing problems

4. Surveying, processing and developing resources
5. Designing, evaluating and redesigning the policy making system
6. Allocating problems, values and resources
7. Determining policy making strategy ⁴

The present study concerns governing boards' policies which establish a structure that will guide future deliberations on individual capital projects.

Several authors have developed concepts for differentiating types of policy. Bogue and Riggs conceptualized three types of policy for colleges and universities:

1. Governing policy: those policies of mission and program and general operating conditions set by governing agencies [or boards]
2. Executive policy: those policies of fiscal, facility and personnel management established by the president and CEOs in response to governing policy
3. Operating policy: those policies of work, environment and expectations set by deans and directors of activities in response to executive policies⁵

In his study on the exercise of boards' authority, Greenleaf concludes:

In most instances, the laws of incorporation clearly establish . . . that the institution shall be managed by the board. The role of the board is to stand outside the active program and to manage: what they delegate is administration.⁶

In an effort to better understand public policy making, research on organizational planning was examined. Many researchers have attempted to explain the nature and function of organizations. One useful organizational theory is offered by Griffiths.⁷ He writes that "administration is the process of directing and

controlling life in a social organization" and that "administrative decisions are those which establish criteria by which others in the organization make their decisions." Griffiths sees an organization [governing board] as a dynamic entity whose development and functions are revealed through its policies.

Several authors, including Camillus, write of the positive consequences of formalizing an organization's planning activities.

According to Camillus, the benefits are:

1. The activity becomes required; that is, it is sure to take place
2. More executives can be selectively involved in the activity
3. The activity is more likely to result in a unity of direction and purpose
4. The basis for change will be provided; that is, future situations which require fresh management response will be more easily identified⁸

Camillus further identified a set of reasons for an organization to initiate a long range planning process:

1. Develops an orientation to the unforeseen environment of the future and develops new ideas and opportunities
2. Develops broad strategies and long term policies to evaluate and change traditional assumptions and policies
3. Develops action plans and operating programs for available resources to implement the strategies
4. Develops a frame of reference for the annual operating budget
5. Develops a framework in the minds of senior management. The articulation of organizational goals and objectives facilitates consistency and speed in making operating decisions
6. Develops management which is a by-product of the formal planning system. Planning benefits managers by exposing

them to a broader view of the organization, its policies and operations

7. A final purpose of a long range planning system is its use as a vehicle for communication and a means of achieving greater coordination⁹

One planning theory with application to this study is the "process theory of planning."¹⁰ In describing the process theory, Meng writes:

It is based on the belief that the principal value of long-range planning lies not in the plans that are produced but in the process of producing them. It holds that the value of planning to managers lies primarily in their participation in the process because of the thought patterns required to make the process work. Therefore, a planning organization must be designed and a system for managing it must be created which will enable as many as possible of the organization's managers to participate in the process.¹¹

Meng presents a long range planning model that he tested against the actual planning of 13 statewide community college boards. He found that his process model was a realistic framework for long range planning in hierarchical organizations such as governing boards.

Another corporate planning model was developed by Steiner.¹² His model sets forth a structure and process for comprehensive corporate planning. The model identifies the plans needed in a typical business, the relationship of the plans to one another, and the sequence of actions needed for proper planning results. Steiner's model emphasizes three influences on any organization's planning effort: the fundamental organizational purposes including social expectations, the values of the top administrators, and the nature of the environment surrounding the organization.

Additional research that was examined in preparation of this study was in the field of organizational theory. Five primary models of organizational theory applicable to academic institutions were identified by Cope.¹³

1. The collegial model assumes a collection of scholars participating fully in decision making. This model presumably works where there is a strong shared sense of values, commitment to the institution, a spirit of cooperation, and not a lot of hierarchy in the organization. John D. Millett was one of the first to identify this model.¹⁴
2. The bureaucratic model gives more attention to a formal organizational structure with roles, predetermined regulations, and set procedures.
3. The political model, in contrast to both of the previous models, assumes that a conflict of goals, values, and preferences is always present and natural. Decisions are based upon negotiated compromises, usually arrived at informally and verified through the formal organizational processes. J. V. Baldrige described this model in 1971.¹⁵
4. The organized anarchy model sees the institution as unable to manage itself rationally because of ambiguous goals, systems of rewards and market-connectedness. M. Cohen and J. C. March developed this model in 1974.¹⁶
5. The rational model, in contrast to the anarchy model, sees opportunities for strategic choices that are logically determined through the use of management information systems, environmental scanning and similar techniques borrowed from industry.¹⁷

Review of Research in Higher Education Governance

A number of authors have studied the function and responsibilities of higher education governing boards. Paltridge analyzed the governing board minutes of 19 public colleges and universities. Among his findings was that "boards undertake a tremendous volume of decision actions in the course of a year's meetings, and that much

of this volume consists of pro forma actions and long lists of detailed operational matters."¹⁸ He thought that with the diversity of the boards' efforts, the responsibilities for policy formulation, long term planning, administrative guidance, review of performance, and support of the institution in the realization of its goals are frequently given minor attention.

Zwingle is among several authors who suggest that boards need to concentrate on a few important functions. He identifies several central responsibilities related to planning and a board:

First is the planning function. The board should not be the planning body, but should require adequate planning for all aspects of the institution. Planning is never static, never finished, but must undergo periodic revision as experience dictates. Given competent planning, the board then is better able to perform its other function, that of authorization and review.¹⁹

In an earlier study with Mayville, Zwingle delineated the functions of a governing board as "to hold and interpret the trust, to act as a buffer, to arbitrate internal disputes, to stimulate change, to be responsible for the financial welfare of the campus, and to provide the governance."²⁰

Another perspective of the authority and responsibility of higher education governing boards is described in College and University Business Administration, edited by LaNora Welzenbach. In this work governing boards' responsibilities are listed as the following:

1. Selection and appointment of the chief executive officer
2. Appointment of faculty and administrative officers on the recommendation of the chief executive officer
3. Approval of long range plans

4. Determination of all major policies
5. Approval of the operating and capital budgets
6. Seeking the necessary funds to permit the institution to operate and to fulfill its mission
7. Overseeing the investment of endowment funds
8. Selection of the external auditor
9. Approval of legal documents
10. Representing the institution to the public
11. Acting as final authority on institutional matters ²¹

One of the earliest descriptive surveys of higher education coordination and governance was by Glenny in 1959.²² His study involved personal interviews with governors, college presidents, legislators and other state officials from 12 selected states to identify underlying reasons for a higher education coordination. He found that the principal responsibilities of higher education coordinating agencies included planning and policy making, program and resource allocation, budgeting for institutional operations and capital outlay projects.

An American Council on Education study conducted by Berdahl looked at major functions performed by coordinating agencies from 13 states and the interrelationships of the agency with state government and higher education institutions.²³ His study was a comprehensive field survey utilizing interviews as well as consolidating data from four separate case studies. He recommended strengthening the structure and authority of the coordinating agencies.

Geiogque identified three coordinating functions of higher education governing boards: policy making, policy implementation, and evaluation. Policy making involves the synthesizing of various external pressures and then determining priority and direction among the myriad of issues facing higher education. Policy implementation involves both program review and budgeting. Evaluation is the objective assessment of the performance of the plans.

The process for achieving balanced governance in the 1980s centers around a leadership role at the state higher education coordinating level or governing agency level. This role is not limited only to performing the three coordinating functions, but also extends to arbitrating potential conflicts among institutions of higher education and between them and the executive and legislative branches.²⁴

Concluding his discussion of the three coordinating functions, Geiogque writes,

. . . decisions within the coordinating process should be made on the basis of a long range and continuous state plan and planning process. This is a basic contribution which the statewide higher education agencies should be expected to make and one which cannot be made by governors and legislators who are tied more directly to the political and budgetary cycles.²⁵

A series of independent studies described the governance or coordination structure in individual states. Among these are case studies of Wisconsin and California by Paltridge. His 1968 study of Wisconsin analyzed the authority of the Wisconsin Coordinating Committee of Higher Education.²⁶ He examined the perceptions of higher education governance in Wisconsin among state legislators, institutional officials and board representatives. The research was aimed at determining the degree of influence exercised by the Coordinating Committee.

Paltridge examined the Coordinating Committee's involvement in long-term planning, the extent of interinstitutional cooperation and the coordination of interactions between state government and higher education institutions. This study is useful because of its focus on the relationship of governing board decision making to individual institutions. It should be noted that the Wisconsin Coordinating Committee was eventually replaced with the consolidated governing board of the University of Wisconsin system.

Another study of a single state was by Richert who analyzed particular administrative responsibilities associated with governing higher education institutions in the state of Wisconsin. The persons he selected were members of the Board of Regents of the University of Wisconsin and the Wisconsin State University system, as well as the Coordinating Council. This study was conducted prior to the consolidation of the two university systems in Wisconsin.

Richert looked at the distribution of administrative responsibilities in the areas of establishing enrollment quotas, priorities for constructing facilities, and the institutional budgets. He found that institutional autonomy has been decreased in several areas including establishing institutional budgets and priorities for construction of facilities.²⁷

The budgetary controls imposed by state governments on public universities was examined in a 1985 national study by Volkein.²⁸ His study provides a comparative analysis of the financial controls in each state through development of a continuum. The continuum locates each state according to control exerted over institutional

financial transactions and academic programs. The study addresses to what extent states regulate and control public universities and to what extent the institutions have authority to operate without external regulation.

The results of the study indicate that a majority of states allocate funds to their state universities on an annual basis. Thirty-five states allow the university or governing board some flexibility in deciding how appropriated funds will be expended. In three-fourths of the states, public universities had considerable flexibility with operating budgets, once the state allocation had been made.

Several studies focus on the board members' perception of their role in governing their institutions. One study looks at governing board members and their perceptions of conflict with external groups. Skinner, in "Governing Boards of American Colleges and Universities: A Study of Roles and Role Conflict," examines the extent to which governing board members perceive conflicting expectations regarding their role in governance.²⁹ Governing board members see themselves as either directly or indirectly involved in decision making and therefore retaining authority in making the majority of decisions facing institutions. In the Skinner study, the degree of delegation preferred by board members was found to be related to a number of situational factors and characteristics of the institutions, including whether the institution was public or private, whether it was a single or multiple campus, or whether collective bargaining was present.

Although not the primary objective of her research, the Skinner study provided some useful concepts regarding the delegation of decision-making responsibility by higher education governing boards. The present study utilized Skinners' degree of delegation and focused on the decision-making delegation of one type of board, the statewide governing board. This present study also looked more closely at one policy area, the board's involvement in the planning of capital projects.

Higher Education and Statewide Planning

To narrow the scope of the literature review, research studies on higher education statewide planning were reviewed for potential application to the current research. The following studies of statewide planning explore theoretical concepts and are beneficial in building a foundation for the current study.

The issue of improving higher education has become a topic of public concern. Because of the growing public interest, governors and state officials have begun addressing the states' involvement in improving planning for colleges and universities. Speaking about this trend, Governor Thomas H. Kean of New Jersey says,

Within the past year, many governors and legislators began to address issues related to admission standards, remedial programs, testing, governance, and finance. . . . All can be traced to growing public demand for colleges and universities to do a better job.

Referring to the state's proper role, he goes on to say,

The challenge for us is to find ways to stimulate and channel this growing renewal effort, to ensure that the broader public purposes that transcend any single campus are fulfilled - and to make sure that state action does not stifle the very creativity we would inspire.³⁰

Writing in Coordinating Higher Education for the 70s, Multicampus and Statewide Guidelines for Practice, Glenny, Berdahl and others make the following statement about the relationship between planning and statewide coordination or governance.

Planning is the most important function of statewide coordination, for it provides the operational base and guidelines for which all other functions constitute implementing instruments. . . . The quality of coordination itself reflects the quality and continuity of the planning effort.³¹

Gordon M. Ambach, New York State's Commissioner of Education, agreed that more state planning would help higher education, but he stressed the need to involve the colleges and universities themselves in the planning process. "The state can orchestrate discussions, but we must have the participation of the key institutions."³² Ambach highlights the importance of involving individuals at all levels of the organization for effective planning. This involvement encourages commitment to the planning process and achievement of the goals.

The Carnegie Commission Report, The Capitol and the Campus, examines state responsibility for coordinating postsecondary education. In its discussion of coordination and planning, the report states,

In its broadest sense, statewide planning must first be concerned with sets of goals: the economic and social goals of the state, the goals of the education system and its institutions, the goals of the individuals within the system, and the interaction among these sets of goals. Planning must be addressed to the optimum allocation of resources to accomplish the desired ends.³³

It is the goal of optimum allocation of resources to capital planning that is the focus of this present study.

In Palola's study of statewide planning, he presented a theoretical framework about statewide planning for higher education.

That framework was founded on three basic assumptions:

1. College and universities are coalescing into networks of interdependent institutions in a variety of ways.
2. Inevitable tension exists between the institutional interests as they compete for finite resources. This phenomenon is commonly referred to as the tension between central authority and local campus autonomy.
3. All networks of institutions share a common set of planning problems needing critical decisions. They are: determining statewide goals for higher education, establishing patterns of coordination among institutions, allocating resources consistent with long range plans, and promoting innovation and change through a system.³⁴

The importance of a governing board's active interest in developing an effective planning process is highlighted by several authors.

A report in the Association of Governing Board series describes one perception of the role of college trustees in institutional planning. In that report, Dorsey writes, ". . . the attitude of board members and the kind of questions they ask about a plan are important to the ultimate quality of the effort."³⁵ She writes of trustees' need to ensure that trustworthy data are available and that the plans are realistic and feasible. Further, trustees must see that planning is done on a schedule that allows for deliberation, consultation and revision.

In describing the importance of the board's involvement in institutional planning, Dorsey writes that trustees must first insist that planning be done. She goes on to say the second

responsibility of a board in relation to planning is to see that the planning is done well.

The members of a Board of Trustees have a vital part to play in the institutional planning process, a part that goes far beyond putting their signatures to the plan in its final form. They must, of course, approve institutional plans as a proper exercise of their fiduciary responsibility. But they can also help to initiate and improve planning, and they can take an active role in the formulation of a plan.³⁶

The board should hold the chief executive officer accountable for the development of necessary planning processes and for implementation of the processes as planned. The value placed by the board on developing effective planning processes determines how effective the plan will be.

Planning activities and policies by governing boards can have the following significant impacts:

1. Deepen the knowledge and understanding of state systems of higher education
2. Justify to the legislature and the public the need for increases in budget for higher education and the institutional differences in budgetary requirements
3. Stimulate institutions to engage in more sophisticated planning at the institutional level
4. Facilitate orderly expansion of new campuses or new programs³⁷

A study by Slover examined the perceptions of governing board chairpersons of the board's role related to nine general policy areas including overall planning.³⁸ His research involved the chairpersons of all the governing boards of member institutions of the National Association of State Universities and Land Grant Colleges. His research divided governing boards into three categories: statewide governing boards, multicampus governing

boards, and boards for separate institutions. The study examined the chairpersons' perceptions of their role and function as members of a governing board and the adequacy of information available to them to carry out their legal responsibilities. Slover found that the perceptions of governing board chairpersons regarding their role as a board member was dependent on the availability of adequate information in order to carry out their legal responsibilities.

Several authors identified principles which should be considered in developing an effective planning process. The planning process should be carefully organized and capable of maintaining continuity over an extended period of time. The process should be reviewed periodically and modified as necessary. Allred discussed ten principles of planning based on his review and analysis:

1. Planning should be continuous
2. Planning should be dynamic
3. Planning should be systematic and organized
4. Planning should be participative
5. Planning should be community related
6. Planning should be based on accurate and reliable information
7. The products of planning should enhance rather than limit the effectiveness of management
8. Institutional planning is largely a local responsibility
9. Institutional planning should be carried out within the context of statewide regulations, policies and coordination
10. Institutional planning procedures should be integrated with the overall institutional management process³⁹

The planning process itself must be developed in a logical and organized manner. The National Association of College and University Business Officers identified four principles that are vital to the planning process:

1. The organization for planning must reflect total institutional planning
2. The planning process must anticipate and facilitate the action that is to follow
3. The planning process itself must be planned and it must be continuous
4. The key to effective planning is involvement ⁴⁰

Higher education institutions and their governing boards are becoming increasingly aware of the importance of a well designed facilities planning system. In 1982, the University of West Virginia Board of Regents initiated a comprehensive study of its facility planning system. The board recognized the need to redefine its role in project approval budget and control. In conducting the study, the West Virginia Board placed major emphasis on long term planning and the management of policies and procedures that govern capital planning from the initiation of an individual project.

The purpose of the West Virginia Board of Regents' effort was to create a more comprehensive facility management program. In assessing the value of a carefully planned planning process, the board writes that

. . . a managed and disciplined process can assure you of a facilities planning implementation and operating procedure that will improve the institution's long range objectives, giving you effective short-range decision making capability, accommodating trenchant shock waves that occur from programs that were not contemplated, allowing flexibility to shed and initiate new academic programs, improve campus environmental quality and

hopefully, much more effective capital expenditures.⁴¹

The objective of developing well organized capital planning procedures is to expedite the planning process, to provide a medium for assembling organized information, and to communicate that information among all participants. The current study will examine what should be the decision-making process used by governing boards for planning capital projects.

Rational Model of Decision Making

The final decision making type of study to be discussed concerns application of a decision-making model in a higher education setting. In a recent study sponsored by the National Center for Higher Education Management Systems, Chaffee identified five models of organizational decision making. Her study described the decision elements, characteristics and implementations of the five models which were initially presented by Graham Allison. The five models are similar to the models of organizational theory identified by Cope discussed previously. They are rational, collegial, political, bureaucratic, and anarchical.⁴²

The rational model was applied to a case study of the budget decision making process at Stanford University. In supporting her case that the rational model is applicable to the higher education setting, Chaffee writes that,

When controversial decisions affecting an institution's achievement of important goals must be made, tension can be lessened and polarity avoided if all parties involved in the decision understand the process of decision making and feel sure that this process is rational.

She continues, . . .

When rational decisions and the conditions that make rational decisions possible consistently characterize a college or that institution experiences not only a high proportion of excellent decisions, but also a high degree of confidence in itself, in its values, and in its administration.⁴³

Chaffee provides five criteria for testing application of the rational model to the budget process at Stanford University.

1. Values and objectives: a pre-existing set of values and objectives for budgeting should be formulated in accordance with the values and objectives of the university as a whole.
2. Alternatives: a set of alternative courses of actions, means to the end described by the objectives, should be arrayed for simultaneous consideration.
3. Centralization of decision making: the structure of the decision-making process should assure that a central authority makes the final decisions.
4. Understanding of consequences: each request should be accompanied by analysis of its costs, benefits, and other consequences.
5. Value-maximizing choice: the choices should be made in fact to advance the values and objectives chosen for the budget process.

Decisions within the rational decision-making framework can be categorized as strategic, tactical or operational. Strategic decisions are those that guide the organization in its relationship to the environment and affect the internal structure or process of the organization. At the same time, tactical decisions derive from strategic decisions and answer the question, "How are we going to do it?" Operational decisions are still more narrow and specific, establishing procedures and answering the question, "Who will do what?"

The level of decisions is an important concept in understanding rational decision making. An underlying consideration

in development of capital planning decision making is the placement of the authority for each decision at an appropriate level.

Likewise, categorizing decisions as strategic, tactical, and operational has application in understanding a governing board's capital planning policies.

In the summary of the study on Stanford's budget decision making, Chaffee summarizes the essential features of the rational decision-making process:

1. A clear set of specific values or objectives which serve as criteria for particular decisions
2. An organizational atmosphere of stability, confidence and predictability
3. Consistency on the part of the decision maker
4. Provisions for analyzing a particular situation as strategic, tactical, or operational
5. Provision for determining who should make the decision
6. A mechanism for determining as many alternative decisions to the problem as possible
7. A means of assessing the likelihood that a particular alternative will produce results that correspond with the value structure
8. Evaluating the degree to which correspondence has been achieved ⁴⁴

Policy Formation in Capital Planning

The Association of Governing Boards of Universities and Colleges published a series of reports on responsibilities of various governing board committees. One of the reports by Kaiser describes the function and responsibilities of a board committee on buildings and grounds. He discusses the work of the committee and

identifies information that boards should have available for effective decision making.

Kaiser identifies the specific tasks of a buildings and grounds committee as:

1. Ensuring the adequacy and condition of capital assets
2. Developing and keeping current physical planning policies for land, buildings, and equipment
3. Providing new structures
4. Rehabilitating or removing older structures as dictated by general board policy
5. Controlling plant debt and ensuring adequate levels of funding for plant maintenance⁴⁵

According to Kaiser, the committee should address the condition of the physical plant, the allocation of resources necessary for the maintenance and operation of the physical plant, major repair and renovation, capital construction and real estate. In addition, the board committee must establish physical planning policy for the institution. Regarding that policy, he writes,

A physical planning policy is a vital part of an institution's long range plans for coping with the decades to the end of the century. It represents the transition of concerns . . . into policies for an institution's physical assets: land, buildings and utilities. These policies are based on realistic assessments of enrollment, and the analysis of conditions and utilization of facilities. This task is the highest priority for senior administrators and governing boards and must be developed in a practical manner in a concise form.⁴⁶

Nelson describes the manner by which governing boards manage resources of the institutions under their jurisdiction. He discusses the policy issues involved in resource management and how the role of the trustees should be exercised. He writes of two essential conditions for effective performance of the policy role of

the trustees. "The first is the ability to formulate issues in policy terms appropriate for trustee action. The second is adequate information on which to base policy decisions."⁴⁷

Therefore, an essential element of any model used to guide trustees in carrying out their management responsibility for capital planning must be to provide appropriate information. Trustees often cannot get the information they need, or they are overpowered by so much data that they cannot identify what is important.

Nelson provides some guidelines for the kind of information boards should receive and how that information can be presented effectively:

1. Information should be provided regularly and systematically. Information should be aggregated at a level that is appropriate for policy deliberation.
2. The organization of such information in a systematic fashion is termed a management information system. That system must be defined with the needs of the trustees in mind as well as the requirements of the administration.
3. Providing properly organized data helps trustees learn their role while informing them about the institution. It helps them ask the right questions.⁴⁸

Several research studies examine governing boards and the planning and construction of higher education facilities. Pullar looked at state agencies and governing boards' involvement in facilities planning, construction, and utilization.⁴⁹ His purpose was to determine the extent that formula based approaches are used in determining space needs for public institutions. His findings indicated that facilities utilization studies, the collection of inventory data for existing facilities, estimating institutional needs, and the development of institutional construction priorities

are more often a function of a state agency alone, rather than a cooperative effort between state agency and institution.

Among the research that attempts to define the level of participation by various planning groups is a study by Nettles.⁵⁰ He developed criteria for evaluating long range planning functions of state governing boards and coordinating commissions. Nettles was able to distinguish groups that are leaders in a planning process from those who serve as continuous ongoing advisors and those who act as only limited participants. His findings indicate that coordinating board staff members were judged to be the leaders in the long range planning process.

Several studies review capital construction policies of specific states. McAfee's research focused on the relationship of the capital planning process and involvement in the capital process by state agencies in Colorado.⁵¹ He interviewed legislators, state agency executives, design consultants, and construction personnel. McAfee concluded that review of capital construction by a central state agency is not advisable and creates non-productive tension.

Based on his research, he concludes there is a trend toward centralizing the planning/construction process in state agencies. This centralization of the construction process is accomplished by statute, code, agency directive, and policy manual. He recommends that the capital construction processes used by other states be examined.

Much of the interest with capital planning has centered on the appropriation process. This is the series of steps by which the

institutions obtain the necessary funding and approvals from the legislature to construct new buildings or remodel existing facilities. McAleer, Jr. studied the capital appropriations process in the state of Michigan.⁵² He focused on the interaction between the public four year universities, the executive departments of management, budget and facilities planning and the legislative branch. The state of Michigan did not have a single statewide higher education governing board. McAleer concluded that the public universities are successful in obtaining capital funding by exercising their political influence with the legislature and the executive agencies. He observed that each university's success in obtaining capital projects was not proportional: institutions with more political influence, such as Michigan and Michigan State, secured a major disproportionate share of the capital funds each year.

Another study looked at capital programs of public universities in California. Duke surveyed representatives of higher education institutions concerning their perception of autonomy in capital outlay programs.⁵³ The focus of his research was on the freedom of the institutions to carry out their planning function vs. control measures adequate for protection of public monies. His research examined the views of representatives of the institutions and public administrators concerning spending public monies.

Duke concluded that local California higher education institutions should determine facility needs and priorities of capital projects in cooperation with the governing board. Also

he concluded that the governing board should control construction and final acceptance of a completed project with formal participation by the local institution. His conclusions were based on the judgments of a panel of 13 experts.

ENDNOTES

1. Theodore S. Corin, "An Analysis of the Policy Manuals of Governing Boards of Major American Public Universities," (Ph.D. dissertation, Florida State University, 1964), p. 2.
2. Allen Jeffrey Sturtz, "Decision-Making Authority of State Coordinating Boards for Community Colleges and Local Community College Governing Boards in Certain Administrative Policy Areas," (Ed.D. dissertation, Pennsylvania State University, 1976).
3. Yehezkel Dror, Public Policymaking Reexamined (San Francisco: Chandler Publishing, 1968), p. 160.
4. Charles Robert Sanders, "Toward a Model for the Evaluation of Statewide Planning in Post-Secondary Education," (Ph.D. dissertation, Florida State University, 1979), p. 48.
5. E. G. Bogue and R. O. Riggs, "Institutional Policies and Its Abuses," Journal of Higher Education 45 (May 1974):357.
6. Robert K. Greenleaf, Trustees as Servants (Cambridge, MA: Center for Applied Studies, 1974), p. 3.
7. Daniel E. Griffiths, Administrative Theory (New York: Appleton-Century-Crofts, Inc., 1959), p. 72.
8. J. C. Camillus, "Evaluating the Benefits of Formal Planning Systems," Long Range Planning 75 (June, 1975):35-36.
9. Ibid., p. 34.
10. Russell Ackoff, A Concept of Corporate Planning (New York: Wiley Interscience, 1969), p. 3.
11. LeRoy W. Meng, "A Model for Managing the Long-Range Planning Process in Statewide Community College Systems," (Ph.D. dissertation, University of Arizona, 1977), p. 24.
12. George A. Steiner, Top Management Planning (London: MacMillan Co. 1969). pp. 31-37.
13. Robert G. Cope, "A Contextual Model to Encompass the Strategic Planning Concept: Introducing a Newer Paradigm," Planning for Higher Education, 13 (Spring 1985):19.
14. John D. Millett, The Academic Community (New York: McGraw Hill, 1962).
15. J. V. Baldridge, Power and Conflict in the University (New York: Wiley & Sons, 1971).

16. M. Cohen and J. C. March, Leadership and Ambiguity (New York: McGraw Hill, 1974).
17. Robert G. Cope, Strategic Planning, Management and Decision Making (Washington, DC: The American Association of Higher Education, 1981).
18. James G. Paltridge, Conflict and Coordination in Higher Education, The Wisconsin Experience (Berkeley, CA: Center for Research and Development in Higher Education, University of California, 1968), p. 21.
19. J. L. Zwingle, Effective Trusteeship (Washington, DC: The Association of Governing Boards, 1980), p. 12.
20. J. L. Zwingle, and William V. Mayville, College Trustees: A Question of Legitimacy (Washington, DC: American Association for Higher Education, 1974), p. 8.
21. LaNora Welzenbach, ed. College and University Business Administration (Washington, DC: National Association of College and University Business Officers, 1974), p. 5.
22. Lyman A. Glenny, Autonomy of Public Colleges: The Challenge of Coordination (New York: McGraw Hill, 1959).
23. Robert O. Berdahl, Statewide Coordination of Higher Education (Washington, DC: American Council of Education, 1971).
24. Harold E. Geiogque, "An Increased Role for the States," Change Magazine 12 (October 1980): 50.
25. Ibid., p. 52.
26. Paltridge, op. cit.
27. John Henry Richert, "A Study of Selected Administrative Functions in the Coordination of Higher Education in Wisconsin," Dissertation Abstracts, 31:5095, 1970.
28. Jay Fredricks Volkein, "State Financial Control Practices and Public Universities: Results of a National Study." Paper presented at the meeting of the Association of the Study of Higher Education, Chicago, March 1985: p. 13.
29. Gail Marie Skinner, "Governing Boards of American Colleges and Universities, A Study of Roles and Role Conflict," Dissertation Abstracts, 42:107, 1980.
30. Scott, Jaschik, "Governors Weigh Role of the States in Reform Efforts," Chronicle of Higher Education 30 (Aug 7 1986): 1, 14.

31. Lyman A. Glenny, et. al. Coordinating Higher Education for the '70s: Multicampus and Statewide Guidelines for Practice (Berkeley, CA: University of California, 1971), p. 25.
32. Jaschik, p. 14.
33. Carnegie Commission on Higher Education, Capitol and the Campus (New York: Carnegie Commission and McGraw Hill Book Company, 1971), p. 31.
34. Ernest G. Palola, Tim Lehmann, and William H. Blischke, Higher Education by Design: The Sociology of Planning (Berkeley, CA: Center for Research and Development in Higher Education, University of California, Berkeley, 1970), p. 5.
35. Rhoda M. Dorsey, Institutional Planning (Washington, DC: Association of Governing Boards of Universities and Colleges, October, 1980), pp. 4-5.
36. Ibid., p. 2.
37. Carnegie Commission on Higher Education, p. 32.
38. William Godfrey Slover, "Perceptions of Role and Functions as a Member of an Institution's Governing Board, a Study of Governing Board Chairpersons, The National Association of State Universities and Land Grant Colleges," Dissertation Abstracts, 43: 2255, 1982.
39. Marcus Daniel Allred, "A Conceptual Model for Planning in North Carolina Public Community Colleges and Technical Institutes," Dissertation Abstracts, 38:1200-A, 1977.
40. Welzenbach, p. 13.
41. Robert Wilson, "Statewide Approach to Capital Planning and Comprehensive Facility Management," Presentation to the 20th SCUP Conference, Chicago: July 7-10, 1985 (tape recording).
42. Ellen E. Chaffee, Rational Decisionmaking in Higher Education (Boulder: National Center for Higher Education Management Systems, 1982), pp. 5-29.
43. Ibid., p. 2.
44. Ibid., pp. 60-61.
45. Harvey H. Kaiser, Buildings and Grounds Committee, AGB Standing Committees Series, (Washington, DC: Association of Governing Boards of Universities and Colleges, 1983), p. 2.
46. Ibid., p. 9.

47. Charles A. Nelson, Trustees and Resource Management (Washington, DC: Association of Governing Boards of Universities and Colleges, March 1982), p. 9.

48. Ibid., pp. 9-10.

49. James R. Pullar, "Responsibilities of Coordinating Agencies and Governing Boards in the Planning of Education Facilities," (Ph.D. dissertation, Florida State University, 1972).

50. Michael Terrael Nettles, "The Development and Validation of Criteria and Method for Evaluating Statewide Planning for Higher Education," (Ph.D. dissertation, Iowa State University, 1980).

51. John Armstrong McAfee, "State Agencies and Higher Education in the Capital Construction Process in Colorado," Dissertation Abstracts, 39:6573, 1978.

52. Edward Martin McAleer, Jr. "An Assessment of the Capital Outlay Planning for the Public Baccalaureate Institutions in Michigan," Dissertation Abstracts, 39:3956, 1978.

53. James William Duke, "Capital Outlay Approval Procedures for Public Institutions of Higher Learning," (Ed.D. dissertation, University of Southern California, 1962).

CHAPTER III

METHODOLOGY AND PROCEDURES

The primary focus of this study was the involvement of statewide higher education governing boards in the review and approval of capital projects. This research developed a model through a survey of state higher education executive officers in eight states and of university business officers of selected public universities in the eight states. The model identified the important decision-making points for statewide higher education governing boards in capital project planning.

Research Questions and Predictive Statements

The study investigated the following research questions:

1. What are the decision-making points in planning capital projects for public higher education facilities?
2. According to higher education officials, what should be the extent of involvement of statewide higher education governing boards in capital project planning?
3. What are the most important decisions that statewide higher education governing boards should make in the planning of capital projects for public universities under their jurisdiction?

A series of predictive statements was proposed for this study to contribute to the description and analysis of the data.

1. The size of the physical facilities governed by statewide

governing boards is 200 buildings containing over 20 million square feet.

2. The number of full time professional staff in an office of a statewide governing board is less than 20 and the number of full time professional staff significantly involved with capital planning is two or less.
3. A statewide governing board oversees 50 capital projects with a combined dollar volume of over \$20 million.
4. A statewide governing board delegates more responsibility to the institutions for approval of specific actions for capital projects of \$250,000 or less.
5. Architectural consultants usually do not make presentations to the board on the status of major capital projects.
6. A statewide governing board's decision-making involvement in capital project planning should include the following actions: approve project scope and budget, approve selection of architectural consultant, approve schematic design, award construction contract and accept completed construction project.
7. The most important decision-making point for statewide governing boards is approval of the project budget.

Design of the Study

The research design was an exploratory field study which enabled the researcher to identify the location of decision-making points for statewide governing boards in the planning of capital projects. This research studied information obtained by survey questionnaire and reviewed policy documents to determine and identify what should be the governance role of statewide governing boards in capital planning.

The research was conducted in a real situation. Systematic research procedures were applied in the study where feasible. Controlled experimental conditions were not possible, therefore an effort was made to approach experimental conditions by restricting

the sample to state higher education organizations with similar governance structures.

Correspondence was sent to the higher education executive officer in each of eight states with a single statewide higher education governing board (Arizona, Florida, Iowa, Kansas, Mississippi, North Carolina, Oregon, and South Dakota). The initial correspondence requested policy documents concerning the board's involvement in the review and approval of capital projects. A copy of the correspondence requesting the policy documents is found in appendix 1.

The requested documents were received from all eight boards. The documents included statutory provisions, administrative rules, policy manuals, and internal management directives. Current code and statute references, guidelines, appropriate policies, and procedures affecting the capital planning process also were obtained. The documents provided information on the specific involvement of governing boards in capital planning in each state. In addition, a review of the literature pertaining to higher education capital planning and governance was undertaken. Both scholarly and practical writings in the field of higher education and capital planning were reviewed.

After review of these documents, a survey instrument was developed. The questionnaire was distributed to higher education officers of the same eight statewide governing boards identified above and to university business officers of three universities in the eight states. Data collected described appropriate decision-

making involvement of statewide governing boards in the review and approval process for planning capital projects. A copy of the cover letter and the questionnaire are found in appendix 2.

Procedures for the Study

The following procedures were undertaken to complete the study:

1. Reviewed available literature which dealt with higher education capital planning and governance by statewide governing boards.
2. Solicited and reviewed documents, statutes and operating policies for statewide governing boards in the area of capital planning, capital project review and approval from eight states.
3. Utilized information in step two to design a survey instrument for use with state higher education executive officers and university business officers to determine what should be the governing boards' decision making involvement in the planning of capital projects.
4. Distributed the survey instrument to state higher education executive officers and selected university business officers in the eight states identified earlier. A copy of the cover letter and survey instrument are found in appendix 2. The eight statewide governing boards and selected universities in each of the eight states are found in appendix 3. A list of the state higher education executive officers and the university business officers in the eight states who received the questionnaire are found in appendices 4 and 5.
5. Conducted follow up telephone calls with state higher education executive officers and selected university business officers in the eight states to verify information received in response to the questionnaire.
6. Analyzed the information generated from the survey instrument utilizing appropriate descriptive statistics.
7. Developed a model identifying the important decision making points for statewide governing boards in the planning of capital projects.
8. Validated the capital project planning model and narrative

description by a panel of higher education capital planning experts. The experts are members of the Higher Education Facilities Management Association.¹ A list of the HEFMA members participating in validation of the model can be found in appendix 6. A copy of the letter requesting their participation can be found in appendix 7.

An objective of a 100% response rate was established for the survey of state higher education executive officers. An objective of a 75% response rate was established for the university business officers. The high response rate was necessary because of the small number in the population (eight). The following actions were undertaken to enhance the chances of achieving the desired participation by state higher education executive officers and the university business officers:

1. The survey questionnaire was sent out with a cover letter signed by the Executive Secretary of the Iowa Board of Regents, a member of SHEEO.
2. Follow-up letters were mailed several weeks after the initial letter and questionnaire were distributed.
3. Follow-up contact was made by telephone with each state higher education officer and university business officer not responding to the questionnaire.

The Experimental Sample

To conduct the research as designed and to accomplish the analysis of the research questions, several sample populations were determined. The study examined eight states which consisted of those that satisfied the following criteria.

1. A statewide governing board responsible only for senior public institutions, not private universities, community colleges, or technical institutes²
2. A statewide governing board created by statute or constitution, responsible for all aspects of four-year public higher education institutions in the state

3. No separate institutional governing boards for public universities

Eliminated from the study were states in which coordinating boards or independent institutional (local) boards were present between the statewide governing board and the institution. The presence of these intermediary boards would have interfered with the dichotomy that was the focus of this research. The study included two states (Florida and Oregon) where coordinating boards were present, but the coordinating boards are over the governing board and not between the governing board and the institutions. The sample of states consisted of the entire universe of states that met the criteria as identified.

Based on the criteria discussed above, eight states qualified for the present research: Arizona, Florida, Iowa, Kansas, Mississippi, North Carolina, Oregon, and South Dakota. Verification of the sample selection was by Millett's classification of higher education governing/coordinating boards by type of control.³ (See tables 1 and 2.)

A sample of public universities was established from a listing of all four-year public institutions in each of the eight states, obtained from the 1986 Higher Education Directory.⁴ The size of the sample of universities was three institutions per state for a total of 24. The universities in the eight states were selected based on the following:

1. The public university with the largest student enrollment
2. The land grant university

TABLE 1

STATE HIGHER EDUCATION BOARDS

Statewide Governing Boards-- All Public Institutions	Statewide Governing Boards-- Senior Institutions (a)	Coordinating Boards	Advisory Boards
Alaska	Arizona	Alabama	California
Georgia	Florida	Arkansas	Delaware
Hawaii	Iowa	Colorado	Michigan
Idaho	Kansas	Connecticut	Minnesota
Maine	Mississippi	Illinois	Nebraska
Massachusetts	North Carolina	Indiana	New York
Montana	Oregon	Kentucky	Pennsylvania
Nevada	South Dakota (b)	Louisiana	Vermont
New Hampshire		Maryland	
North Dakota		Missouri	
Rhode Island		New Jersey	
Utah		New Mexico	
West Virginia		Ohio	
Wisconsin		Oklahoma	
South Carolina			
Tennessee			
Texas			
Virginia			

Source: John D. Millett, Conflict in Higher Education
(San Francisco: Jossey-Bass, Inc., 1984), p. 24.

a. Separate agency for community colleges.

b. South Dakota has no community colleges.

Note: Wyoming is not included in the table because it has a single state university with only one campus.

TABLE 2

COMPOSITION AND SCOPE OF STATEWIDE GOVERNING BOARDS (a)

State	Name of Board	Established	Established	Number On Board	Appointment	Institutions
Arizona	Board of Regents	Constitution	1945	10 (b)	8 years	3
Florida	Board of Regents State Univ. System	statute	1905	13 (c)	9 years	9
Iowa	Board of Regents	statute	1909	9	6 years	3
Kansas	Board of Regents	Constitution	1913	9	4 years	6
Mississippi	Board of Trustees of Institutions of Higher Learning	Constitution	1910	13	12 years	8
North Carolina	Board of Governors University of North Carolina	Constitution	1972 (d)	32 (e)	8 years	16
Oregon	State Board of Higher Education	statute	1929	11	4 years	8
South Dakota	Board of Regents	Constitution	1897	7	6 years	7

- (a) Gordon Van de Water and Nancy M. Berve, Higher Education Governance in the 50 States, (Denver: Augenblick, Van de Water & Associates, Inc., 1984), pp. 18-19, 21-28.
- (b) Board membership includes two state officials.
- (c) The Commissioner of Education and a full-time student are members of the board.
- (d) Formerly "The Board of Trustees of the University of North Carolina" and redesignated as "The Board of Governors", effective July 1, 1972.
- (e) Eight members elected every two years by the State House and the State Senate.

3. The university located in the largest metropolitan area in the state.

The first two selections included the major research universities in each state and the third selection included an urban public university. A list of the eight statewide governing boards and the selected universities can be found in appendix 3.

Next, individuals identified as the chief staff officials to the statewide governing boards in each of the eight states were selected to receive the survey questionnaire. The selection of individuals was confirmed for each state by their membership in the Association of State Higher Education Executive Officers (SHEEO). This category of individuals was selected because of their knowledge about capital project planning policies of statewide governing boards and universities.

In Florida and Oregon, due to the presence of a coordinating board over the statewide governing board, the chief staff official to the statewide governing board is not the state's SHEEO representative. In those two states, the individuals selected to complete the survey questionnaire were confirmed through examination of the membership of the National Council of Heads of Public Higher Education Systems (NCHPHES). Except for Florida and Oregon, the questionnaire was completed by the SHEEO member or by their designee. A list of the State Higher Education Executive Officers from six states and the members from the National Council of Heads of Public Higher Education Systems (NCHPHES) from Florida and Oregon is found in appendix 4.

Finally, individuals knowledgeable about the capital project

planning from the university perspective were identified. The individuals selected were the chief business officers at universities among those governed by the eight statewide governing boards. The chief business officer is the university official who has responsibility for overseeing the capital planning and construction process at the institution. This individual is often the Vice President for Business or Administration. Selection was confirmed by the individual's membership in the National Association of College and University Business Officers (NACUBO). University business officers of three universities in each of the eight states were asked to complete the survey instrument. A list of the university business officers is found in appendix 5.

Construction of the Survey Instrument

Based on the review of relevant literature, available documents, and consultation with advisors experienced in statewide higher education governance and capital planning, a capital project planning questionnaire was developed.

A series of questions relating to higher education governing boards, university facilities and capital planning was developed. Questions were selected that would elicit a clear view of the board's involvement in capital project planning. The questions were drawn from the review of the literature and a review of documents provided by the governing boards. The questions were sifted and refined with an objective to obtain the optimal information from a limited number of questions. A preliminary list of questions was reviewed by individuals knowledgeable about higher education

planning, capital planning and research methods. Based on comments received from the advisors, subsequent drafts of the questionnaire were developed. The final draft of the questionnaire was determined by the researcher and the advisors to be properly designed to obtain the essential data required to proceed with the study.

The capital planning decision points included in the instrument were drawn from the research literature, documents provided by the governing boards and planning documents of the American Institute of Architects, Association of University Architects and the Society of College and University Planning. Individual transactions throughout the process of planning a capital project were identified from the various sources identified above. The transaction points were assembled from the various sources and the most prevalent points were included in a preliminary draft of the questionnaire. The panel of advisors suggested refinements in the terminology and decision points to be included. Decision points that offered an opportunity for involvement by a governing board were included in the final draft.

The final questionnaire provided an opportunity for the respondent to insert one or more additional decision points not listed in the instrument. A number of respondents did identify at least one additional decision point for board involvement not listed on the instrument. The same instrument was sent to the state higher education executive officers and the selected university business officers in the eight states.

The instrument contained a limited number of questions. To

ensure a high response level, the questionnaire was designed so it could be completed in less than thirty minutes. The cover letter and survey instrument are found in appendix 2.

The questionnaire sought information on what should be the decision-making involvement of statewide governing boards in the capital planning process. The respondents were asked to identify the important decision-making points and to categorize what the extent of a governing board's involvement should be at each decision point. The questionnaire inquired about the relationship between a state board and the institutions to determine if the decision-making responsibility for selected capital planning actions should be retained by the governing board, should be delegated to the universities, or should be carried out jointly.

The respondents were asked to identify who should have primary decision-making responsibility for each decision point. They were also asked to assess whether the governing board should participate in each decision point.

Analysis of the Data

Data were obtained from responses to the survey questionnaire. Quantitative data regarding what should be a governing board's involvement in capital project planning were collected. The quantitative data in the study were measured by counting.

Descriptive statistics were used to analyze the data collected. The statistics were computed from the responses to the survey questionnaire. In analyzing the data, qualitative

expressions were related to established standards whenever possible. Measures of central tendency were provided where they were helpful in interpreting the data.

The significance of the research finding was addressed through selection of the sample from the population. All eight states with statewide higher education governing boards over senior public universities were included in the research design. In addition, 24 of the 56 public universities in the eight states were included in the research design. The design of the study did not require the use of inferential techniques to generalize the research findings to the larger population.

ENDNOTES

1. HEFMA is an interinstitutional organization comprised of public university administrators responsible for capital planning. James F. Blakesley, President, HEFMA, Office of Space Management and Academic Scheduling, Purdue University, West Lafayette, IN.

2. In two states, Iowa and South Dakota, the statewide governing board is responsible for the state schools for the deaf and the blind.

3. John D. Millett, Conflict in Higher Education (San Francisco: Jossey-Bass, Inc., 1984) p. 24.

4. Constance Healey Torregrosa, ed. 1986 Higher Education Directory (Washington, DC: Higher Education Publications, Inc., 1986) pp. 8-11, 55-64, 93-108, 153-57, 211-43, 243-47, 274-76.

CHAPTER IV

DEVELOPMENT OF A CAPITAL PROJECT PLANNING MODEL

Introduction

The purpose of this study was to determine what should be the extent of a statewide higher education governing board's involvement in the review and approval of capital projects. Policy documents were obtained from the eight statewide governing boards where the governing board's authority encompassed only senior public universities.

The statutory authority and governing board policies for planning capital projects were reviewed. The policies were reviewed to identify how governing boards are currently involved in capital project planning. The policies provided an indication of what decision-making points should be considered in developing the survey instrument.

A questionnaire was developed to obtain data for development of a capital project planning model. The responses to the survey questionnaire by the state higher education executive officers and selected university business officers in eight states are presented. The responses from both groups identify the important decision-making points in which governing boards should be involved. Their responses to the questionnaire served as the basis for development of the model. This chapter includes a discussion of capital

project planning, the board's role in capital project planning, and the description of the capital project planning model. Validation of the model was accomplished by a panel of higher education capital planning experts.

This chapter begins with an overview of the eight statewide governing boards' current capital planning policies. The statewide governing boards in each of the eight states carry out their responsibilities under differing grants of authority. Five of the boards were established by their states' constitutions; the other three were created by statute. One governing board (North Carolina University system) has developed its own internal code documents that clearly spell out the board and university administration. Other boards have more broadly written policy statements that serve to guide their actions. Despite the differences in the boards' composition or how well codified their operating policies, all the eight statewide governing boards have developed some form of capital policies or procedures to assist them in carrying out their governance responsibilities.

The written policies and other procedural documents of the eight statewide governing boards relating to capital planning were reviewed. The documents provided information on how each board was involved in planning capital projects at the institutions under its governance. The decision-making points in the planning of a capital project were identified through review of these documents. The decision-making points drawn from the documents are identified in the later section "Capital Project Planning and Decision Making."

Distribution of Survey Questionnaires
and Collection of Responses

The population selected for this study was limited to states with consolidated statewide governing boards responsible only for senior public institutions where no separate institutional governing boards are present.

The research instrument was directed to the state higher education executive officers of the governing boards in eight states and the university business officers at three selected public universities in each of the states. The survey questionnaire, along with a cover letter explaining the purpose of the study and requesting a response, was mailed on January 28, 1987. The signature and title of the respondent provided on the questionnaire indicated that the instrument had received the attention of the state higher education executive officer, the university business officer or their designated facility staff member. Three weeks after the questionnaire mailing, follow-up letters were mailed and telephone calls were made to each state higher education executive officer and university business officer not responding to the initial letter. An additional three weeks were allowed for receipt of survey data.

The rate of return of the responses was adequate to provide a basis for analysis and development of the capital project planning model. Twenty-five of the 32 questionnaires (78 percent) were completed and returned. Among the state higher education executive officers, seven of the eight (88 percent) completed and returned the questionnaire. Eighteen of the 24 university business officers (75 percent) completed the questionnaire.

The question of validity was addressed through construction of the study and development of the survey instrument. An informal test of the survey instrument was conducted. The survey instrument was sent to several experts in higher education capital project planning. They reviewed the questionnaire and provided comments on the content and format of the questionnaire. The input from the experts was used in refining the survey instrument.

Capital Project Planning and Decision Making

A carefully conceived planning process for capital projects is required for a governing board to accomplish the following objectives:

1. Assure that appropriate controls are in place so the governing board can discharge its statutory responsibility at each important decision point in the capital development process.
2. Expedite the capital construction process by providing universities under the governing board's jurisdiction the needed flexibility and authority to exercise their professional and managerial duties.
3. Provide a fuller understanding of all phases of the capital project planning process.

Pursuing the goal of expediting the capital project planning process while assuring adequate controls has grown increasingly difficult. As discussed in Chapter I of this study, the complexity, number and dollar value of capital projects has increased dramatically over the past two decades.

Several statewide governing boards have initiated reviews of their current capital project approval processes. Among the concerns identified in documents provided by governing boards as

part of this research are excessive demands on the boards' time and unnecessary board involvement in project detail. Reviewing the status of many capital projects and approving architectural plans are time consuming because of the large number of projects. Other problems identified by governing boards with existing capital development processes include the lack of periodic reporting on the status of major capital projects.

In addition, the dollar thresholds established for processing smaller capital projects may be outdated, requiring governing boards to spend a great amount of time reviewing actions on projects with little aggregate cost. These problems result in delays in the capital development process and waste time. The delays in turn increase the direct and indirect cost of a capital project. The delays also extend the waiting time for needed facilities. Overall, a statewide governing board suffers when there is a lack of a clear consistent capital development process for universities under its governance.

Capital project planning at universities is a process consisting of the following sequential stages:

1. Project identification
2. Design
3. Construction contract bidding and award
4. Construction administration
5. Project acceptance

The stages of an effective capital project planning process are the responsibility of several administrative levels within a

university and governing board. Within each of these stages are a series of decision-making points or actions. These decision-making points are the focus of the capital project planning model.

Below is a description of capital project planning and the specific actions that will occur for most capital projects. This list of decision-making points has been drawn from a review of the literature, policy documents provided by governing boards, and observations made during conduct of this study.

The review included the capital planning documents furnished by the statewide governing boards and other planning documents identified during the review of the literature. Action or decision-making points were drawn from the board's written policies and other reference documents. All capital planning decision-making points identified in the documents were collected. These were assembled in a common list and corresponding decision-making points were matched. The list was revised several times until duplicate and similar decision-making points were eliminated. The list was reviewed with experts in capital planning and revisions were incorporated. As a result of this process, a list of decision-making points for possible governing board involvement was identified. The following are the capital planning decision-making points identified:

1. Project Identification

- A. establish scope of project
- B. approve the project budget
- C. determine source of funding
- D. establish space efficiency standards

- D. establish space efficiency standards
- E. establish cost per square foot standards
- F. review specifications

2. Design

- A. interview architects or other design consultants
- B. approve architectural selection
- C. approve amendments to consultant contracts
- D. prepare program statement
- E. approve program statement
- F. review schematic designs
- G. approve schematic designs
- H. review design development
- I. approve design development
- J. approve contract documents
- K. approve construction documents

3. Contract Bidding and Award

- A. release dollars for construction
- B. advertise for bids
- C. receive and open bids
- D. award construction contract

4. Construction Administration

- A. approve contract change orders

5. Project Acceptance

- A. accept completed construction project
- B. authorize final payment

Most of these steps are present for all types of capital

projects including new buildings, additions, remodelings, campus development projects, utility distribution and power plant construction. These specific decision-making points are present for various sizes of projects as well.

Levels of Decision-Making Involvement for Capital Project Planning

Responsibility for the planning of capital projects at universities in the eight states is legally vested in each governing board. The board, through internal management directives, policy manuals, or written procedures, delegates authority to the university for implementing the planning process. The principle associated with delegating authority for capital project planning is that decisions are better made by those more knowledgeable about specific activities or functions, in this case, professional university staff rather than lay board members. However, certain decisions should continue to be made by the governing board in order to comply with the board's fiduciary responsibility.

The concern is to make proper use of board members' time in the capital project planning process and to focus their attention on policy questions rather than administrative issues. This issue was addressed in Chapter II of this study in the area of "Higher Education and Statewide Planning."

For successful capital project planning, the activities of the governing board and the universities must be coordinated in common pursuit of the board's direction and the university's stated role and mission. Statewide governing boards vary in terms of their

organizational structure, assignment of the capital planning responsibilities and coordination of the separate activities.

The proposed model addresses the question of the appropriate location of decision making for each of the decision-making points of the capital project planning process. The model consists of suggested guidelines for board involvement based on input of experts in higher education facilities. Three levels of decision-making involvement for a governing board were identified. In the first level, the locus of the decision making rests solely with the governing board. In the second level, the board participates in some joint manner with others in the decision-making process. (The other entities most often are the universities under the board's governance, or a state finance authority or a state budget agency.) In the third level of governing board involvement, the decision making for specific actions is undertaken by others, with limited governing board involvement.

This study focused on the board's involvement in capital planning. The purpose was to identify the extent of the board's involvement in the decision-making process. For the purposes of this research, the category of "other" was developed. Primary among the organizations included under the "other" category were the universities governed by the Board. Additional organizations or agencies included in the "other" category were state budget and facilities offices, the governor and staff, and the state legislatures and committees. The decision-making involvement of these organizations were grouped together into a single category in

order to capture and highlight the nature of the board's decision-making involvement at the various decision-making points in the capital planning process.

Analysis was undertaken for each of the capital planning decision-making points identified from the review of the literature and the policy documents. Analysis led to the determination of what should be the extent of governing boards' decision-making involvement for each point. That involvement was categorized into one of the three levels of decision-making involvement described above. The state higher education executive officers and the university business officers of 24 public universities in the eight states provided their judgments on the survey questionnaire on the extent of the governing boards' involvement in capital project planning.

Development of the Model

Regardless of the type of capital project or the amount of the budget, each project requires governing board involvement at important decision-making points. Based on the responses provided by the state higher education executive officers and the chief university business officers, several decision-making points were identified as most important for governing board involvement.

The first facet in development of the model was to analyze the responses concerning the five most important steps in the capital planning process. The responses of the state higher education executive officers and the university business officers were weighted according to the respondents' placement of each decision-making point in priority order from one to five

(tables 3 and 4). The most important decision-making points were given a ranking in descending order, with fifth being least important of the five and receiving a value of one. The most important decision-making point identified by a respondent was given a value of five. The values for each decision-making point were summed individually; the highest values identified the five most important decision-making points for governing board involvement in capital project planning.

The state higher education executive officers identified in priority order the following five decision-making points as the most important:

1. Approve the project budget
2. Establish the scope of the project
3. Approve the program statement
4. Approve selection of the architect
5. Approve the project design at the schematic design phase

(See table 3.)

The university business officers identified in priority order the following five decision-making points as the most important for governing board involvement in capital project planning:

1. Approve the project budget
2. Determine/approve source of funding
3. Approve the program statement
4. Establish scope of the project
5. Approve selection of the architect

(See table 4.)

TABLE 3

IMPORTANT DECISION-MAKING POINTS IN CAPITAL PLANNING
IDENTIFIED BY STATE HIGHER EDUCATION EXECUTIVE
OFFICERS IN EIGHT STATES

	Frequency	Score	Rank
Establish scope of project	1 1 2 1 1	24	2
Approve project budget	2 3 1 2 2 2	28	1
Determine/approve source of funding	3	3	
Establish space efficiency standards	4	2	
Establish cost per square foot	5	1	
Approve architect selection	5 3 3 4	9	4
Approve amendments to consultant contracts	4	2	
Approve program statement	2 2 2 5	13	3
Approve schematic design	5 3 4	6	5
Approve design development	3	3	
Approve construction documents	5 3	4	
Award construction contract	4	2	
Approve contract change orders	3 4	5	
Accept completed project	5	1	
Approve initiation of project	1	5	
Prioritize projects among institutions	3	3	
Systemwide long range planning	1	5	
Secure funding from Governor and legislature	4	2	

N = 7

NOTE: A score for each decision-making point was computed by multiplying the number of rankings by a point value and then summing the products of all rankings for each decision making point. Ranking #1 was given a value of five points and ranking #5 was given a value of one point.

TABLE 4
IMPORTANT DECISION-MAKING POINTS IN CAPITAL PLANNING
IDENTIFIED BY SELECTED UNIVERSITY BUSINESS OFFICERS

	Frequency	Score	Rank
Establish scope of project	1 2 1 1 1	24	4
Approve project budget	1 1 1 4 2 2		
Determine/approve source of funding	1 1 4 1 2 3	41	1
Establish space efficiency standards	2 4 1 1 1 2 1 2 1	31	2
Establish cost per square foot standards	5 2	5	
Review specifications	3	3	
Approve architect selection	3	3	
Approve amendments to consultant contracts	4 2 3 3 2 2 4	20	5
Prepare program statements			
Approve program statements	4	2	
Approve schematic design	3 2 2 2 3 3 1 2	30	3
Approve design development	4 1 5 2 3	15	
Approve construction documents	3 4	4	
Release dollars for construction	5 4 3 4 5 4 4	13	
Reward construction contract	3 3 4 2 5	13	
Approve contract change orders	5 3 3 5 5 5	10	
Accept completed project	4	1	
Approve guidelines and procedures	5 5 5	2	
Set construction priorities	3	3	
Prepare annual report	1	5	
Review projects exceeding established criteria	4	2	
	5	1	
N = 18			

NOTE: A score for each decision-making point was computed by multiplying the number of rankings by a point value and then summing the products of all rankings for each decision making point. Ranking #1 was given a value of five points and ranking #5 was given a value of one point.

The five decision-making points identified by the state higher education executive officers and the university business officers were very similar. (See table 5.) Four out of the five decision-making points identified by each group were the same: approval of the project budget, approval of the selection of the architect, approval of the program statement, and establish scope of the project.

TABLE 5

RANKINGS OF IMPORTANT DECISION-MAKING POINTS IN CAPITAL PLANNING
IDENTIFIED BY STATE HIGHER EDUCATION EXECUTIVE OFFICERS AND
SELECTED UNIVERSITY BUSINESS OFFICERS

State Higher Education Executive Officers' Rankings	Selected University Business Officers' Rankings
1. Approve project budget	1. Approve project budget
2. Establish scope of project	2. Determine/approve source of funding
3. Approve program statement	3. Approve program statement
4. Approve architect selection	4. Establish scope of project
5. Approve schematic design	5. Approve architect selection

The similarity between the two groups extended to the relative ranking of importance for four out of the five decision-making points. The two groups differed only when identifying the second most important step for governing board involvement. The

university business officers identified "determine/approve the source of funding" as the second most important decision-making point, while the higher education executive officers identified the "approve the scope of the project" as the second most important step.

For the university business officers, the decision-making points that governing boards should be involved in beyond the initial five were "release of dollars for construction" and "award of the construction contracts." No other decision-making point was identified as important by more than one higher education executive officer.

The responses provided by the state higher education executive officers and the university business officers were combined to identify the important decision-making points for board involvement. These points are listed in table 6.

The second facet of the model concerns the level of governing board involvement in the capital project planning decision-making process. This phase of the analysis looked at three levels of a governing board's decision-making involvement: (1) for the board to make the decision, (2) for the board to participate with others in the decision making, and (3) for others to make the decision without direct board involvement. This categorization was undertaken for each of the 24 decision-making points that had been identified in the capital project planning process from the review of the literature and the policy documents provided by the governing boards. Space was provided for the respondents to add additional

TABLE 6

CONSOLIDATED LIST OF IMPORTANT DECISION-MAKING POINTS
IN CAPITAL PLANNING AS IDENTIFIED BY STATE HIGHER
EDUCATION EXECUTIVE OFFICERS AND SELECTED
UNIVERSITY BUSINESS OFFICERS

Establish scope of project
Approve project budget
Determine/approve source of funding
Approve architect selection
Approve program statement
Approve schematic design
Approve contract change orders

decision-making points. Several additional steps were written on the response forms.

The categorization of the decision-making points provided by the state higher education executive officers can be found in table 7. The responses provided by the selected university business officers can be found in table 8. The frequency that each of the three categories was identified by the respondents is shown on each table. The combined responses of the state higher education executive officers and the university business officers can be found in table 9.

A concept incorporated in the development of the model was based on observations drawn from the operating policies of the state governing boards: the number of capital projects and the dollar

TABLE 7

STATE HIGHER EDUCATION EXECUTIVE OFFICERS' RESPONSES
ON STATEWIDE GOVERNING BOARDS' DECISION-MAKING
INVOLVEMENT IN CAPITAL PLANNING

	BOARD		
	BOARD PERFORMS	OTHERS PERFORM	PERFORMS W/OTHERS
A. Establish scope of project	1		6
B. Approve project budget	4		3
C. Determine source of funding	1		6
D. Establish space efficiency standards	1	2	4
E. Establish cost per square foot standards	1	5	1
F. Review specifications		3	4
G. Interview architects or other design consultants		2	5
H. Approve architectural selection	5	1	1
I. Approve amendments to consultant contracts	3	1	3
J. Prepare program statement		7	
K. Approve program statement	4	2	1
L. Review schematic designs	1	3	3
M. Approve schematic designs	3	3	1
N. Review design development	1	3	3
O. Approve design development	3	3	1
P. Approve contract documents	3	3	1
Q. Approve construction docume	1	3	3
R. Release dollars for construction	2	3	2
S. Advertise for bids	1	4	2
T. Receive and open bids		5	2
U. Award construction contract	4	2	1
V. Approve contract change orders	3	1	3
W. Accept completed construction project	2	2	3
X. Authorize final payment	2	2	3
Y. Other: Establish priorities			1
Z. Other: Support project before legislature			1
Other: Systemwide long range planning			1

TABLE 8

SELECTED UNIVERSITY BUSINESS OFFICERS' RESPONSES ON
STATEWIDE GOVERNING BOARDS' DECISION-MAKING
INVOLVEMENT IN CAPITAL PLANNING

	BOARD PERFORMS	OTHERS PERFORM	BOARD PERFORMS W/OTHERS
A. Establish scope of project		11	5
B. Approve project budget	9	1	6
C. Determine source of funding	3	6	7
D. Establish space efficiency standards	3	5	7
E. Establish cost per square foot standards	2	7	6
F. Review specifications	1	10	3
G. Interview architects or other design consultants	1	13	1
H. Approve architectural selection	4	7	5
I. Approve amendments to consultant contracts	1	10	5
J. Prepare program statement		14	2
K. Approve program statement	8	4	4
L. Review schematic designs	1	10	5
M. Approve schematic designs	5	5	6
N. Review design development		12	4
O. Approve design development	3	9	4
P. Approve contract documents	4	7	4
Q. Approve construction documents	2	9	5
R. Release dollars for construction	7	8	1
S. Advertise for bids	1	13	2
T. Receive and open bids		15	1
U. Award construction contract	7	8	1
V. Approve contract change orders		8	8
W. Accept completed construction project	3	8	5
X. Authorize final payment		11	5
Y. Other: Annual Report	1		
Z. Other: Public hearing		1	
Other: Set construction priorities	1		

TABLE 9

COMBINED RESPONSES OF STATEWIDE GOVERNING BOARDS'
DECISION-MAKING INVOLVEMENT IN CAPITAL PLANNING

	BOARD PERFORMS	OTHERS PERFORM	BOARD PERFORMS W/OTHERS
A. Establish scope of project	1	11	11
B. Approve project budget	13	1	9
C. Determine source of funding	4	6	13
D. Establish space efficiency standards	4	7	11
E. Establish cost per square foot standards	3	12	7
F. Review specifications	1	13	7
G. Interview architects or other design consultants	2	15	6
H. Approve architectural selection	9	8	6
I. Approve amendments to consultant contracts	4	11	8
J. Prepare program statement	0	21	2
K. Approve program statement	12	6	5
L. Review schematic designs	2	13	8
M. Approve schematic designs	8	8	7
N. Review design development	1	15	6
O. Approve design development	6	12	5
P. Approve contract documents	7	10	5
Q. Approve construction documents	3	12	8
R. Release dollars for construction	9	11	3
S. Advertise for bids	2	17	4
T. Receive and open bids	0	20	3
U. Award construction contract	11	10	2
V. Approve contract change orders	3	9	11
W. Accept completed construction project	5	10	8
X. Authorize final payment	2	13	8
Y. Other:			
Z. Other:			
Other:			

volume for each of those projects are not evenly distributed by project size; a large proportion of dollars are tied up in a small number of projects. The substantial majority of projects are small and have moderate budgets.

From the responses provided by state higher education executive officers and university business officers, it is evident that governing boards should have policies that focus greater attention on projects with larger budgets. The reason for the threshold under which greater responsibility is delegated to the institution can be attributed to a disproportionate distribution of the dollars among the capital projects. The governing boards should delegate greater responsibility to the institutions for a great number of projects.

This pattern has been confirmed by the Iowa Board of Regents where 80 percent of the capital project dollars are tied up in 20 percent of the projects. Conversely, 80 percent of the projects involve only 20 percent of the total capital dollars.

This pattern is borne out in other states as indicated by their policy documents. In seven out of the eight states in this study, a threshold has been established under which additional decision-making responsibility for smaller projects is delegated to the institutions. Table 10 displays the dollar levels of thresholds utilized in the seven states. Projects above the threshold receive the attention of the governing board at specific intervals in the planning process.

Therefore, in determining how projects should be submitted

TABLE 10

LEVEL OF CAPITAL PLANNING THRESHOLDS
FOR STATEWIDE GOVERNING BOARDS

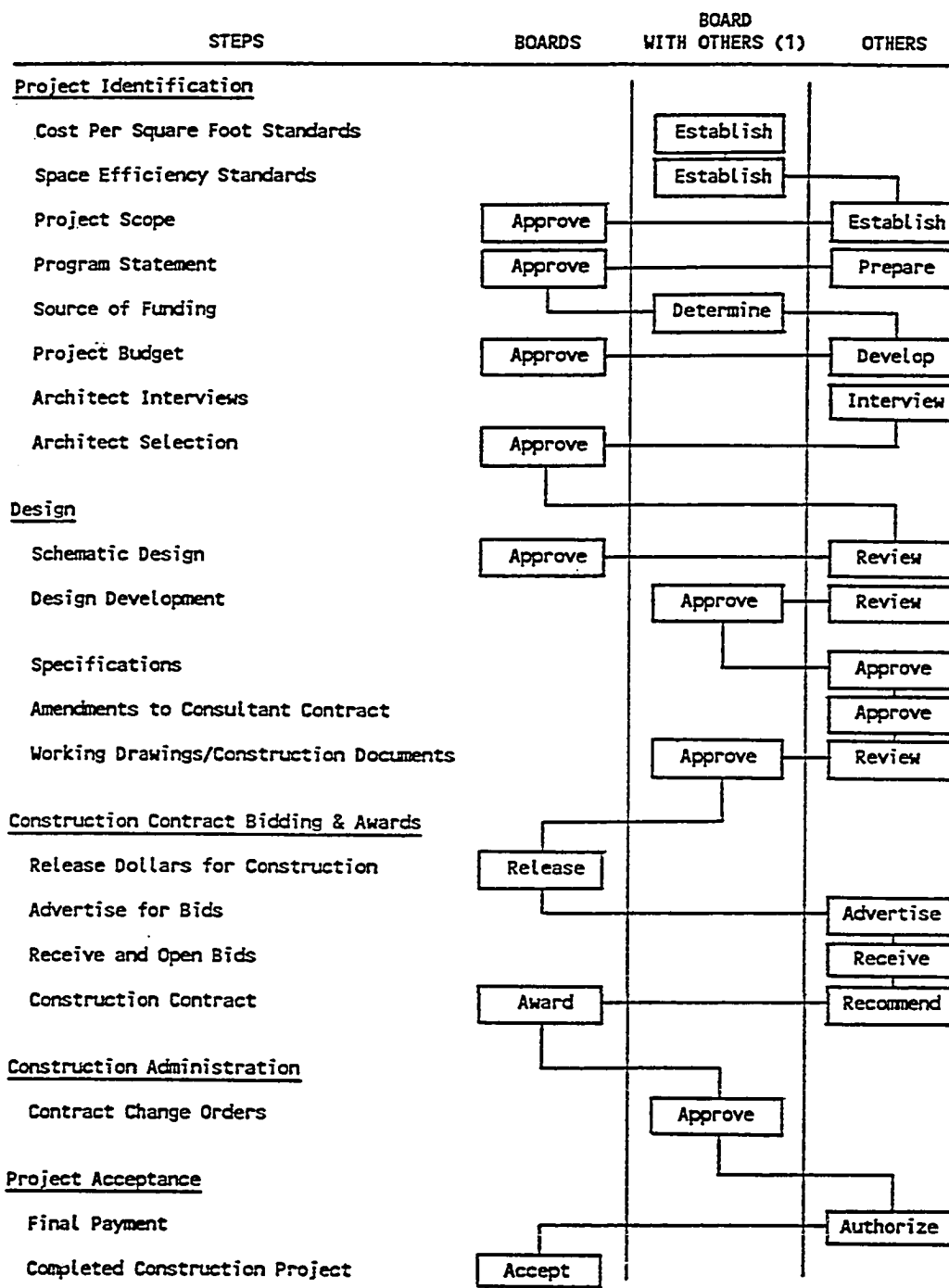
State Governing Board	Threshold Level
Arizona	\$400,000
Florida	\$100,000
Iowa	\$250,000
Kansas	\$250,000
Mississippi	\$100,000
North Carolina	
Oregon	No Threshold
South Dakota	\$ 25,000

Note: University of North Carolina system did not respond.

for consideration of governing boards, more emphasis should be placed on review and approval for large projects. The focus of a board's policies should be on the larger and more significant projects.

Description of the Capital
Project Planning Model

The exact nature of the content and the emphasis placed on various aspects of the capital planning process were established through the responses to the questionnaire, review of the literature and the policy documents provided by the governing boards. The model illustrated in figure 1 outlines the important decision-making points for statewide governing boards' involvement in capital project planning. The following is a description of those points contained in the capital project planning model. Statewide governing boards should perform the following actions in the capital



(1) Others means board performs with assistance as needed from others, i.e. working with the universities, the Governor or legislative committees.

Fig. 1. Statewide higher education governing board capital project planning decision-making model

project planning process:

1. Approve scope of the project: In response to a university request, the board should define the planning parameters for a capital project and authorize the university to proceed with planning. Approval of the project scope establishes the size of the project in terms of gross square footage and dollar amount.

Additional information often established at this point include identification of programs and departments that will be located in the facility and a preliminary indication of financial resources available for funding the project. The parameters defining the scope of the project are identified in a written document. The board takes action in approving the scope of a project when the required information is submitted and found to be in order. The parameters cannot change without authorization of the board.

2. Approve project budget: The board should take action on the project budget as part of a review prior to authorizing the university to proceed with the project planning. Information to be considered in approving a project budget is the total budget amount, the source of funding, breakdown of the budget by category or expenditure such as design fees, construction, site preparation, equipment and contingency. For a bond financed project, a statement regarding the financial feasibility of the project should be prepared and submitted to the board. The amount of the budget approved is an important factor influencing the size and quality of the completed structure.

3. Approve program statement: The program statement is a

written document describing the user requirements for a proposed facility or renovation project. The program statement relates the construction request to the institution's educational philosophy, academic research programs, planning criteria, and anticipated levels of enrollment. Additional information contained in the program statement is prepared by an institution's physical plant office and includes special building needs, utility location, electrical characteristics, energy conservation measures and safety requirements.

4. Approve architectural selection: The board should make the actual appointment of design consultants for capital projects, including architect and engineers. The selection of an architect should be in accordance with explicitly written board procedures specifying the requirements of the selection process. The overall appearance, efficiency and cost of a building, including expense of operation and maintenance, largely result from design decisions of the architect and engineer. University administrators, user department representatives, and long range facility planning committee members from the institution often participate in the selection of an architect or engineer. Only after board approval of the selection can the university enter into a written agreement with the architect.

5. Approve schematic design: The board should have an opportunity to check the progress of a project at completion of the first stage of the design process. This step is referred to either as preliminary design or schematic design. The architect, with the

assistance of the university staff, translates the written program statement into a graphic representation. The consultants discuss and analyze the program, attempting to develop a conceptual organization including the functional relationships in response to the program. The location and size of the building site and relationship to the surrounding community are factors considered during this phase. One schematic design will be singled out for further development.

Before taking action on a project at the schematic design phase, the board should be satisfied that the project scope and budget have not changed and that the overall design concept for the facility is satisfactory. The board's approval of the schematic design is necessary before planning can proceed into design development.

6. Release dollars for construction: After completion of working drawings and specifications, the institution should request that funds be made available for construction. The board should again be sure that the scope and budget for the project are consistent with previous approvals. A final estimate of the construction cost prepared by the architect or cost consultant should be carefully reviewed before the board takes action in releasing construction funds to the university. If the estimate is not in line with the approved project budget, the university and architect should take necessary actions to ensure that the project can be bid within the project budget before the funds are released.

7. Award of construction contract: After bids have been received and the architect and university have made a recommen-

dation, the board must be sure all bid procedures were followed. In awarding the contract the board should take the action if the bid is reasonable, is within the approved budget, and the award is in the interest of the board or the university.

The board should reserve the right to waive any and all irregularities or informalities in the bids received when a waiver is in the interest of the board or the university. If all is in order, the board should award the contract as soon as possible to the lowest responsible bidder.

8. Accept completed construction project: Near completion of construction, the university and architect should conduct a final inspection of the project. The architect then issues a substantial completion certificate that verifies that the project has been completed in accordance with the construction plan and specifications. The contractor then should furnish "as built drawings" and written warranties to the university. The university releases final contract payments to the contractor. After receiving notification that these actions have taken place, the board should formally accept the completed construction project on behalf of the university and the state.

The following is a description of the decision-making process that a statewide governing board should perform with others.

1. Establish space efficiency and cost per square foot standards: The board should adopt guidelines to control the size and cost of construction projects. The space standards establish the size of areas for different activities and the overall space

efficiency for different types of buildings. The cost standards define the appropriate quality for governing board projects by establishing cost per square foot figures for different types of buildings and construction. The standards may be developed in terms of minimums or ranges. The universities should participate with the board in developing the space and cost standards which should be reviewed periodically and revised as needed.

2. Determine source of funding: Capital projects can be funded from a variety of sources: appropriation from current state revenue, allocation from a building repairs fund, an education facilities fund or through issuance of bonds. The board should participate with others in determining the appropriate source of funds that are to be used for each capital project. Others may include, as appropriate, the universities, legislature, state finance authority and/or the governor's office.

3. Approve design development: Plans are studied in larger scale and more detailed drawings (including elevations), and perspectives are developed. The configuration of each room, the required layout of the equipment and furnishings are identified and finalized. The structural system is designed and the availability of construction materials is considered. At the completion of design development, cost estimates are prepared and plans are submitted for necessary review and approval.

4. Approve construction document preparation: The documents are the complete working drawings and construction specifications for the project. The working drawings and construction specifi-

cations define the type and quantity of materials that will be used to construct the facility. Cost estimates are updated and necessary approvals and authorizations are obtained before receiving bids for the project.

5. Approve contract change orders: During the construction phase, the university or the architect may determine that a change or addition must be made in the work required of the contractor. The original contract is amended by means of a change order that specifies the extra work to be accomplished and the price for the work. The university initiates preparation of the change order for submittal to the board. The board should approve the change order before authorization to proceed is given to the contractor. The board's involvement ensures that the scope of the project and original budget are not altered without their express approval.

Summary of the Model

As a result of the questionnaire, interviews, and a review of the literature, findings about capital planning were developed. From the research findings and studies reported in the literature, a capital project planning model was developed. The model incorporated the points and criteria obtained through the research: it constitutes a tool to assist governing boards in the review and approval of capital projects.

The capital project planning model identified the important decision-making points of the planning process, along with descriptions of the major planning decisions made in each phase. The levels of statewide governing board involvement in each

decision-making point were illustrated in the model. The governing board's role in each of the important decision-making points was discussed in the narrative description that accompanied the illustration of the model.

Validation of the Capital Project Planning Model

Validation of the capital planning project model was obtained through use of a panel of experts. The panel was composed of 20 recognized experts in higher education capital planning. These experts were drawn from the membership of the Higher Education Facilities Management Association. The response form and narrative description of the model were reviewed by advisors who hold similar positions as the panel members and who are knowledgeable about statistics and research methods. As a result of their review, modifications were made in the final validation response form. An illustration and description of the capital project planning model was provided to each panel member, along with the revised validation response form.

The panel of experts was asked to assess the validity of the model to illustrate a method of higher education governing boards' involvement in the planning of capital projects. They were asked to review the model and indicate its usefulness in explaining the proper involvement of higher education governing boards in the planning process of capital projects.

The panel members were asked to express their judgments concerning the model in the following areas:

1. As an illustration of a governing board's involvement in capital planning
2. As a guide to future research on capital planning
3. As an instructional/educational tool
4. As a guide to capital planning efforts
5. As a tool to evaluate actual capital planning efforts

The experts were asked to rate each statement on a five point scale. The scale rated how beneficial the model was in each of the five areas.

Seventy percent of the capital planning experts responded to the request to assist with the research study. Responses were received from 14 of the 20 members. Completed validation response forms were returned by 11 of the 20 members. Three experts provided comments on the model but did not complete the validation form.

The experts' ratings for each of the five areas were tabulated and a total score for the five areas calculated. A summary of the experts' overall rating of the capital project planning model can be found in table 11. A total score for each statement was computed by multiplying the number of ratings at each scale point for each statement. The maximum possible score was 55 (11 ratings of "5"). The minimum possible score was 11 (11 ratings of "1").

The members of the panel were asked to provide any additional ideas that should be incorporated in the model. Several members offered suggestions for improving the model. Their comments were made on the form provided and on attached notes. A compilation of the experts' comments on the capital project planning model can be

TABLE 11
SUMMARY OF EXPERTS' RESPONSES
ON VALIDATION OF MODEL

Rated Areas	Number of Ratings at Each Point Value					Total Score (a)	Ranking By Total Score
	1	2	3	4	5		
The value of the capital planning model:							
1. as an illustration of governing board's involvement in capital planning	0	0	1	4	5	44	1
2. as a guide to future research of capital planning	0	1	7	0	2	33	4
3. as an instructional/ educational tool	0	3	3	1	3	34	3
4. as a guide to capital planning efforts	0	0	4	5	1	37	2
5. as a tool to evaluate actual capital plan- ning efforts	1	0	3	2	4	37	2

N = 11

(a) A total score for each item was computed by multiplying the number of ratings at each scale point by that point's scale value and then summing the five products for each item.

found in appendix 8.

The experts rated the model most beneficial as an illustration of a governing board's involvement in planning of capital projects. Nine of the 11 validation response forms rated the model beneficial or very beneficial in this area. None of the other statements received a higher total score.

The responses from the higher education capital planning experts confirm that the capital project planning model developed by this study is a beneficial illustration of involvement by statewide higher education governing boards in the capital planning process.

The names of the experts receiving the model can be found in appendix 6. A copy of the cover letter requesting the assistance of the panel members and the validation response form can be found in appendix 7.

Summary

This chapter has presented the results of the study regarding higher education governing boards' decision-making involvement in the review and approval of capital projects. The result of the questionnaire and the review of the literature and documents provided by the university and governing board representatives provided a basis for developing a model of capital project planning by statewide governing boards. The process used in development of the model was described and the resulting model was illustrated.

The final chapter of this study will summarize the results and analysis of the entire project. The findings related to the seven predictive statements are presented as well as the implications for further research.

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

Introduction

The primary focus of this study has been the involvement of statewide higher education governing boards in the review and approval of capital projects. The stated purposes of the study were: (1) to identify the decision-making points in planning capital projects for public higher education facilities, (2) to determine what should be the involvement of statewide higher education governing boards in capital planning and (3) to develop a model which identifies the critical decision-making points for statewide higher education governing boards in capital project planning. The model was based on responses to a survey of state higher education executive officers in eight states and university business officers in public universities in the eight states.

The capital project planning model is an illustration of statewide governing boards' involvement in capital project planning. The model consists of a set of suggested guidelines based on how experts think it should be. The model may be used as an educational tool by statewide governing boards to better understand the alternative decision points that are present in the planning process of a capital project.

The model developed as a result of this research study is not presumed to be the ultimate description of a statewide governing board's involvement in capital planning. The model does not attempt to define other's involvement in capital planning. That objective is left to future research efforts. This capital planning project model is an initial examination of governing boards' involvement in capital planning. The model addresses the fundamental question, "At what decision-making points should a governing board participate in the planning of a capital project?"

In Chapter II a conceptual approach to the study of rational decision making in higher education was proposed, based on the research of Chaffee and Graham Allison. The characteristics of this conceptual approach were incorporated into the research design for the project. Hypotheses were constructed to assist in the description and analysis of the data. As outlined in Chapter III, these hypotheses related to the extent and nature of the involvement of governing boards in the review and approval of capital projects.

State higher education executive officers and university business officers of public universities in eight states were identified as a source of basic data for this study. Additional data and background information were provided through a review of the literature and policy documents of the eight higher education governing boards. The review of the literature noted that little research was available on a statewide governing board's decision-making involvement in the review and approval of capital projects for universities under their jurisdiction.

A survey questionnaire was developed and mailed to both the statewide higher education executive officers and the university business officers. The same questionnaire was mailed to both groups. The questionnaire contained questions on the size and scope of the physical plants, current capital project activity, and size of the facilities planning staff. The questionnaire proposed a series of identified decision-making points in the capital planning process drawn from the literature. The respondents were asked to identify what should be a board's involvement in each step and to identify the five most important steps for a governing board's involvement. The questionnaire was returned by 88 percent of the state higher education executive officers, and 75 percent of the university business officers.

A model was then developed identifying the key decision-making points in the planning process. The development of the model was based on analysis of the responses to the questionnaire. Validation of the model was obtained from experts in higher education capital planning, all of whom are members of the Higher Education Facilities Management Association.

The following is a summary discussion of the findings and a review of the implications of these results for higher education governing boards.

Findings and Interpretations

The following findings which emerged from this study are summarized in table 12.

TABLE 12

SUMMARY OF FINDINGS

	Square Feet (Millions)	Number of Buildings	Board Staff Total	Board Staff Facilities	Capital Projects Number	Dollar Amount	Threshold		Dollar Amount	Architect Presentations	
							Y	N		Y	N
Arizona	10-20	>200	23	1	58	138M	Y		400,000	Y(d)	
Florida	>20	>200	12	1.5	93	157M	Y		100,000	N(e)	
Iowa	>20	>200	11	1	119	60M	Y		250,000	N(b)	
Kansas	>20	>200	12	1	11	75M	Y		250,000	N	
Mississippi	10-20	>200	14	1	14	34M	Y		100,000	N(a)	
North Carolina											
Oregon	>20	>200	30	4	100	70M	N		.	N	
South Dakota	>20	>200	16	1	2	11M	Y		25,000	Y(c)	

NOTES

- (a) Routine approvals are required at schematic, design development and contract document stages. Presentations handled by board staff.
- (b) Except for major campus structures.
- (c) At preliminary and design development stages.
- (d) Project management consultants review the university initial request for project approval and report their findings to the board.
- (e) The board approves master plans, building program and budget and architect agreements, then authorizes the university to function within those parameters.

NOTE: University of North Carolina system did not respond.

1. The physical plants at institutions governed by statewide governing boards are substantial. The statewide governing boards included in this study each oversee physical facilities of at least 10 million square feet. Five of the governing boards oversee physical plants in excess of 20 million square feet (Arizona, Iowa, Kansas, Oregon, and South Dakota).

Each of the governing boards responding to the survey also indicated that the combined physical facilities at the institutions under their jurisdiction contain over 200 individual buildings.

2. The total number of state board professional staff ranged from a low of 11 in Iowa to a high of 30 in Oregon. Five of the statewide governing boards have a professional staff of 16 or less (Iowa, Florida, Kansas, Mississippi, and South Dakota).

The average number of full time state board professional staff significantly involved with facilities or capital planning is 1.5 individuals. The number of facilities professionals in the governing board offices ranged from one to four. The Oregon State System office indicated four professional staff are involved with facilities planning. Five of the statewide governing boards reported only one full time professional staff member involved in facilities (Arizona, Iowa, Kansas, Mississippi, and South Dakota).

3. The statewide governing boards oversee an average of 45 capital projects with an average value of \$52 million. The amounts ranged from \$10.8 million in South Dakota to \$157 million in Florida with the responses of three governing boards falling within the \$60-\$75 million range. The number of projects ranged from a low of two

in South Dakota to a high of 119 in Iowa (the number of capital projects that were initiated during the past calendar year). The figures are an indication of the number of new projects flowing through the boards' capital process. A request for the number of active capital projects in the planning process or projects under construction would have resulted in a considerably higher figure, both for the dollar amount and the number of projects. This is because the capital projects dealt with by governing boards take an average of one year in the planning phases and an additional two years in the construction phases.

4. Statewide governing boards generally delegate more responsibility to the institutions for approval of specific actions on capital projects of \$250,000 or less. One governing board indicated that all capital projects for its institutions were handled alike, regardless of size or dollar amount of the project (Oregon). The other governing boards responded that capital projects below a specified threshold were handled differently. For these smaller projects, the board delegated the responsibility for review and approval to the institution to take action without the board's direct involvement. The thresholds identified by the governing boards ranged from a low of \$25,000 (in South Dakota) to a high of \$400,000 (in Florida), with two governing boards identifying a threshold of \$250,000 (Iowa and Kansas). Arizona recently raised its threshold from \$50,000 to \$400,000 as the result of a study of its capital procedures.

5. Architectural consultants usually do not make

presentations to the board on the status of capital projects. Only one governing board (South Dakota) indicated that architectural consultants make presentations to the board at the preliminary design phase and completion of the design development phase. Progress reports are generally presented by the regents' facilities staff or by the president of the institution. The architects often prepare materials that are used by board staffs in making presentations to the board. One governing board (Iowa) indicated that architectural presentations are only made for "significant" campus projects. Another response indicated that architects may appear if requested by the board.

6. Results of the survey show that a statewide governing board's decision-making involvement in capital project planning should include the following actions: approve project scope and budget; approve the program statement; approve selection of architectural consultants; approve schematic design; award construction contract and accept completed construction project. The most important decision point for statewide governing boards is the approval of the project budget and the program statement. Acceptance of the project scope and budget is part of a phase known as project identification. The project identification stage usually includes the review and approval of the justification for a project, scope of the project, source of funding, preliminary project budget, schedule for undertaking the project, and operating cost of the facility once it is completed. The approval of the construction documents involves approving the final plans that are used to obtain

competitive public bids from contractors.

7. There was a high degree of congruence in the responses of state higher education executive officers and university business officers in identifying the steps in which governing boards should be involved in capital planning.

The research indicated that a board should play an active role with the universities in several additional steps. A governing board should participate in establishing space efficiency standards and cost per square foot standards for capital projects. Both of these steps are important in determining the ultimate cost and size of a capital project. The board should participate with the universities in approving contract change orders.

The decision-making involvement of the eight governing boards varies from the model shown in Figure 1. Each governing Board's decision-making involvement in capital planning developed policies suited to its particular setting and environment. The model shown in Figure 1 reflects the judgement of two levels of higher education administration solicited from the eight states; the board level and the institutional level.

Currently none of the eight statewide governing boards in the study are involved in capital planning decision-making in precisely the same manner as suggested by the model. The model is a distillation of opinions obtained from administrators in individual settings. The model provided a recommended list of decision-making points in capital planning. The reader may want to examine the current policy involvement of a statewide governing board as

reflected in its capital planning documents for comparison with the capital planning model.

Validation of the capital project planning model was accomplished by recognized experts in the field of capital planning for higher education. The experts, drawn from the membership of the Higher Education Facilities Management Association were asked to review the model and suggest any changes to the model. Membership from the Higher Education Facilities Management Association confirmed that the model identified the important decision-making points for board involvement and would be useful as an illustration of a governing board's involvement in capital project planning.

The responses from the experts indicated that the model was most beneficial as an instructional and educational tool in explaining governing boards' involvement in capital planning. Nine of 11, or 81 percent of the experts responding indicated that the model was beneficial or very beneficial as an illustration of a governing board's role in capital planning.

Implications for Further Research

The results of this study should provide a basis on which future research can build. Some recommendations can be made regarding further research in governing boards' capital planning policies. Suggestions for further study include the following.

1. A future study should adapt the approach and methodology of this study to all statewide higher education governing boards. The study population would include all statewide governing boards, regardless of the pattern of governance or regardless of the

responsibility for other educational levels governed by that board.

2. A study should be made to compare the authority exercised by a governing board in capital planning with the authority actually granted to the statewide governing board. The study might help to better understand deviations in the board's exercise of authority in decision-making from the actual authority granted to the board.

3. A study should be conducted that examines any differences in perception of capital planning policies by state higher education executive officers and university administrators of institutions reporting to the statewide governing board. Such a study would look for discrepancies between the viewpoints and search out the reasons for those discrepancies.

4. A study should be conducted to compare the decision-making practices in capital planning of public governing boards versus private governing boards. The study would explore any differences between the decision-making processes used by governing boards based on the type of governing board.

5. Studies should be undertaken to analyze the relationship of facilities or capital planning with the other planning and policy making activities undertaken by governing boards. The study would examine the extent of integration of capital planning with academic program planning and budget planning.

Summary

This chapter summarized the conclusions and findings of the study. This study explored an important area of higher education governance. A usable model was developed that illustrates the key

areas of governing board decision-making involvement in the planning process of capital projects. The model was based on the input provided by state higher education executive officers and university business officers in eight states. These individuals were knowledgeable about and actively involved in the capital planning process and higher education governance.

Governing boards should be involved in several key decision-making points in the planning of a capital project. These include approval of the project scope and budget, approval of the program statement, approval of the selection of the architectural consultant, approval of the schematic design, award of the construction contracts, and acceptance of the completed project.

While the importance of an appropriate structure for higher education governing boards' involvement was the focus of this research, there are other elements that contribute to the successful application of any decision-making structure. In Higher Education by Design. the Sociology of Planning, Palola, Lehmann and Blischke wrote about the importance of another critical ingredient in the success of planning:

There are unquestionably alternative and feasible structures, but whatever the structure, its success or failure rests on the individuals and personalities who occupy key positions of authority. Any design for continuous long range planning should concentrate, therefore, on finding the best possible combination of structure, process, and personalities: a compatible and smoothly functioning combination is a prerequisite to planning of the highest quality.

ENDNOTE

1. Ernest G. Palola, Timothy Lehmann, and William J. Blischke. Higher Education by Design, The Sociology of Planning (Berkeley, CA: Center for Research and Development in Higher Education, University of California, Berkeley, 1970), p. 570.

BIBLIOGRAPHY

- Abramson, Paul. "12th Annual Report on Educational Construction." American School and University 55 (April 1986):33-47.
- Ackoff, Russell. A Concept of Corporate Planning. New York: Wiley Interscience, 1969.
- Allison, Graham T. Essence of Decision. Boston: Little Brown & Co., 1971.
- Allred, Marcus Daniel. "A Conceptual Model for Planning in North Carolina Public Community Colleges and Technical Institutes." Dissertation Abstracts 38 (1977):1200-A.
- Arden, Eugene. "Points of View: Who Governs University Governing Boards?" Chronicle of Higher Education, 12 March 1986, p. 104.
- Arth, Maurice R. "Planning and Budgeting in a Period of Constraint: The New Climate." Planning for Higher Education 12 (Spring 1984):1-8.
- Association of Governing Boards. Composition of Governing Boards, 1985: A Survey of College and University Boards. Washington, DC: Association of Governing Boards of Universities and Colleges, 1986.
- Baldrige, J. V. Power and Conflict in the University. New York: Wiley & Sons, 1971.
- Bareither, Harlan D. and Schillinger, Jerry L. University Space Planning: Translating the Educational Program of a University into Physical Facility Requirements. Urbana, IL: University of Illinois Press, 1968.
- Berdahl, Robert O. Statewide Coordination of Higher Education. Washington, DC: American Council of Higher Education, 1971.
- Berube, Maurice R. The Urban University in America. Westport, CT: Greenwood Press, Inc., 1978.
- Bickford, Max. "Physical Development Planning Manual." Topeka, KS: Board of Regents, State of Kansas, 1972.

- Biemiller, Lawrence. "Planning the College Campus: The Evolution of a 'Distinctly American Form'. The Campus Reflects Educational and Historical Forces, Architectural Scholar Maintains." Chronicle of Higher Education, 30 May 1984, pp. 5-7.
- Blocker, Clyde; Plummer, Robert; and Richardson, Richard C. The Two Year College: A Social Synthesis. Englewood Cliffs, NJ: Prentice-Hall, 1965.
- Bogue, E. G. and Riggs, R. O. "Institutional Policies and Its Abuses." Journal of Higher Education 45 (May 1974):357.
- Brubacher, John S. and Willis, Rudy. Higher Education in Transition, A History of American Colleges and Universities, 1636-1976. 3rd edition, New York: Harper & Row, 1976.
- Callnan, Michael T. and Collins, J. Stephen. "A Clear Challenge for the Future: Capital Asset Management and Planning at Colleges and Universities." Planning for Higher Education 14 (July 1986):30-38.
- Camillus, J. C. "Evaluating the Benefits of Formal Planning Systems." Long Range Planning 8 (1975):33-40.
- Carnegie Commission on Higher Education. Governance of Higher Education, Six Priority Problems. New York: McGraw Hill Book Co., April, 1972.
- Carnegie Council for Higher Education. 3000 Futures. New York: Carnegie Council for Higher Education, 1971.
- Chaffee, Ellen Earle. Rational Decisionmaking in Higher Education. Boulder, CO: National Center for Higher Education Management Systems, 1982.
- Cohen, M. and J. C. March. Leadership and Ambiguity. New York: McGraw Hill, 1974.
- Commission of Higher Education. Utah State Board of Regents. 15th Annual Report to the Governor, 1983-84. Salt Lake City, UT: Utah State Board of Regents, 1985.
- Cope, Robert G. "A Contextual Model to Encompass the Strategic Planning Concept: Introducing a Newer Paradigm." Planning for Higher Education 13 (Spring 1985):13-20.
- Cope, Robert G. Strategic Planning, Management and Decision Making. Washington, DC: The American Association of Higher Education, 1981.

- Corin, Theodore Stephen. "An Analysis of the Policy Manuals of Governing Boards of Major American Public Universities." Ph.D. dissertation, Florida State University, 1964.
- Crosson, Patricia H. and Adams, Charles F. "Map of the Field - Higher Education Research at the State Level." Unpublished paper, 1982.
- Cunningham, William G. Systematic Planning for Educational Change. Palo Alto, CA: Mayfield Publishing Co., 1982.
- Dorsey, Rhoda N. "Institutional Planning." AGB Standing Committee Series. Washington, DC: Association of Governing Boards of Universities and Colleges, March 1984.
- Dror, Yehezkel. Public Policymaking Reexamined. San Francisco: Chandler Publishing Co., 1968.
- Dror, Yehezkel. Ventures in Policy Science: Concepts and Applications. New York: American Elsevier, 1971.
- Duke, James William. "Capital Outlay Approval Procedure for Public Institutions of Higher Learning." Ed.D. dissertation, University of Southern California, 1962.
- Education Commission of the States. "Challenge: Coordination and Governance in the '80s. A Report on Issues and Directions in Statewide Coordination and Governance of Post Secondary Education in the 1980s." Report No. 134. Denver: Education Commission of the States, July, 1980.
- Education Commission of the States. Coordination or Chaos. Denver: Task Force on Coordination, Governance and Structure of Post-Secondary Education, Education Commission of the States, October, 1973.
- Education Commission of the States. Emerging Issues in Post-Secondary Education, 1981. Denver: Education Commission of the States, 1982.
- Education Commission of the States. Major Issues of Concern to State Higher Education Agencies (As Indicated in Annual Reports). Denver: Education Commission of the States, 1980.
- Eickoff, Harold. "Faculty Involvement in University Planning: The Lessons of Plato's 'Myth of the Cave'." Planning for Higher Education 8 (Winter 1979):13-15.
- Geioque, Harold. "An Increased Role for the States." Change Magazine 12 (September 1973). Reprint.

- Glenny, Lyman A. "State Coordination of Higher Education, The Modern Concept." Denver: State Higher Education Executive Officers, 1985.
- Glenny, Lyman A.; Berdahl, Robert O.; Polola, Ernest G.; and Paltridge, James G. Coordinating Higher Education for the '70s: Multi-Campus and Statewide Guidelines for Practice. Berkeley, CA: University of California, [1971].
- Goode, John M. "Merging Program, Budget and Facility Planning." Planning for Higher Education 12 (Spring 1984):18-21.
- Grant, W. Vance and Snyder, Thomas D. "Digest of Education Statistics, 1985-86." Washington, DC: Center for Education Statistics, 1986.
- Graves, Ben E. "Facility Planning, National Issues Identified for Governors." American School and University 58 (July 1986): 53.
- Greenleaf, Robert K. Trustees as Servants. Cambridge, MA: Center for Applied Studies, 1974.
- Griffith, William J. "Capital Resources Management in Higher Education." Council of Educational Facility Planners Journal (May-June 1984):4-6.
- Griffiths, Daniel E. Administrative Theory. New York: Appleton-Century-Crofts, Inc., 1959.
- Heavey, William F. "Building Market Outlook - The Best is Yet to Come." Constructor, The Association of General Contractors (October 1984):23-27.
- Hyde, William. "Fiscal Autonomy and the Public Institution." The Business Officer (December 1983):20-24.
- Inbar, Dan E. "Educational Planning: A Review and a Plea." The Review of Educational Research 50 (Fall 1980):377-92.
- Ingram, Richard T. "The Governing Board in Institutional Planning." Association of Governing Boards of Universities and Colleges Reports 25 (July/August 1983):34-38.
- Jaschik, Scott. "Governors Weigh Role of the States in Reform Efforts." Chronicle of Higher Education 30 (Aug 1986): 1, 14.
- Kaiser, Harvey H. Buildings and Grounds Committees. AGB Standing Committees Series. Washington, DC: Association of Governing Boards of Universities and Colleges [1983].

- Kaiser, Harvey H. Crumbling Academe. Solving the Capital Renewal and Replacement Dilemma. Washington, DC: Association of Governing Boards of Universities and Colleges, 1984.
- Kerr, Clark. "Coordination in a Changing Environment." Change Magazine 12 (Oct 1980):53-56.
- Landry, Lawrence L. and Rodney Mebane. "Capital Crisis in Higher Education." The Business Officer 15 (Feb 1982):20-22.
- Lessinger, Leon. "The Powerful Notion of Accountability in Education." Emerging Patterns of Administrative Accountability. Edited by Leslie H. Bowder. Berkeley, CA: McCutchan Publishers Corporation, 1971.
- Martin, Harold C. "The Board of Trustees and the Making of Academic Policy." Planning for Higher Education 3 (April 1974):3-6.
- McAfee, John A. "State Agencies and Higher Education in the Capital Construction Process in Colorado." Dissertation Abstracts 39 (1978):6573.
- McAleer, Edward M., Jr. "An Assessment of the Capital Outlay Planning for the Public Baccalaureate Institutions in Michigan." Dissertation Abstracts 39 (1978):3956.
- McCoy, Marilyn and Halstead, D. Kent. Higher Education Financing in the 50 States, Interstate Comparisons for Fiscal Year 1982. 4th ed. Boulder, CO: National Center for Higher Education Management Systems and the National Institute of Education, [November 1984].
- Meng, LeRoy Wolcott. "A Model for Managing the Long-Range Planning Process in Statewide Community College Systems." Ph.D. dissertation, University of Arizona, 1977.
- Millett, John D. Conflict in Higher Education. State Government Coordination vs. Institutional Independence. San Francisco, CA: Jossey-Bass Publisher, Inc., 1984.
- Millett, John D. The Academic Community. New York: McGraw Hill, 1962.
- Moore, John W. and Langknecht, Linda F. "Academic Planning in a Political System." Planning for Higher Education 14 (July 1985):1-5.
- Nason, John W. The Nature of Trusteeship. The Role and Responsibilities of College and University Boards. Washington, DC: Association of Governing Boards of Universities and Colleges, 1982.

- Nelson, Charles A. Trustees and Resource Management. Washington, DC: Association of Governing Boards of Universities and Colleges, March 1982.
- Nettles, Michael Terrael. "The Development and Validation of Criteria and Methods for Evaluating Statewide Planning for Higher Education." Ph.D. dissertation, Iowa State University, 1980.
- Norris, Donald M. A Guide for New Planners. Ann Arbor, MI: The Society for College and University Planning. [May 1984].
- Palola, Ernest G.; Lehmann, Timothy; and Blischke, William J. Higher Education by Design: The Sociology of Planning. Berkeley, CA: Center for Research and Development in Higher Education, University of California, Berkeley, 1970.
- Paltridge, James Gilbert. Conflict and Coordination in Higher Education, the Wisconsin Experience. Berkeley, CA: Center for Research and Development in Higher Education, University of California, Berkeley, 1968.
- Peabody, Robert L. "Perceptions of Organizational Authority." The Sociology of Organizations. Edited by Oscar Grusky and George Miller. New York: The Free Press, 1970.
- Peebles, Lynn. "Concern about Quality Prompts States to Undertake Reviews of Their Colleges." The Chronicle of Higher Education 32 (5 May 1986): Section 1, p. 3.
- Peterson, Marvin W. "Continuity, Challenge and Change: An Organizational Perspective on Planning, Past and Future." Planning for Higher Education 14 (July 1986):6-15.
- Peterson, Marvin W. "In a Decade of Decline, the Seven R's of Planning." Change Magazine 16 (May/June 1984):42-46.
- Pettit, Lawrence K. and Kirkpatrick, Samuel A. Project Pegasus. Post-Secondary Educational Governance Among the States. U. S. Statistical Summary for Project Pegasus. College Station, TX: Texas A & M University, [June 15, 1984].
- Pullar, James R. "Responsibilities of Coordinating Agencies and Governing Boards in the Planning of Higher Education Facilities." Ph. D. dissertation, The Florida State University, 1972.
- Rainsford, George. "Twenty Steps to Responsible Trusteeship." Association of Governing Boards of Universities and Colleges 25 (March/April 1983):16.

- Richert, John H. "A Study of Selected Administrative Functions in the Coordination of Higher Education in Wisconsin." Dissertation Abstracts 31 (1970):5095.
- Robb, Charles S. "A Governor's View - Higher Education, New Federalism and States." Change Magazine 14 (May/June 1982):38-42.
- Roberts, Susie Jane. "A Process Model for Use by Educational Administrators in Planning Educational Facilities in the State of Alabama." Ph.D. dissertation, University of Alabama, 1977.
- Sanders, C. R. (Chip). "Toward a Model for the Evaluation of Statewide Planning in Post-Secondary Education." Ph.D. dissertation, The Florida State University, 1979.
- Scott, Brian W. Long-Range Planning in American Industry. New York: American Management Association, 1965.
- Slover, William G. "Perceptions of Role and Functions as a Member of an Institution's Governing Board, a Study of Governing Board Chairpersons, The National Association of State Universities and Land Grant Colleges." Dissertation Abstracts 43 (1982):2255.
- Smith, Van P. "The Opportunities of Scarcity. State Coordinating and Governing Boards." Change Magazine 15 (Oct 1982): 30-33.
- Skinner, Gail Marie. "Governing Boards of American Colleges and Universities: A Study of Roles and Role Conflicts." Ph.D. dissertation, University of Wisconsin-Madison, 1980.
- Steiner, George A. "The Critical Role of Top Management in Long Range Planning." Arizona Management Review (April 1966): 5-12.
- Steiner, George A. Top Management Planning. London: MacMillan Co., 1969.
- Sturtz, Allen Jeffrey. "Decision-Making Authority of State Coordinating Boards for Community Colleges and Local Community College Governing Boards in Certain Administrative Policy Areas." Ed. D. dissertation, The Pennsylvania State University, 1976.
- Torregrosa, Constance Healey, ed. 1986 Higher Education Directory. Washington, DC: Higher Education Publication, Inc., 1986.

- Toll, John S. "Strategic Planning - An Increasing Priority for Colleges and Universities." Washington, DC: Change Magazine 14 (May/June 1982):36-37.
- Van de Water, Gordon B. "Emerging Issues in Post-Secondary Education, 1981 (A Survey of State Policy Leaders)." Denver: Education Commission of the States 8 (1982): 1-28.
- Van de Water, Gordon B. and Berve, Nancy. Higher Education Governance in the 50 States. Denver: Augenblick, Van de Water Associations, Inc., Education Policy/Planning Services, Publication No. 50, 1984.
- Volkein, Jay F. "State Financial Control Practices and Public Universities: Results of a National Study." Paper presented at the Meeting of the Association for the Study of Higher Education. Chicago: 1985.
- Wattenbarger, James A., ed. and Bender, Lewis W. Improving Statewide Planning. New Directions for Higher Education. No. 8. San Francisco: Jossey-Bass, Inc., 1974.
- Welzenbach, LaNora, ed. College and University Business Administration. Washington, DC: National Association of College and University Business Officers, 1974.
- Wilson, Robert. "Statewide Approach to Capital Planning and Comprehensive Facility Management." Tape recording of presentation at the 20th Conference of the Society of College and University Planning, Chicago, July 7-10, 1985.
- Wing, Paul. "Statewide Planning for Post-Secondary Education: Conceptualizations and Analysis of Relevant Information." Boulder, CO: National Center for Higher Education Management Systems (NCHEMS), Western Interstate Compact for Higher Education (WICHE), and the Ford Foundation, March 1972.
- Womack, Farris W. and Podenski, Richard. "Criteria for Effective Planning in Multi-Campus Systems." Planning for Higher Education 13 (Winter 1985):1-4.
- Zwingle, J. and Mayville, William. College Trustees: A Question of Legitimacy. ERIC/Higher Education Research Report No. 10. Washington, DC: American Association of Higher Education, 1974.
- Zwingle, J. L. Effective Trusteeship: Guidelines for Board Members. Washington DC: Association of Governing Boards of Universities and Colleges, 1980.

Zwingle, J. L. The Lay Governing Board. Perspectives on Trusteeship.
Washington DC: Association of Governing Boards of Universities and Colleges, 1972.

Zwingle, J. L. State Boards Responsible for Higher Education.
Washington, DC: U. S. Dept. of Health, Education & Welfare,
Office of Education, 1970.

No author:

"Construction Spending Rose to \$374 Billion, The Commerce Department Reports." Wall Street Journal (28 July 1968): section 1, p. 1.

"Construction Spending. December Construction Rose to an Annual Adjusted Rate of \$354.6 Billion as Reported by the Commerce Department." Wall Street Journal (12 February 1986):1."State Initiatives: An Update, Prepared by the Education Commission of the States." Change Magazine 17 (November/December 1985): 16-17.

DOCUMENTS

Arizona. Board of Regents. Policy Manual, Chapter 3 (1985).

Arizona. Board of Regents. Capital Development Process (1985).

Arizona. Board of Regents. University Reporting and Data Requirements to the Board of Regents (1986).

Arizona. Board of Regents. Construction Costs Calculations for Arizona Board of Regents (1986).

Arizona. Board of Regents. Project Needs Statements, Capital Project Summaries (1986).

Arizona. Board of Regents. Annual Report, 1984-85.

Arizona. Board of Regents. Arizona Board of Regents Newsletter,
vol 8, no. 3, April, 1985; vol 8, no. 7, October, 1985;
vol 9, no. 1, January, 1986.

Florida. General Assembly. Statutes, Chapter 240 (1985).

Florida. State University System of Florida. 1987-1990 Capital Project Priority List (October, 1986).

Florida. State University System of Florida. Capital Improvement Project-3 Short Term Project Explanation (1986).

- Florida. State University System of Florida. Explanation of Space Needs Formula (1985).
- Florida. State University System of Florida. Post-Secondary Planning Commission. The Master Plan for Florida Post-Secondary Education. Report and Recommendations (1982).
- Florida. State University System of Florida. Planning Guidelines (1978).
- Iowa. Code of Iowa Chapters 262 and 262-A (1986 ed.).
- Iowa. Iowa State Board of Regents. Procedural Guide (1986 ed.).
- Iowa. Iowa State Board of Regents. Ten-Year Building Program 1986-96.
- Iowa. Iowa State Board of Regents. Fiscal year 1988 Budget Request and Report for the Biennium (1987).
- Iowa. Iowa State Board of Regents. Docket Memorandum "Review of Capital Planning Procedures" (1984).
- Iowa. Iowa State Board of Regents. Docket Memorandum "Report on Capital Planning Procedures" (1984).
- Iowa. Iowa State Board of Regents. Docket Memorandum, "Revision of Chapter 9 in Regents Procedural Guide" (1985).
- Iowa. Iowa State Board of Regents. Minutes, December 19-20, 1984, Ames, IA.
- Kansas. Revised Statutes, Sections 75 and 76 (1985).
- Kansas. Kansas Board of Regents. Policy Manual, revised (1986).
- Kansas. Kansas Board of Regents. Summary of Capital Improvement Requests from Institutions (1986).
- Kansas. Kansas Board of Regents. Physical Development Planning Manual, revised section 320 (1977).
- Kansas. Kansas Board of Regents. Inventory of Physical Facilities and Space Utilization (1985).
- Kansas. Kansas Board of Regents. Report on System-wide Evaluation of the Physical Condition of All Facilities (1984).
- Mississippi. Board of Trustees of State Institutions of Higher Learning. By-Laws and Policies, chapters on Approval of Construction, Repairs and Renovations and Planning of Facilities (1985 ed.).

- North Carolina. Board of Governors of the University of North Carolina. The Code (July, 1985, amended March, 1982).
- North Carolina. Institute of Government, University of North Carolina at Chapel Hill. North Carolina Constitutional and Statutory Provisions with Respect to Higher Education, by Robert E. Phay (1984).
- North Carolina. Board of Governors of the University of North Carolina. Long Range Planning, 1980-1985 (1981).
- North Carolina. Board of Governors of the University of North Carolina. Long Range Planning, 1984-89 (1985).
- North Carolina. Board of Governors of the University of North Carolina. 1985-87 Budget Request of the Board of Governors of the University of North Carolina (1984).
- North Carolina. Board of Governors of the University of North Carolina. The 1986-87 Budgets, Report and Recommendations (1986).
- Oregon. Revised Statutes. Chapter 351, Higher Education.
- Oregon. Board of Higher Education. Oregon Administrative Rules, Chapter 580, Division 40, 42, 50 (1986 ed.).
- Oregon. Board of Higher Education. Oregon State System of Higher Education Internal Management Directives, Section 6, Finance and Business Affairs, and Section 7, Physical Plant, Equipment (1986).
- Oregon. Board of Higher Education. Presentation of Capital Construction Items, (draft) (1986).
- South Dakota. South Dakota State Statutes, Chapter 13 Section 49-52 (1985 ed.).
- South Dakota. South Dakota Board of Regents. Policy Manual. Campus Facilities (draft).
- South Dakota. South Dakota Board of Regents. South Dakota Public Higher Education Facts, Fiscal Year 1986.
- South Dakota. State Legislative Research Council. Funding and Administration of Higher Education Facilities in South Dakota (1969).

APPENDIX 1

LETTER TO STATEWIDE GOVERNING BOARDS REQUESTING
INFORMATION IN MATERIAL ON CAPITAL PLANNING



Marvin A. Pomerantz, President, Des Moines
 Charles Duchon, Des Moines
 John R. Fitzgibbon, Des Moines
 John M. Greig, Estherville
 Percy G. Harris, Cedar Rapids
 James R. Tyler, Atlantic
 Jacklyn Van Ekeren, Monroe
 Bass Van Gilst, Oskaloosa
 Mary C. Williams, Davenport

State Board of Regents

DES MOINES, IOWA 50319

LUCAS STATE OFFICE BUILDING

Telephone (515) 281-3934

R. WAYNE RICHEY, Executive Secretary

August 27, 1986

(Addressee)

Dear _____:

The Iowa Board of Regents has initiated an examination of its capital project review and approval policies. In order to improve our policies and procedures, we are interested in becoming familiar with how your governing board handles decision-making on capital projects.

The staff study is limited to the seven states with consolidated governing boards similar to Iowa's. The study is particularly aimed at the board's involvement in the decision-making process in the review and approval of individual capital projects as they are planned and constructed.

We are requesting that you provide the following information and material:

1. Copies of written board policies, procedures, or guidelines concerning the board's involvement in capital project planning and construction.
2. A narrative or graphic illustration of the board's capital project approval and review process, if available.
3. State code or other legislation references to board's authority for capital and facilities.
4. Samples of any material furnished to new board members during their orientation related to capital planning and the board's review of capital projects.
5. Examples of documents presented to board members on a major capital construction project (i.e., a major new building or addition, over \$1 million).
6. Any additional material or information which you believe will assist us in understanding how your board exercises its decision-making authority on capital projects.

Your assistance in providing the requested material will be greatly appreciated. Because of the small size of the sample your prompt response in providing materials is important. I am requesting that you return the requested information by the week of September 15-19. If you would like to receive a copy of the conclusions resulting from the study, please so indicate on the transmittal letter accompanying the requested material.

If you have any questions regarding this study or would like to discuss the request, please contact Richard Runner, Associate Director of Business and Finance on my staff, or myself.

I thank you for your assistance on this and for your participation in this study.

Sincerely,

R. Wayne Richey

sl/BF25/Broad.32
cc: Richard Runner

APPENDIX 2

COVER LETTER AND QUESTIONNAIRE ON GOVERNING BOARD'S
ROLE IN PLANNING CAPITAL PROJECTS



Marvin A. Pomerantz, President, *Des Moines*
 Charles Duchon, *Des Moines*
 John R. Fitzgibbon, *Des Moines*
 John M. Greig, *Estherville*
 Percy G. Harris, *Cedar Rapids*
 James R. Tyler, *Atlantic*
 Jacklyn Van Ekeren, *Monroe*
 Bass Van Gilst, *Oskaloosa*
 Mary C. Williams, *Davenport*

State Board of Regents

DES MOINES, IOWA 50319

LUCAS STATE OFFICE BUILDING

Telephone (515) 281-3934

R. WAYNE RICHEY, *Executive Secretary*

January 28, 1987

(Addressee)

Dear _____:

The Iowa Board of Regents is conducting research related to the role of statewide governing boards in planning capital projects. Your governing board and university have been selected for participation in this survey because their state-level governing board responsible for public colleges and universities is similar to Iowa's. This questionnaire is being sent to seven state boards and twenty-four universities.

In an effort to reduce the amount of information requested on this questionnaire, the survey does not overlap information or documents previously sent to us by the state governing boards.

I am writing to request your opinion on the role that governing boards should play in planning capital projects. Please feel free to send the questionnaire on to the appropriate member of your staff for completion. Since we would like to complete the study in the next few months, I would appreciate your returning the survey in the enclosed stamped envelope by February 19, 1987.

Any assistance you can provide to expedite the gathering of the requested information will be greatly appreciated.

If you have any questions concerning this request, please contact Richard Runner on my staff.

Sincerely,

R. Wayne Richey

IOWA BOARD OF REGENTS
QUESTIONNAIRE ON GOVERNING BOARD'S ROLE
IN PLANNING CAPITAL PROJECTS

A. Governing Board or Institutional Information:

1. Name of statewide governing board, system or university:

2. Total gross square feet of space of the system or institution:

___ less than 5 million

___ 5 to 10 million

___ 10 to 20 million

___ over 20 million

3. Estimated total number of buildings:

___ less than 100

___ 100 to 200

___ over 200

B. Board or System Office Facilities Staff:

1. Number of full-time professional staff employed by the board (in the board or system office): _____

2. Number of full-time professional staff members on the board staff significantly involved (more than 50%) with facilities or capital planning: _____

C. Capital Projects:

1. Estimated dollar volume of capital projects initiated during last fiscal year (to the nearest \$500,000): _____

2. Number of projects: _____

3. Are smaller capital projects handled any differently than larger projects, i.e. is more responsibility delegated to the campuses or institutions for approval of specific actions? yes ____ no ____

If yes, please identify the budget amount below which responsibility is delegated to the campus or institution.

____ \$25,000

____ \$50,000

____ \$100,000

____ \$250,000

____ \$500,000

____ Other (Specify)

4. Do architectural consultants usually make presentations to the board itself on the status of major capital projects? yes ____ no ____

If yes, at what stages:

____ preliminary design

____ design development

____ working drawings

____ other (explain)

D. Planning of a Capital Project

- I. The capital planning process is a series of actions or procedures involved in planning and constructing a capital project. The following is a partial listing of specific actions or procedures. For each action, circle the response that in your judgment best describes to what extent the governing board should be involved:

1. Board performs
2. Others perform
3. Board performs with others

	<u>Board Performs</u>	<u>Others Perform</u>	<u>Board Performs w/ Others</u>
A. Establish scope of project	1	2	3
B. Approve project budget	1	2	3
C. Determine source of funding	1	2	3
D. Establish space efficiency standards	1	2	3
E. Establish cost per square foot standards	1	2	3
F. Review specifications	1	2	3
G. Interview architects or other design consultants	1	2	3
H. Approve architectural selection	1	2	3
I. Approve amendments to consultant contracts	1	2	3
J. Prepare program statement	1	2	3
K. Approve program statement	1	2	3
L. Review schematic designs	1	2	3
M. Approve schematic designs	1	2	3
N. Review design development	1	2	3
O. Approve design development	1	2	3
P. Approve contract documents	1	2	3
Q. Approve construction documents	1	2	3
R. Release dollars for construction	1	2	3
S. Advertise for bids	1	2	3
T. Receive and open bids	1	2	3
U. Award construction contract	1	2	3
V. Approve contract change orders	1	2	3
W. Accept completed construction project	1	2	3
X. Authorize final payment	1	2	3
Y. Other (specify) _____	1	2	3
Z. Other (specify) _____	1	2	3

II. Of all the actions you identified above, indicate in your judgment the five most important steps that are the critical decision points in a governing board's review and approval of a capital project. Rank the five actions (1 through 5), with 1 being the most important action.

1. _____
2. _____
3. _____
4. _____
5. _____

E. Name, title, and telephone number of individual completing this survey:

Name _____

Title _____ Phone: () _____

F. Would you be willing to respond to additional questions on your capital process by a telephone interview?

yes _____ no _____ good grief, no! _____

Please return the completed survey form in the pre-addressed, stamped envelope to:

Mr. R. Wayne Richey
Executive Secretary

Iowa Board of Regents
Lucas State Office Building
Des Moines, IA 50319

ATTN: Richard Runner

Questions concerning this survey should be directed to Mr. Runner at (515) 281-3934.

s1/BF25/Survey.frm
1/28/87

APPENDIX 3

EIGHT STATEWIDE GOVERNING BOARDS

EIGHT STATEWIDE GOVERNING BOARDS

ARIZONA BOARD OF REGENTS

Arizona State, Tempe,
Northern Arizona State, Flagstaff
University of Arizona, Tucson

FLORIDA

University of Central Florida, Orlando
University of Florida, Gainesville
University of South Florida, Tampa

IOWA BOARD OF REGENTS

Iowa State University, Ames
University of Iowa, Iowa City
University of Northern Iowa, Cedar Falls

KANSAS BOARD OF REGENTS

Kansas State, Manhattan
University of Kansas, Lawrence
Wichita State, Wichita

MISSISSIPPI BOARD OF TRUSTEES OF STATE INSTITUTIONS OF
HIGHER LEARNING

Jackson State, Jackson
Mississippi State, Mississippi State
Mississippi University of Women, Columbus

NORTH CAROLINA BOARD OF GOVERNORS

East Carolina State University, Greenville
University of North Carolina, Chapel Hill
University of North Carolina, Greensboro

OREGON STATE SYSTEM OF HIGHER EDUCATION

Oregon State, Corvallis
Portland State, Portland
University of Oregon, Eugene

SOUTH DAKOTA BOARD OF REGENTS

South Dakota State School of Mines, Rapid City
South Dakota State University, Brookings
University of South Dakota, Vermillion

Source: 1986 Higher Education Directory, Washington, DC:
Higher Education Publications, Inc., 1986.

APPENDIX 4

STATE HIGHER EDUCATION EXECUTIVE OFFICERS
IN EIGHT STATES

STATE HIGHER EDUCATION EXECUTIVE OFFICERS
IN EIGHT STATES

Dr. Molly Broad
Arizona Board of Regents

Dr. Roy Carroll
University of North Carolina

Dr. William E. Davis
Oregon State System of Higher Education

Dr. Stanley Z. Koplik
Kansas Board of Regents

Dr. Charles B. Reed
State University System of Florida

Mr. R. Wayne Richey
Iowa Board of Regents

Dr. Roger Schinness
South Dakota Board of Regents

Dr. E. E. Thrash
Board of Trustees of State Institutions of Higher Learning
Mississippi

APPENDIX 5

UNIVERSITY BUSINESS OFFICERS OF SELECTED
PUBLIC UNIVERSITIES IN EIGHT STATES

UNIVERSITY BUSINESS OFFICERS OF SELECTED
PUBLIC UNIVERSITIES IN EIGHT STATES

Dr. Frank N. Besnette
Northern Arizona University

Mr. John Conner
University of Northern Iowa

Mr. Frederick L. Drake
University of North Carolina
at Greensboro

Mr. Roger N. Edgington
Portland State University

Mr. Dorsey D. Ellis, Jr.
University of Iowa

Mr. William E. Elmore
University of Florida

Mr. Robert W. Fischer
South Dakota School of Mines
and Technology

Dr. Richard Powers
South Dakota State University

Mr. John P. Goree
University of Central Florida

Mr. Albert C. Hartley
University of South Florida

Mr. Roger D. Lowe
Wichita State University

Mr. Warren R. Madden
Iowa State University

Mr. W. N. McLaughlin
University of Oregon

Dr. George E. Miller
Kansas State University

Mr. Vernon Miller
University of South Dakota

Mr. Clifton G. Moore
East Carolina University

Mr. Keith C. Nitcher
University of Kansas

Dr. Theran D. Parsons
Oregon State University

Mr. Doyle L. Russell
University of Mississippi

Mr. Ben J. Tuchi
University of Arizona

Mr. Marvel Turner
Jackson State University

Dr. George L. Verrall
Mississippi State University

Dr. Farris W. Womack
University of North Carolina at
Chapel Hill

Mr. Victor M. Zafra
Arizona State University

APPENDIX 6
VALIDATION PANEL

VALIDATION PANEL

Mr. Richard Arnoud
Ohio State University

Ms. Rose Barrdichet
University of Wisconsin

Mr. James F. Blakesley
Purdue University

Mr. James Coombes
University of Iowa

Mr. Gene Cords
University of Michigan

Ms. Michaelleen Fox
University of Minnesota

Mr. Richard E. Gibson
University of Iowa

Mr. Robert M. Man
University of Michigan

Mr. Jeffrey Meyer
University of Minnesota

Mr. Mark J. Netter
University of Illinois

Mr. John W. Pace
Iowa State University

Ms. Sharon M. Pero
University of Wisconsin

Mr. James M. Peters
University of Michigan

Mr. Dean A. Ramsey
Ohio State University

Mr. Lynn R. Seiler
Iowa State University

Mr. William E. Stallman
University of Illinois

Mr. L. Thomas Swafford
Indiana University

Mr. Donald A. Wack
University of Illinois

Mr. Donald E. Weaver
Indiana University

Mr. Fred H. Wolf
Purdue University

APPENDIX 7

COVER LETTER AND CAPITAL PROJECT PLANNING MODEL
VALIDATION RESPONSE FORM

May 18, 1987

Dear HEFMA Members:

Last fall I wrote to you regarding research that I was conducting as part of my dissertation at Old Dominion University in Norfolk, Virginia. The dissertation is on the involvement of statewide higher education governing boards in the review and approval of capital projects. The purpose of the study was to develop a model for governing boards' involvement in the capital planning process.

Eight states (Arizona, Florida, Iowa, Kansas, Mississippi, North Carolina, Oregon and South Dakota) were selected for inclusion in the study because of their single, statewide governing board responsible for public higher education institutions. From the review of the related literature, documents from each of the above state board offices, and a subsequent questionnaire to board executive directors and university business officers, a capital project planning model of a board's role was developed.

As I indicated last fall, I am requesting HEFMA's involvement to validate the model from the perspective of knowledgeable experts involved in capital planning. You are asked to review the model and suggest any changes based on your experience with capital project planning.

I would appreciate your return on the completed validation form by May 22, 1987. The completed validation form, along with any comments or suggested improvements should be returned in the enclosed envelope to:

Richard C. Runner
Iowa State Board of Regents
Lucas State Office Building
Des Moines, Iowa 50319

With validation of the capital project planning model in May, I expect to receive my degree in August, 1987.

Thank you for your assistance on this study. If you have any questions concerning this request, please contact me at (515)281-3934. I greatly appreciate your participation.

Sincerely,

Richard C. Runner

Validation Response Form

After reviewing the attached capital project planning model, please respond to the following five statements. Circle the appropriate number of the phrase that best matches your response to each statement.

1. not beneficial
2. of little benefit
3. somewhat beneficial
4. beneficial
5. very beneficial

The capital project planning model is valuable

- | | | | | | |
|--|---|---|---|---|---|
| 1. as an illustration of governing board's involvement in capital planning | 1 | 2 | 3 | 4 | 5 |
| 2. as a guide to future research on capital planning | 1 | 2 | 3 | 4 | 5 |
| 3. as an instructional/educational tool | 1 | 2 | 3 | 4 | 5 |
| 4. as a guide to capital planning efforts | 1 | 2 | 3 | 4 | 5 |
| 5. as a tool to evaluate actual capital planning efforts | 1 | 2 | 3 | 4 | 5 |

Please list any suggestions, additions, or deletions to the model.

Name (please print)

Signature

University

Date

Return in enclosed envelope to:

Richard C. Runner
Iowa State Board of Regents
Lucas State Office Building
Des Moines, Iowa 50319

APPENDIX 8

COMPILATION OF COMMENTS BY VALIDATION PANEL

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1. The board's involvement should be to approve the project description and budget, hiring the architects and awarding the bids, all upon the recommendation of the institution.
2. A board's role should be one of encouragement, direction and control.
3. State boards should set standards for guidelines but leave all individual planning to the individual campuses.
4. The architectural selection should be made by the users and not the state board because there has to be a good working relationship between the architects and the users.
5. Institutional initiative would be greatly hampered through excessive detailed board involvement.
6. Program statement should have two elements: academic program and architectural program both prepared by the institution and submitted to the board for approval.
7. Program statement should precede all other activity.
8. Cost and space standards should be deleted.
9. The key to success is controlling the dollars through good cost estimating and a review of the building size before approval.

Autobiographical Statement
Richard Charles Runner

Academic Training:	<p>Iowa State University, Ames, Iowa Bachelor of Arts, November, 1973</p> <p>Iowa State University, Ames, Iowa Master of Science, May 1975</p>
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