

UNIVERSITY BASED TECHNICAL ASSISTANCE
LINKAGE TO LOCAL GOVERNMENT:
A MONTANA PERSPECTIVE

by

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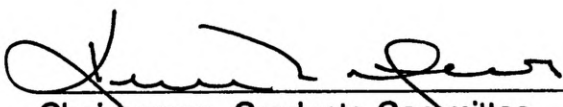
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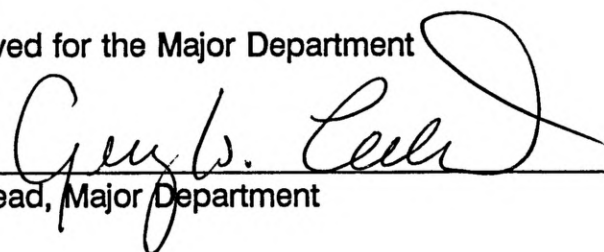
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PREFACE

While a graduate student at Montana State University, I was employed as video producer for the Department of Civil Engineering Continuing Education. In this capacity, I worked directly with the Rural Technical Assistance Program (RTAP). RTAP, funded by the United States Department of Transportation, was charged with providing technical assistance to state and local government in Montana. The focus of this information was in the general area of civil engineering with a particular emphasis on transportation planning, road and bridge maintenance, and water, sewer, and solid waste disposal. At this time, I developed an interest in the dissemination of technical information, particularly in the context of a large rural state such as Montana.

My studies in public administration furthered my understanding of the area of knowledge transfer by providing the perspective of the information user, or governmental practitioner. It seemed obvious that governmental decision makers were operating in an increasingly technical environment, with change the rule rather than the exception. Accurate, up-to-date technical information seemed to be a crucial component in making informed technical decisions. At this point, my own personal prejudice led me to conclude that governmental decision makers in a geographically isolated state such as Montana would most likely look to their

university system when in need of technical assistance. This initial assumption would prove to be sorely tested as my graduate studies continued.

I arrived in the Montana Department of Commerce, Division of Community Development, as an eager graduate intern. I assumed, based on my past work and studies, that a strong information sharing network would exist between my new colleagues in state government and my old at the state university. This assumption was heightened by the fact that one member of the Community Development staff was working on a transportation planning project with a small rural community in western Montana. Some of the technical information that he required was exactly what RTAP was charged with supplying. I soon discovered that not only was my colleague unaware of the RTAP program in specific, but that he also had never really considered the state university as a viable source of technical information. In this particular case, I was able to serve as an informal link between the two programs, and an information sharing relationship was established that was mutually beneficial.

During the remainder of my graduate internship, I maintained an interest in the technical information needs of my colleagues and how those needs were being met. I found that my initial assumptions concerning the need for technical information were correct. The Community Development staff was continually faced with decisions requiring technical information from sources external to the department. Contrary to my initial assumptions, however, they rarely considered the university system as a source for this information. Instead, they seemed to

rely on an informal network of colleagues in other departments or states, consultants from the private sector, and contacts within the federal government. However, there seemed to be no hostility between this group and the university. In several cases similar to the one previously mentioned, my suggestion to call a particular person or department at Montana State University resulted in a beneficial information exchange.

Based on an admittedly small and informal sample, I concluded that the technical information link between, in this case, Montana State University and the state government in Montana was not nearly as strong as I had initially anticipated. On the other hand, the technical information requirements of the state government staff were as extensive as I had earlier projected. This apparent contradiction presented an interesting area for further study and has provided the inspiration for this professional paper.

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ABSTRACT

Through a variety of organizational structures, state and land grant colleges and universities have attempted to fulfill a mission of service to the public. One such endeavor has involved the provision of technical assistance and information to state and local governments. Factors impeding the success of this endeavor are identified, with a particular emphasis upon Montana State University as the information provider and local government in Montana as the information user. With these factors in mind, the problem of strengthening the technical assistance relationship between Montana State University and local government in Montana is addressed.

A literature review traces the history of technical assistance interaction between educational institutions in the United States and state and local government. The relationship is seen to evolve in concert with both the development of the land grant institution and the introduction of educational programs in public administration. Several studies are cited that provide a more recent analysis of the status of university based technical assistance to state and local government.

To assess the status of technical assistance interaction between Montana State University and local government in Montana, two surveys were conducted and the findings presented. The first set of findings details information gathered in a telephone survey of 51 subunit heads at Montana State University; the second discusses the relationship from the perspective of local government and details the perceptions of 35 Montana elected municipal officials.

The results seem to indicate differences in organizational structure as being the major factor impeding successful information transfer between provider and user. Local government officials are open to outside sources of information but, in the case of the university, do not know what kinds of information and assistance are available or whom to contact. From the university perspective, a great deal of relevant information is available, but few formal efforts are made to make this information readily accessible to local government users.

Personal contact, a comprehensive data base of available information, a centrally coordinated effort and contact point, use of communication technology, and an ongoing marketing initiative are recommended as potentially strengthening the relationship.

CHAPTER 1

INTRODUCTION

Problem Statement

Through a variety of organizational structures, state and land grant colleges and universities have attempted to fulfill a mission of service to the public. This service relationship will be examined from the perspective of the state and land grant university as a resource system and state and local government as a user system. The particular focus of this study will consider the circumstances unique to Montana State University as a resource system for technical assistance and local government in Montana as a user system. Technical assistance in this context refers to the three general areas of contract research, training, and consultation.

A general review of the literature regarding land grant university based technical assistance to state and local government indicates the following:

- (1) A large number of state and land grant universities are involved in the provision of technical assistance to a variety of client systems including local government; and problematically,

- (2) A number of impediments prevent the effective linkage of the land grant university and state and local government. (For example, see Chapter 3 for a summary of impeding factors based upon several studies of university/government interaction.)

Thus, the particular problem addressed in this paper is the nature of the impediments which weaken the linkage between the land grant university and its state and local government clients.

Problem Treatment

Based upon a review of relevant literature and upon surveys conducted by the author of department heads at Montana State University and local government practitioners in Montana, this paper will address the problem by attempting to answer the following questions:

- (1) What is the historical precedent for and the current status of land grant university based technical assistance to state and local government?
- (2) What factors are seen as inhibiting the successful linkage of these two entities?
- (3) What factors unique to Montana State University and local government in Montana serve to impede the successful linkage of these two entities?
- (4) How can the technical assistance linkage between Montana State University and local government in Montana be strengthened?

Chapter 2 details university based technical assistance to state and local government from an historical perspective. The role of the land grant university and the evolution of public administration education will both be considered as factors leading to the current status of the linkage relationship.

Chapter 3 cites several studies that describe the general status of state and land grant university based technical assistance to state and local government. Information regarding barriers to cooperation, strength of financial commitment, extent of use, areas of service offered, and types of delivery methods will be discussed.

In Chapter 4, the general area of information transfer between organizations will be considered. Factors crucial to the successful linkage of unlike information producers and users will be identified. In this context, several studies dealing with perceived inhibiting factors specific to university/government linkage will be discussed.

Chapter 5 details the results of two surveys that were conducted in regard to the current status of technical assistance linkage between Montana State University and local government officials in Montana.

In conclusion, Chapter 6 offers recommendations based upon the literature review and survey findings. Appendices A, B, and C detail a subject based listing of currently available areas of technical assistance seen as relevant to local government by academic department heads at Montana State University.

CHAPTER 2

UNIVERSITY BASED TECHNICAL SERVICE

The Land Grant Perspective

With the passage of the Smith-Lever Act in 1914, land grant colleges and universities were officially authorized to pursue a mission of extending opportunities for service beyond the traditional boundaries of the campus. Although the Smith-Level Act has been traditionally identified with agricultural extension, it actually makes no such distinction. According to Eddy, the Act, while serving as the Extension Service's original charter, "had not specified rural or farm people" as the exclusive recipients of land grant extension activities. To the contrary, the Act mentions "the people of the United States" in general terms as the proper beneficiaries of these activities.¹

In his study of state and land grant universities and their contributions to the development of democracy, Nevins identifies three major objectives facing these institutions in the period of their early development.

Their primary task was to develop a character all their own, so well adapted to their environment that everybody could see that the land-grant college or university was a unique institution, thoroughly characteristic of its own society. Their second goal was to make themselves broadly useful to their states, not merely in traditional avenues but in

many new ways, becoming, in the term invented by an English university leader, 'community service centers.' The third and most difficult objective was to gain some of the distinction that men had associated with universities ever since medieval Bologna and Paris flourished, and in so doing to lift both the intellectual and spiritual level of democracy.²

With these objectives in mind, particularly that of being "broadly useful" to the states in which they are located and with a desire to extend service to the general population, land grant universities began a tradition of service to entities external to the university campus, which continues today. According to Morey, "Among other statewide activities are those in the fields of education, business, labor and industrial relations, community development, and government."³

Perhaps the best early example of a land grant university's providing technical services to state and local government involves the extension activities of the University of Wisconsin and the work of Charles R. Van Hise, some of which even precede the passage of the Smith-Lever Act itself. Serving as Wisconsin's president from 1903 until his death in 1918, Van Hise extended its influence by his accentuation of service to the commonwealth. He thought it fortunate that "the institution stood in the capitol, so that teachers, legislators, and governor could better understand each other."⁴ The Van Hise period was characterized by a great deal of direct university involvement, particularly in the area of state government.

He urged university men upon the state for expert tasks, and rejoiced when they were appointed. He liked nothing

better than to undertake some state enterprise, and tell his colleagues -- in a favorite phrase -- 'we must push it vigorously.'⁵

Van Hise was not without his detractors, and at the time many people regarded Wisconsin as a radical community. Van Hise often said that its dependence on university experts in government proved it conservative. Regardless of criticism, Van Hise's work in the area of university extension was emulated by several developing land grant institutions, including the Universities of Minnesota and Indiana.⁶

From these early beginnings, the role of the state and land grant university expanded in the area of providing technical services to state and local government. Much of this expansion was based on the need to respond to specific problems or crises, rather than a specific mandate of service in these areas.

State universities began early to focus attention on problems of state and local government through municipal reference bureaus, instruction in public administration, special studies of problems of finance and taxation and a whole range of state and municipal problems. There was a strong consciousness of national responsibility in the state universities.⁷

The economic depression of the thirties is viewed as a particularly significant landmark in the development not only of the land grant university itself, but also the concept of service to government. New Deal legislation created a variety of new agencies at the federal and state levels. The technical assistance needs of these fledgling agencies increased the technical

service demands on the nation's colleges. "They were asked to provide advice and guidance and to serve as a clearinghouse."⁸ Although a time of turmoil for the nation as well as its universities, the decades of the twenties and thirties served the purpose of firmly establishing the role of the land grant university in American society. A remarkable growth in self-assurance, concept of place, and a recognition of a mission for the future was witnessed. "It was as if the colleges suddenly discovered that they were a force of great importance and were determined to help the nation by capitalizing on their discovery."⁹

The urban turmoil of the sixties was also a time which called for university based technical assistance extending beyond the boundaries of the traditional campus. According to Bok, universities were inspired by urban riots, caused by high unemployment and racial tension, to pay more attention to the practical problems of urban America. "In this atmosphere of crisis, academic administrators began to look for new ways of helping inner-city residents."¹⁰ It was often suggested that "universities should develop urban extension services, perhaps modeled after the successful agricultural extension of the land grant institution."¹¹ One such effort was attempted in the mid-fifties with the support of the Ford Foundation. With grants ranging up to one million dollars each, eight universities -- Rutgers, Wisconsin, Delaware, Missouri, Berkeley, Illinois, Oklahoma, and Purdue -- experimented with methods of shifting their experience in rural agricultural extension to

urban problems. The majority of these universities provided consultative services to municipal governments in the areas of water pollution, housing, health care, education, and other technical fields. After several years of experimentation, the Ford Foundation concluded that the work had not been particularly successful, in part due to the difficulty involved in quantitatively evaluating the results. They did concede, however, that "neighborhoods in which extension programs operated were better able to organize for the anti-poverty programs than other areas of the same cities."¹²

Although termed unsuccessful by the Ford Foundation, the concept of urban extension received considerable attention during the Johnson administration. On June 30, 1965, President Lyndon Johnson made the following comment: "I foresee the day when an urban extension service, operated by universities across the country, will do for urban America what the Agricultural Extension Service has done for rural America."¹³

This presidential sentiment was to become Title I of the Higher Education Act of 1965. Title I projects are based on community/university collaboration. Typically, a team of university personnel studied the needs of a particular community. Based on this study, a determination was made regarding how the universities' facilities could best be used to meet the perceived needs. "Finally, a strategy is developed to close in on a special problem. It may involve workshops, classes, conferences, demonstrations, or consultative services -- or all of these."¹⁴

In the summer of 1967, the Johnson White House sought additional legislation to more directly involve land grant universities with urban problems. A special task force of college administrators, an urban renewal administrator, a labor representative, and officers of the Departments of Health, Education and Welfare (HEW) and Housing and Urban Development (HUD) proposed the Urban Grant Act of 1968, which would have supplemented Title I of the Higher Education Act with additional funding. In addition to funding increases, a national clearinghouse for urban technical services was suggested.

These proposals were not accepted by the White House, in part due to the suspected impotence of the original Title I program. In retrospect, few of the programs begun under Title I still survive. "In a disturbing number of cases, projects undertaken with high hopes met with failures that actually heightened local suspicions and frustrations rather than improving relations with the university."¹⁵

To what can the lack of success of urban extension be attributed? A variety of problems relating to university based technical service to state and local government in general will be discussed in Chapter 4 under the heading of organizational disparity. However, two reasons are cited to explain the specific problems encountered by the urban extension movement of the sixties. Appropriations under Title I were limited, consisting of \$10 million or less in each fiscal year. Secondly, funding was fragmented due to the

formula for distribution. Even California, receiving the largest sum (approximately \$500,000), was required to divide the grant among participating institutions, seriously narrowing the scopes of any given project. "As a result, the impact on urban problems is uncertain; to the federal budget examiners Title I is a frill in a time of ever-dwindling resources. The net effect of the program is general indifference."¹⁶

Bok viewed the problems associated with urban extension in more philosophical terms. "Community services are often high-risk ventures. They clearly work best when they impose little burden on the university and help some local group without antagonizing others."¹⁷ Although these variables contributed to the failures of urban extension, Bok did not suggest that universities should never do research or consulting for city officials or local agencies. He offered the following suggestions based on the lessons learned by the urban extension efforts of the sixties:

- ▶ When possible, projects should be suggested spontaneously by municipal officials rather than a third party;
- ▶ narrowly defined problems requiring specialized expertise are generally more promising than large, vaguely worded projects;
- ▶ questions that are susceptible to definitive answers should have a high priority; and above all
- ▶ research and consulting services should not be undertaken unless the academic participants actually possess a distinctive expertise that is needed to solve the problem.¹⁸

Land grant institutions have a long history of involvement with state and local government. Although receiving legislative mandates for service through

the Smith-Lever Act of 1914 and Title I of the Higher Education Act of 1965, the majority of these efforts, as during the turbulent 1960s, have been stimulated by community need. As early as the time of Van Hise, service to government has been a debated issue both in terms of philosophy and results. These considerations notwithstanding, a variety of land grant universities continued to sponsor technical assistance to a number of external organizations including state and local government. The scope of these activities will be discussed in Chapter 3, immediately following this historical perspective.

Public Administration Education Perspective

The evolution of education in the field of public administration has paralleled the evolution of the land grant university. The mission and service commitment of land grant institutions evolved in response to very real problems experienced by our nation as it struggled towards maturity during the twentieth century. Stone and Stone described

. . . the development of education in public administration in response to national and local dissatisfaction with the performance of government. Research and training problems of private agencies and universities stimulated administrative reform. At the same time, the need for administrative knowledge and competence to plan and implement such reform encouraged the establishment of research and training programs.¹⁹

The concept of extending public administration education beyond the boundaries of the traditional campus evolved in concert with the development

of the programs themselves, in much the same way that land grant extension did. According to Mosher, university involvement in civic problems preceded even the passage of the Smith-Lever Act. "In the latter part of the nineteenth century, a handful of university presidents became acknowledged civic leaders and shaped some of the university programs to confront such problems."²⁰

The University of Southern California (USC) provides an excellent example of a university whose educational program in public administration developed directly from a need to provide technical services to local government in California. "An appeal by public officials in the Los Angeles region to organize courses for public employees beget what ultimately became the School of Public Administration."²¹ USC's most notable contribution in the area of technical service to local government came through the offering of client-centered short courses. The annual Institute of Government enrolled 1,000 participants in the early 1930s. This effort was greatly enhanced through interaction with a well established network of committees of public officials throughout the state. Promotional efforts utilizing media such as newspaper and radio developed strong statewide support for advisory services provided by the university. The successful combination of graduate and undergraduate education in public administration, technical service through advisory services, and client-centered short course offerings for public employees inspired Stone and Stone to make the

following comment nearly 40 years later: "In retrospect, the high quality of government in southern California can be attributed to a large extent to the professionalization and administrative orientation of public service fostered by the University of Southern California."²²

For those land grant universities interested in providing technical service to external client systems, yet concerned with budgetary constraint, an additional point should be made. The accomplishments of the University of Southern California, a private institution, were achieved with meager university and external funding. The majority of programs were self-supporting. "On the other hand, the school benefitted greatly from the rapidly developing, high-quality local and state government. The solid institutional base and other supportive factors enabled the school to gain in both capability and prestige."²³

By the 1930s, the University of Southern California was far from alone in providing educational opportunities in the general area of public administration, nor was it alone in providing this education as an outgrowth of technical service efforts. By 1933, 20 public and 15 private universities were providing training in the areas of state and local government. "In some cases the introduction of public administration into the academic curriculum was an outgrowth of efforts in extension programs."²⁴

The New Deal and World War II periods showed a continued evolution and growth in the area of public administration education. Each period

brought changes to the concept of extended service to government as well. Once mainly concerned with service to government at the state and local levels, universities began to look towards the expanding federal government as a potential client for their services. "Princeton for example, after an initial emphasis in the early nineteen-thirties with New Jersey state and local government, likewise became involved with national government."²⁵ In this area the historical development of the land grant institutions seems to diverge from that of their private counterparts in the area of service to government. The land grant institutions adapted to the available "federal market" more slowly, probably due to the extensive relationships they had developed with state and local governments.

The period following World War II until the present has seen a continuing expansion of public administration education within both private and public universities. In concert with this expansion, schools of public administration have continued to expand extended offerings to public servants at all levels of government. In an effort to assess the current level of public administration extension activities of American colleges and universities, Daniels, Darcy, and Swain conducted a survey of 235 institutions offering public administration graduate programs, or belonging to the National Association of Schools of Public Affairs and Administration. For the purpose of this study, extension activities were operationally defined as "the pursuit of off-campus activities which involve credit and non-credit classes, workshops, training problems,

and technical assistance programs."²⁶ Of 131 institutions responding to the survey, 78 reported that they had extension activities of some kind. The findings of this study will be discussed in depth in Chapter 3 with regard to the current status of university based technical service efforts to government in general, and local government in particular. At this point, it serves to illustrate the parallel expansion of public administration education and the corresponding expansion of extension activities to state and local government.

Summary

For universities offering extended service to state and local government, an extensive historical precedent exists. We have seen the concept of extended service evolve in concert with the evolution of the land grant university, and with the evolving development of programs in public administration. According to Mosher, "It is doubtful that there is any element in an evolving culture more significant for the nature of its public service than the educational system."²⁷ He viewed an educational system as involved in a dynamic, interdependent relationship with the society in which it functions. Each component of the system is shaped by, and in turn shapes, the other. This can be seen in the development of education in public administration and the extension of technical service to government in response to need. Several studies have been conducted to determine the extent to which

universities are currently responding to the needs of state and local government through extended service. The following chapter will focus on the extent of this activity and will also consider the types of technical assistance available and the preferred delivery methods.

Endnotes

¹Edward Danforth Eddy, Jr., Colleges for Our Land and Time (New York: Harper and Brothers, 1957), 241.

²Allan Nevins, The State University and Democracy (Urbana, IL: University of Illinois Press, 1962), 78.

³Lloyd Morey, The State-Supported University (Carbondale, IL: Southern Illinois University Press, 1961), 22.

⁴Nevins, p. 95.

⁵*Ibid.*, p. 96.

⁶*Ibid.*, p. 98.

⁷Russell I. Thackery, The Future of the State University (Urbana, IL: University of Illinois Press, 1971), 29.

⁸Eddy, p. 151.

⁹*Ibid.*

¹⁰Derek Bok, Beyond the Ivory Tower (Cambridge, MA: Harvard University Press, 1982), 236.

¹¹*Ibid.*

¹²David C. Nichols, "Land-Grant University Services and Urban Policy," in Land-Grant Universities and Their Continuing Challenge, ed. G. Lester Anderson (East Lansing, MI: Michigan State University Press, 1978), 226.

¹³*Ibid.*, p. 228.

¹⁴*Ibid.*, pp. 227-228.

¹⁵*Ibid.*, p. 229.

¹⁶*Ibid.*, p. 228.

¹⁷Bok, p. 237.

¹⁸*Ibid.*, pp. 238-242.

¹⁹Alice B. Stone and Donald C. Stone, "Early Development of Education in Public Administration," in American Public Administration: Past, Present, Future, ed. Frederick C. Mosher (University, AL: The University of Alabama Press, 1975), 11.

²⁰Frederick C. Mosher, Democracy and the Public Service (New York: Oxford University Press, 1982), 51.

²¹Alice B. Stone and Donald C. Stone, "Appendix: Case Histories of Early Professional Educational Programs," in American Public Administration: Past, Present, Future, ed. Frederick C. Mosher (University, AL: The University of Alabama Press, 1975), 281.

²²*Ibid.*, p. 283.

²³*Ibid.*, p. 286.

²⁴Rowland Egger, "The Period of Crisis: 1933 to 1945," in American Public Administration: Past, Present, Future, ed. Frederick C. Mosher (University, AL: The University of Alabama Press, 1975), 56.

²⁵*Ibid.*, p. 75.

²⁶Mark R. Daniels et al., "Public Administration Extension Activities by American Colleges and Universities," Public Administration Review (January/February 1982): 55-63.

²⁷Mosher, p. 27.

CHAPTER 3

CURRENT STATUS OF TECHNICAL SERVICE EFFORTS TO STATE AND LOCAL GOVERNMENT

Introduction

In 1974, the Southern Regional Education Board was funded by the National Science Foundation to assess the professional working relationships between state agencies and colleges and universities in 14 southern states. This survey was justified by the following perception:

While there is a relatively large number of studies on the relations between the federal government and the universities -- usually revolving around such phenomena as research and development -- there is virtually no data on the academic community's relations with state governments.¹

The same can be said for the universities' relationships with government at the local level. Little information addresses this particular relationship, and what does generally considers "state and local government" simultaneously. For this reason, both state and local government will be considered as a single client system at this time. Later, the paper will focus on local government in Montana and its technical service relationship with Montana State University.

Scope and Delivery of
Technical Service

The Southern Regional Education Board study investigated 84 educational institutions in the south, in addition to six major universities outside the region. Questionnaires were also mailed to 224 units of state government in the south. Nearly 73% of the educational institutions and 84% of the state government agencies returned completed surveys.

Although much of this study focused on the perceived barriers to cooperation, some data were collected in regard to the strength of financial commitment and the extent of use, areas of service offered, and types of delivery methods most often utilized.

Those universities responding to the survey reported an estimated expenditure of \$32.8 million devoted to services to the state agencies. Those funds were divided among the following functional areas: 37% for public health, 27% for education, 13% for public welfare, 10% for natural environment, 4% for criminal justice, 3% for planning, 0.06% for taxation and revenue, and 5.4% in other areas. The specific areas of university involvement were: (1) economic issues (human resources and urban and rural development); (2) environmental issues (water quality, land use, air quality, and solid waste disposal); and (3) social issues (educational quality, drug abuse, health, race relations, aging, technological impacts, corrections and crime, family planning, poverty, transportation, housing, and communication, in descending order of

involvement). "These involvements are generally entered into via one-on-one negotiations between individual state agencies and the universities (in 61 percent of the cases), rather than being established by institutional policy."²

In regard to the extent of use by state officials, the survey concluded that public administrators at the state level are highly educated, and when in need of technical assistance generally contact each other. When they do go outside of the bureaucracy, they go first to private consultants and then to universities. "Nevertheless, a remarkable ninety-five percent of the officials have used or are using the service of the academic community 'occasionally' or 'often.'"³ Seventy-three percent of contacted agencies had requested university services within the fiscal year in which the study was conducted. Relative to preferred delivery modes, research or study service accounted for 53%; education or training services, 23%; and information, 14%.

A more recent study was conducted by the National Association of State Universities and Land Grant Colleges (NASULGC) in 1978. Surveys were returned by 79 of 133 NASULGC member institutions, representing 41 of the 50 states. Thirty-nine universities participating in the survey (or 54.9% of the respondents) indicated that they provided technical service to state and local government through some type of formal campus organization. Of those universities responding positively, 31 of 39 stated that they housed technical units within a university institute of government. The remaining eight positive respondents had set up technical service units within the university, but these

were not associated with institutes of government. In addition, seven of the universities which provided technical services through an institute of government also reported an additional unit of this nature outside the institute.⁴

Budget and staff size were considered in determining extent of commitment. Among the 22 institutions with funds budgeted specifically for providing technical service to state and local government, a great deal of variation was found. Twelve were operating with annual funds of \$100,000 or less. Five institutions had budgets ranging from \$101,000 to \$500,000, and one institution reported an annual budget of \$737,000. The remaining four institutions had budgets over a million dollars. Staff size varied from a high of more than 350 at Georgia Tech to a low of 1.33 at the University of Nevada-Reno. Of the 322 universities providing information on staff size, 20 had 10 or fewer employees, six had staffs ranging in size from 11 to 20, two had staffs between 21 and 50, and four had staffs of more than 50 employees. According to Phillips, while there is a strong correlation between budget and staff size, these figures do not necessarily relate directly to the range of services offered. "University technical services operations are able to do a lot with modest funding because they can draw on resources from throughout the campus, often free of charge."⁵

While not dealing specifically with topic areas of technical service available, the study includes as wide a variety of areas of interest as those previously indicated by the Southern Regional Education Board study. It

would seem, as discussed in Chapter 2, that the majority of the technical service efforts are in response to real or perceived needs, and run the gamut of potential problems facing state and local government in modern America.

Concerning technical service delivery methods, the NASULGC study found universities involved in a variety of activities. Although no two service units were alike, the study identified seven major delivery methods commonly being utilized. For survey purposes, these were identified as: contract research, reference services, bill drafting assistance, testimony at hearings, training sessions, seminars, and personnel exchanges. More than half of the 39 universities reporting formal technical assistance efforts were involved in at least five methods of delivery. Table 1 indicates the types of services available and the number of responding universities engaged in each.

Table 1. Types of technical services offered.⁶

Type of Service	Number of Universities Involved
Contract research	34
Training	32
Reference services	30
Testimony at hearings	22
Bill drafting assistance	15
Personnel exchanges	10

Finally, the NASULGC study attempted to determine which units of state and local government would be the most likely recipient of each type of service. City and county governments were the most likely beneficiaries of university-based technical service activities, while the governor's office was the least likely recipient of assistance.

Contract research to state and local government seems to be the most widely exploited relationship, according to the NASULGC survey. This is not difficult to understand in light of the income generating possibilities afforded financially strapped universities. According to Phillips, the rewards to a university engaged in applied research directed at specific governmental problems are more than financial in nature.

In addition to bringing the university's research capabilities to bear on public problems which need solving, it also pays rich dividends to those who carry out the research, survey respondents noted. It gives these faculty members 'real world' experience, in the words of one faculty member, and provides material which enriches the curriculum, especially for schools of public policy.⁷

The relatively high ranking of training among delivery methods seems to reflect the strong traditions in this area of service that were mentioned in Chapter 2. Once again, the NASULGC study mentioned municipal and county officials as the primary beneficiaries of these training efforts. The study estimated the yearly total of government officials taking part in training sessions sponsored by state and/or land grant universities to be in the hundreds of thousands.⁸

Public Administration
Outreach Activities

The Daniels, Darcy, and Swain study, "Public Administration Extension Activities by American Colleges and Universities," was discussed in Chapter 2 to demonstrate the extent of growth both in programs of public administration and the efforts to extend those programs beyond the traditional campus. Nearly 60% of the universities responding to the Daniels, Darcy, and Swain study reported some type of extension activity in conjunction with public administration education.⁹

In general terms, Daniels, Darcy, and Swain found public administration programs engaged in a tremendous amount of extension activity of an extremely diverse nature. This diversity is reflected in the language used to describe the various activities, not only by the universities, but by the persons studying them as well. This study identified a variety of delivery methods (graduate and undergraduate degree programs, graduate courses, technical assistance, workshops, in-house training, non-degree programs, and undergraduate courses) that differ in terminology from those mentioned in previous studies. Although this certainly demonstrates the variety of delivery methods being used, it makes comparison of studies difficult. It seems that when Daniels, Darcy, and Swain used the term "technical assistance," they were referring to the general areas of contract research and reference service mentioned in the NASULGC study. The latter study mentioned the generic

area of "training session," whereas Daniels, Darcy, and Swain differentiated between graduate and undergraduate, degree and non-degree, and in-house or out. With this caveat in mind, some general conclusions and comparisons still can be drawn from the work of Daniels, Darcy, and Swain.

They found graduate degree programs to be the area of strongest emphasis, followed closely by non-degree programs at the graduate level. "Technical assistance, workshops, and in-house training, which in the past may have been provided sporadically and at the initiative of individual faculty members, now appear to be directed or coordinated by academic institutions."¹⁰ This coordinated effort has given these three areas a higher priority of emphasis among extension activities than the traditional area of undergraduate instruction.

The number of universities offering extended graduate degree programs once again offers an example of universities being shaped by societal forces.

The large number of graduate degree programs can be explained by the accurate perception of demands and the relative ease of producing graduate degree programs. The most important factor is that there are a large number of lower and middle level administrative and professional employees with bachelor's degrees who see graduate education as a major means of career advancement.¹¹

Daniels, Darcy, and Swain did not differentiate among the various units of government receiving the benefits of these extended offerings; rather, they considered public officials as a generic lot. Neither did they discuss subject

areas offered, other than to mention that 92.8% of off-campus degree programs are similar to those offered on campus.

The remainder of the Daniels, Darcy, and Swain study addressed the following organizational variables and how they reflect a university's extension activities.

First, it was hypothesized that autonomous public administration programs may be better able to pursue extension activities than non-autonomous programs located in a related department such as political science. Autonomous departments were found to be engaged in a greater variety of extension activities, serving more public officials at a greater number of locations, than non-autonomous departments. They also relied more heavily on direct payment from outside organizations to cover expenses.¹²

"Second, it was hypothesized that the very nature of public educational institutions implies a mission to identify and serve the training needs of citizens of the American states."¹³ In this regard, Daniels, Darcy, and Swain found public institutions to predominate among institutions pursuing extension activities. They were involved in a greater number and variety of activities.

Third, size was identified as a variable, with larger universities engaged in a greater number of varied extension programs.

Finally, it was hypothesized that institutions located outside of major metropolitan areas would have a greater motivation to offer extension programs than their urban counterparts. This hypothesis was based on the

assumption that non-urban universities, having less access to large numbers of traditional students, would be more likely to attempt to attract non-traditional students such as those involved in extension programs. In presenting the results of their study, the authors stated:

Educational institutions outside the Standard Metropolitan Statistical Areas tend to have more extension students, to use adjuncts to a greater extent, to use more locations for programs, to have a greater variety of activities, and to rely more on direct payments from outside organizations.¹⁴

In conclusion, it is obvious from the Daniels, Darcy, and Swain study that a large number of schools of public administration are involved in a wide variety of extended activities targeted at public administrators at all levels of government. From their study, the profile of the large, non-urban, public university with an autonomous public administration program emerges as the dominant model in the area of technical service. This appears to be congruent with the long historical involvement of both public universities and schools of public administration with the public sector at all levels of government. It also concurs with the findings of the NASULGC study that the majority of technical service efforts at state and land grant universities are coordinated through institutes of government.

The final study to be considered in regard to the current status of university-based technical service to state and local government was conducted in 1985 by Dunn, Gibson, and Whorton. Its purpose was to explore the commitment of university resources to public service for state and

local government. Once again, and as seen in the previously cited studies, state and local government were treated as a single entity. The study's focus on state and local government as a client system was based on the following assumptions: (1) University faculty in public affairs and administration are located near state and local government practitioners, making access easier; (2) the number of state and local government personnel exceeds that of the federal government by several times; and (3) as states become more active in policy initiatives and receive more responsibilities in the federal system, their needs for policy and management assistance increase.¹⁵

Dunn, Gibson, and Whorton surveyed 114 university presidents. The universities were selected from members of the American Association of Universities, and included the major land grant university in each state. Data were collected in regard to the priorities placed on service to state and local government, how each priority compared with other client groups, comparison of land grant and non-land grant institutions in terms of commitment to this type of service, the preferred delivery modes, and the potential for future funding.

When comparing client groups relative to priority for service,

... priority for state and local government fell in the middle ground along with the agriculture groups and the general public, above priorities given the federal government and labor groups, but below business and professional groups.¹⁶

Citing the "distinctive service culture" of land grant universities, Dunn, Gibson, and Whorton expected to find a higher priority for service to state and local government among these institutions when compared to non-land grant universities. Although they found that land grant presidents gave a slightly higher priority to service, few significant differences existed. They concluded that "the special service culture of land grant universities, then, does not produce greater priority for programs to assist state and local government officials."¹⁷

Once again, when considering delivery modes, this study utilized a diverse choice of language that makes comparison with previous studies difficult. Applied research, technical assistance, and training or non-credit instruction were offered as possible modes. When asked to rate these delivery modes from one (little emphasis) to six (great emphasis), university presidents' mean responses indicated that research/policy analysis received the greatest emphasis (4.7), technical assistance was second (4.5), and training was last with a mean response of 4.0.¹⁸ The emphasis on contract research seems to concur with both the Southern Regional Education Board study and the NASULGC study. The low priority for training seems unusual in light of the other studies, and the fact that training seems a natural extension of the university's teaching mission. Dunn, Gibson, and Whorton offered the following explanation for this relatively low ranking: "This low ranking for training may be due in part to its noncredit status and the

fact that it may seem least related to the traditional university norms and values."¹⁹

Finally, university presidents were asked to predict funding levels for the next 10 years.

In general, university presidents with programs designed to assist state or local public officials saw these programs faring slightly better than competing programs if a significant decline occurs in funding. They saw them doing well relative to other programs if funding should grow. The fact that most presidents predicted funding to continue on a steady basis, however, makes it unlikely that these service programs will grow during the next several years.²⁰

Presidents of universities without programs of technical service to state and local government were asked about the possibilities of starting such programs under varying funding conditions (diminished, increasing, and steady). With diminished funding the chances were seen as slim, with increased funding they were viewed as better than even, and in the case of consistent funding at least some possibility of starting a program was mentioned.²¹

In regard to future budgeting for technical service programs, presidents were asked, "Assuming funds were made available to start a program of assistance, about how much of its budget would you expect to be derived from non-university sources?" Their responses seem to reinforce the previously mentioned emphasis on delivery modes, such as contract research, which pay their own way. Fifty-two percent of the presidents indicated expectations of at least 75% outside funding, 28% responded with

expectations of between 50 and 75%, and the remaining 20% indicated levels of 25% or below, with only two presidents specifying that such a program could rely entirely on university funding.²²

In conclusion, Dunn, Gibson, and Whorton did not paint an optimistic picture for the future of university based technical service efforts to state and local government. They did not see the impetus for this type of activity coming from the university presidents and, for that reason, suggested that faculty of programs of public affairs and administration, or state and local government officials themselves, must lead the way if this relationship is to thrive. In addition, programs that produce revenue, such as contract research, seem to have the brightest futures. This contention concurs with previously cited studies which indicated an emphasis on contract research over other delivery modes.²³

Summary

This chapter has presented data and findings from several relevant research studies in an effort to describe the current status of technical assistance linkage as it has evolved during the last century. The following conclusions can be drawn from those studies:

- (1) A large number of universities, with public institutions leading the way, are involved in technical assistance linkage with government.

- (2) A majority of these efforts are coordinated through institutes of government or schools of public administration.
- (3) State and local government, generally considered as a single entity by researchers, seems to receive the majority of assistance when compared to the federal government.
- (4) Contract research and other income generating services appear to be the preferred delivery methods of most universities.
- (5) The subject areas of technical assistance currently being offered are as numerous as the potential problems faced by the governmental units they are attempting to serve.
- (6) Societal factors, such as the shift in governmental responsibility from the federal to state and local levels, and the increasingly technical environment in which governmental practitioners must operate have contributed to the increasing demand for some type of technical assistance.

The predominant technical assistance model that emerges from the review of relevant literature is that of the large, non-urban public university as a resource system. An autonomous school of public administration or institute of government acts as a linking agent, with state and local government as the client or user system.

At this point, several factors have been identified as potentially inhibiting to this technical service linkage. In terms of historical precedence, state universities, although frequently utilized, are not identified as a resource of

first choice by many governmental practitioners. Other government officials and private consultants both rank higher. University officials were seen as generally placing no higher priority on service to state and local government than other external clients.

Although an abundance of informal linkage efforts are mentioned, there appears to be a corresponding lack of formal technical service linkage. This conclusion is supported by a lack of institutional support for such efforts, and a bleak prognosis for future funding.

In Chapter 4 additional factors will be discussed which are seen as inhibiting the information transfer process in general, and the technical service linkage between the land grant university and state and local government in particular.

Endnotes

¹Nicholas Henry, "State Agencies and Academia," State Government (Spring 1976): 99.

²Ibid., p. 103.

³Ibid., p. 101.

⁴Ione Phillips, The Added Dimension (Washington, DC: National Association of State Universities and Land Grant Colleges, 1978), 18.

⁵Ibid., p. 21.

⁶Ibid., p. 19.

⁷Ibid., p. 26.

⁸Ibid., p. 20.

⁹Mark R. Daniels et al., "Public Administration Extension Activities by American Colleges and Universities," Public Administration Review (January/February 1982): 56.

¹⁰Ibid., p. 57.

¹¹Ibid., p. 63.

¹²Ibid., p. 62.

¹³Ibid.

¹⁴Ibid., p. 63.

¹⁵Delmer D. Dunn et al., "University Commitment to Public Service for State and Local Governments," Public Administration Review (July/August 1985): 503.

¹⁶Ibid., p. 504.

¹⁷*Ibid.*, p. 506.

¹⁸*Ibid.*

¹⁹*Ibid.*

²⁰*Ibid.*, p. 507.

²¹*Ibid.*, p. 508.

²²*Ibid.*, p. 507.

²³*Ibid.*, p. 508.

CHAPTER 4

FACTORS INHIBITING THE SERVICE LINKAGE
BETWEEN THE UNIVERSITY AND GOVERNMENTIntroduction

The review in Chapters 2 and 3 of the historical precedent and current status of university based technical service to state and local government suggested a number of problems inherent in linking the university as the producer of knowledge and state and/or local government as the users of that knowledge. Boulding has remarked that the relationship between the academic/scientific and political communities is one of constant mutual frustration, with both sides feeling that they should be able to help the other but, thus far, that the "social invention" needed to resolve the dilemma has not been discovered.¹ According to Apfel and Worthley, this linkage problem was recognized as far back as Aristotle who, in *Politics*, noted the differing interests of the two communities.² Dunn, Gibson, and Whorton noted that public administration scholars and practitioners have continually sought ways to improve their technical service relationship with their client groups. They concluded that despite these efforts, the work is far from over.³

In order to provide a general theoretical framework encompassing the factors that could possibly inhibit the university's technical service linkage/relationship with local government, the general concept of information transfer must now be examined.

The Information Transfer Process

Several factors have been identified as possibly inhibiting the information transfer process. In terms of the information itself, the land grant university has been identified as producing information that is potentially relevant to practitioners of both state and local government. Despite this assumption, Apfel and Worthley identified "a reluctance on the part of state officials to believe that universities are capable of providing meaningful assistance, and a reluctance on the part of universities to believe that their contributions will be valued and implemented"⁵ as a potential factor that could inhibit the technical service relationship. In this regard, universities with an interest in an expanded technical service relationship would be wise to assess what information relevant to state and/or local government is actually available within the university system.

Communication Channels

Once relevant information has been established as existing within the university system, the question becomes one of how to transfer that

information to an external client system, in this case state and/or local government. According to Abelson, Garrison, and Glasser, the various ways of transmitting information can be considered under the three general headings of personal communication, written communication, and other forms of dissemination/diffusion such as mass media. They presented the following conclusions relative to the comparative success of each method:

Innovative ideas come primarily from personal contacts. Once an idea is initiated, however, many types of information sources are used even if they are inefficient. The single source of variance that could be manipulated to increase information utilization is personal interaction. If the ideas that come from such interaction provide the catalyst for information-seeking behaviors, other sources of information will be used.⁶

It would seem that the choice of communication channels to link a university with state and/or local government would be dependent on the strength of the existing relationship. In a sense, the idea of utilizing the university as a source of technical information could be considered innovative in itself with respect to a client system which has had little or no previous contact with the university. For universities in this stage of their technical service relationship, personal contacts would take precedence over other available communication channels. Feedback, an essential element present in interpersonal communication, but often lacking in other types of communication, would be crucial at this developmental stage to determine the relative success or failure of the efforts. On the other hand, at universities such as the University of Southern California or the University of Wisconsin, where a

strong precedent exists for state and local governments to rely on the university as a source of technical information, personal contact may not be as important and other methods, such as the utilization of written materials or media contact, may be sufficient. Selecting an appropriate mix of communication channels is therefore an important factor in the success of a knowledge transfer venture.

Sender/Receiver Characteristics

Additional factors to be considered are the organizational characteristics of the sender and receiver of the information. In this case, rather than considering the various subject areas of information potentially available at the university, the idea of utilizing the university as a source of technical assistance will be considered as an innovation in itself.

From the university's perspective, state and/or local government exist in an environment external to the university. Further, a university engaged in the transfer of knowledge to external entities such as state and/or local government would be considered an open system in terms of organization communication in that it continuously exchanges information with its environment.

A university interested in the provision of technical service to an external client system such as local government would necessarily have to measure its degree of current openness before determining what steps are necessary

to improve the technical service relationship. Further, if an open system does exist, are the contacts of an institutionalized or merely informal nature?

Although the degree of openness between a resource system and a potential client system is perhaps the most crucial area of study in regard to understanding the technical service relationship between a university and local government, the organizational climate also seems relevant. Rogers and Agarwala-Rogers defined organizational climate as "the state of its internal nature, as perceived by its members," and concluded that "an organization's climate exerts a strong influence on its members' behavior."⁷ Therefore, it would seem appropriate to measure the attitudes of university staff members and administrators to determine their attitudes towards outreach service in general and, more particularly, the provision of technical service to local government practitioners.

Although the focus of this study is the university as an information resource system, it is impossible to ignore the perspective of the client system or local government, as information transfer is by necessity a two-way communication. The factors of degree of openness and organizational climate seem equally relevant when considering the local government client. Do local government practitioners view their organization as open to technical assistance from the university, or could local government be considered a closed system relying solely on in-house expertise? What factors within the organizational climate of local government contribute to either an open or

closed system in regard to receiving technical assistance? It would seem crucial that a university with an interest in maintaining or expanding a technical service relationship with local governments address these factors by answering at least those questions to gain a better understanding of an extremely relevant part of the information transfer process, the information user.

Finally, relative to the interaction of the university as resource system and local government as user system, the factors of homophily and heterophily appear relevant. According to Rogers and Agarwala-Rogers, homophily is the degree to which a source-receiver pair are similar in certain attributes, such as beliefs, education, or social status; heterophily is the degree to which a source-receiver pair are different in certain attributes.⁸ Abelson, Garrison, and Glasser expressed their view of a high degree of homophily as being related to more successful communication and utilization of research knowledge.⁹ Rogers and Agarwala-Rogers, while viewing heterophilic communication as more difficult, suggested that it has the potential of conveying new information to the receiver, and thus instigating behavior change.¹⁰ It would seem that in the case of the university and local government, the relationship could be characterized as neither totally heterophilic nor hemophilic. For example, there are certainly similarities between the two institutions in Montana if only by virtue of the fact that they share similar physical and cultural environments. Yet it is not difficult to

imagine major differences in terms of knowledge, values, and priorities between a practitioner of local government and a university staff member attempting to provide technical assistance to the practitioner. The key in this particular relationship seems to involve the dual issues of the institutions being dissimilar enough to justify the transfer of new information, yet having enough similarities to engage in effective communication at all.

In conclusion, several factors relevant to the theoretical information transfer process have been identified. From the perspective of both the university and local government, a certain amount of system openness is necessary for the effective communication of technical assistance to take place. System openness can be measured in terms of the extent of external communication, and is dependent on the climate of the communicating organizations. Finally, homophily and heterophily can be considered as existing on a continuum; a certain amount of heterophily is necessary if new information is to be transmitted, yet enough homophily must exist between the source and receiver so that effective communication is not impeded.

Having identified these theoretical factors relating to the transfer of information from producers to users, it now seems germane to compare them to the factors that have been identified in the previously cited studies as actually inhibiting the information transfer from the university as producer to state and/or local government as information user.

Inhibiting Factors

The studies reviewed in Chapter 3 in relation to the current status of university based technical service to state and/or local government were included with the dual purpose of describing the current status of the university-local government relationship and identifying possible factors inhibiting that relationship. For the purpose of this study, these inhibiting factors will now be discussed in terms of the theoretical concepts of system openness, organizational climate, and degree of homophily/heterophily as those terms relate to both climate and organizational structure.

The majority of information regarding system openness will be discussed in Chapter 6 concerning the specific relationship between Montana State University and local government in Montana. The majority of educational institutions surveyed to identify inhibiting factors have demonstrated a degree of openness by virtue of the fact that they were engaged in technical service relationships with state and/or local governments at the time the surveys were completed.¹¹ However, some specifically relevant data exist relative to state and/or local government's degree of openness to university based technical assistance.

For example, the previously mentioned Southern Regional Education Board study, though dealing with public administrators at the state level, found that public administrators contacted by the Southern Regional

Education Board were, for the most part, well educated, with 90% having bachelor's degrees and 44% master's or doctoral degrees. "When they need professional consultation, they more often than not consult each other; that is, they turn to other governmental agencies."¹² Despite this inclination to rely on in-house expertise, Henry concluded that a relatively close working relationship does exist between state agencies and academia, with 73% of surveyed agencies requesting university services within the fiscal year of the survey.¹³ This would certainly demonstrate that a degree of openness does exist between the organizations of the university and, in this case, state government. As this particular factor seems more relevant when considered in the context of a particular technical service relationship, it will be discussed in greater detail in Chapter 5 in relation to studies conducted at Montana State University and among a group of Montana local government officials, to determine the degree of openness between those two particular resource/user systems.

Additional inhibiting factors were cited in the studies that may be subsumed under the organizational climate concept as applied to both the resource and user systems. One major factor in this regard was the lack of financial resources dedicated by universities to the provision of technical service. For example, the National Association of State and Land Grant Colleges study found that "money problems far outstripped any other factor as the number one barrier" to more cooperative relationships between

state-supported universities and government. Survey respondents identified a lack of both internal university and state funds directed towards university technical service operations as contributing to this problem.¹⁴ Other factors relating to organizational climate that seem to inhibit the provision of technical service are as follows:

- ▶ lack of an institutional reward system (rank, tenure, salary) that adequately addresses technical service activities;
- ▶ no professional (peer) reward for activities relating to state and/or local government;
- ▶ faculty preference for working with federal, rather than state, or local government; and
- ▶ faculty distrust of the 'political arena.'¹⁵

From the perspective of government, the NASULGC study identified public officials' distrust of academicians, and government officials' dissatisfaction with the inability of faculty members to provide answers in layman's language as inhibiting factors.¹⁶

Apfel and Worthley identified the following additional inhibiting factors which related to organizational climate:

- (1) A lack of compatibility between the urgent needs of government officials for practical and applied solutions and the university norm of emphasis on basic research and theory building.
- (2) The lack of recognized publishing outlets for scholarly writings on applied research.

- (3) The conflict between the frequent need of government for confidentiality of studies and results, and the values of the university to generate and disseminate knowledge and to remain apolitical.
- (4) A basic lack of understanding by academics and government officials of the environments and procedures of the other.¹⁷

Factor (4) above is clearly a major inhibitor that may characterize the organizational climates of both entities.

The final inhibiting factor to be considered is the organizational structure of the university itself as it relates to the provision of technical service.

According to Henry,

State administrators appear to believe that the greatest single impediment to the provision of outstanding service to their agencies by universities are the difficulties involved in the nature and organization of the universities themselves. In other words, the standard departmental organization of the academic community is not isomorphic to the problems of society as state government officials perceive them.¹⁸

In this regard, 77% of respondents to the previously mentioned Southern Regional Education Board study indicated that they simply did not know whom to contact in universities for assistance.¹⁹

Howell and Sollie concurred with Henry's analysis of this organizational disparity with the following statement:

As we have found in our own, although limited, experiences, knowledge/technology relevant to client system is often 'cloaked' or disguised within the organizational setting of the university. That is, expertise and services desired by a given client may be located within the university in an organizational

unit that is not necessarily perceived as offering the appropriate skills to satisfy a particular need.²⁰

Reorganizing a university's structure to better facilitate technical service interaction with local government may seem as impossible as altering organizational climates that have developed over extensive periods of time. Fortunately, a complete reorganization does not seem necessary when the problem may be as simple as identifying sources of expertise cloaked within the university's organizational structure and making these sources more readily accessible to an external client system such as local government.

Summary

Relevant information, system openness, organizational climate and structure, and communication channels have been identified as theoretical concepts that each play an integral role in the information transfer process. Within each area, factors that could possibly inhibit successful linkage have been discussed. A lack of relevant information or system openness can severely limit information transfer. In terms of organizational climate, a basic lack of resources, reward systems, or prior contacts can inhibit the university as a resource system. Local government's need for urgent or confidential information was viewed as incongruous with the types of services that the university can provide. The basic structures of the two organizations do not seem to be particularly conducive to technical service linkage, with relevant information often being cloaked within the university's complex structure.

If a university's technical service linkage with local government is to be strengthened, it must first be understood in terms of the previously mentioned factors. The first step in this process would seem to call for a descriptive analysis of the existing technical service relationship between a particular university and the intended client system. The following chapter provides such an assessment of Montana State University and will discuss the results of two surveys designed to assess this particular technical service relationship as it existed in the 1980s.

Endnotes

¹Kenneth E. Boulding, "Truth or Power," Science (October 1975): 190.

²Jeffrey Apfel and John A. Worthley, "Academic Technical Assistance: The University and State Government," Public Administration Review (September/October 1979): 409.

³Delmer D. Dunn et al., "University Commitment to Public Service for State and Local Governments," Public Administration Review (July/August 1985): 503.

⁴Everett M. Rogers and F. Floyd Shoemaker, Communication of Innovations: A Cross-Cultural Approach (New York: The Free Press, 1971), 23.

⁵Jeffrey Apfel and John A. Worthley, "University Assistance to State Government: Problems and Approaches," Journal of Higher Education 49 (1978): 611.

⁶Harold H. Abelson et al., Facilitating the Diffusion of Knowledge and the Implementation of Planned Change (San Francisco: Jossey-Bass, Inc., 1983), 237-238.

⁷Everett M. Rogers and Rekha Agarwala-Rogers, Communication in Organizations (New York: The Free Press, 1976), 73-74.

⁸Ibid., p. 14.

⁹Abelson et al., p. 71.

¹⁰Rogers and Agarwala-Rogers, pp. 115-116.

¹¹See: Apfel and Worthley, "Academic Technical Assistance . . ."; Apfel and Worthley, "University Assistance . . ."; Dunn et al.; Nicholas Henry, "State Agencies and Academia," State Government (Spring 1976): 99-104; and Ione Phillips, The Added Dimension (Washington, DC: National Association of State Universities and Land Grant Colleges, 1978).

¹²Henry, pp. 100-101.

¹³Ibid., p. 101.

¹⁴Phillips, pp. 33-34.

¹⁵Ibid., p. 35.

¹⁶Ibid., p. 36.

¹⁷Apfel and Worthley, "University Assistance . . . ," p. 611.

¹⁸Henry, p. 101.

¹⁹Ibid.

²⁰Frank M. Howell and Carlton R. Sollie, University Knowledge/Technology Transfer and Public Decision-Making: Review, Synthesis, and Alternative Models (State College, MS: Southern Rural Development Center, 1981), 41.

CHAPTER 5

MONTANA STATE UNIVERSITY-LOCAL GOVERNMENT

TECHNICAL SERVICE RELATIONSHIP

Introduction

In an effort to assess the status of university based technical service linkage with local government in Montana, the author conducted surveys at the university and local government levels. Fifty-one subunits of Montana State University were contacted by telephone in 1986. Questions were directed to subunit heads.

An additional survey was conducted of 35 Montana elected municipal officials in attendance at a workshop for elected municipal officials sponsored by the Local Government Center at Montana State University. The conference was held from March 20-22, 1986, with the survey completed on March 21. It was initially theorized that this particular sample, by virtue of the fact that they were in attendance at a technical service workshop sponsored by the university, would have a strong inclination to rely upon the university for technical service. With this caveat in mind, the survey was conducted because it was within the financial and logistical scope of this project and because of the availability of the sample. The results of the two surveys will

be discussed under the subheadings of relevant information, system openness, organizational climate and structure, and communication channels.

Relevant Information

Chapter 4 identified the availability of relevant information as crucial to a successful technical service linkage between the university as information provider and local government as information user. The survey results would indicate that information relevant to local government does, in fact, exist within the Montana State University structure.

The information available appears to be as varied as that mentioned on a national level in Chapter 3. In the general area of public works, 12 subunits have offered technical service to local government. Those offerings vary from a biological weed control program sponsored by the Department of Entomology, to the federally funded Rural Technical Assistance Program which provides technical assistance in the general areas of road maintenance, street and bridge maintenance, and water, sewer, and solid waste disposal. A detailed description of what each subunit offers in this area is included in Appendix A.

In the area of public management, 11 subunits have offered technical service to local government in Montana. Once again, the offerings are extremely varied, as in the case of public works. For example, assistance has been given in the areas of local law enforcement, tort liability, standard

accounting procedures, public budgeting, public opinion survey techniques, and subdivision control. A detailed explanation of these offerings is provided as Appendix B.

In the area of community and economic development, five subunits have offered technical service to local government, including information on grant availability, historical preservation, community education, and leadership skills. A detailed description of this information is included as Appendix C.

System Openness

The degree to which a system is open to its external environment was identified in Chapter 4 as important to the information transfer process. This was seen as relevant to both the university as information provider and local government as information user.

In the case of the university, historical precedent is one indicator of system openness. Table 2 details Montana State University's past technical service interaction with local government.

Table 2. Extent of technical service interaction between Montana State University and local government.

Description	Percent
MSU subunits with previous interaction	56.9
MSU subunits with no previous interaction	43.1

With a majority of respondents indicating past technical service interaction, it would appear that at least a portion of the university system is indeed open in terms of providing technical service to local government.

To determine the degree to which local government officials are open to external sources of information, they were asked to rate six sources of technical assistance in terms of their first, second, third, etc. preference when in need of assistance in four subject areas. The six sources of assistance mentioned were: (1) other local government official, (2) a state government agency, (3) a private consultant, (4) a federal agency, (5) an informal university contact, and (6) a specific university department. The four subject areas mentioned were: (1) community and economic development, (2) public works or utilities, (3) human services (recreation planning), and (4) transportation (road planning). Table 3 details the number of times each source was mentioned as a first, second or third choice for technical assistance.

It is interesting to note that only in the case of transportation planning did local government officials prefer in-house expertise to information provided from external sources. This would seem to indicate that local government could be considered an open system when requiring technical assistance. The relatively low rank of both formal and informal university contacts suggests that the university is not considered an information resource of first choice by this particular client group. This perception is reinforced by the information provided in Table 4 regarding Montana State University as a source of general technical assistance.

Table 3. Choices by local government officials for external sources of information.

Source Description by Subject Areas	No. of Times Mentioned as 1st, 2nd, or 3rd Choice
COMMUNITY AND ECONOMIC DEVELOPMENT: ▶ Other local government official ▶ A state government agency ▶ A private consultant ▶ A federal agency ▶ A university contact (informal) ▶ A specific university department	19 30 21 12 11 5
PUBLIC WORKS OR UTILITIES: ▶ Other local government official ▶ A state government agency ▶ A private consultant ▶ A federal agency ▶ A university contact (informal) ▶ A specific university department	25 29 28 11 3 3
HUMAN SERVICES: ▶ Other local government official ▶ A state government agency ▶ A private consultant ▶ A federal agency ▶ A university contact (informal) ▶ A specific university department	26 35 13 15 5 4
TRANSPORTATION: ▶ Other local government official ▶ A state government agency ▶ A private consultant ▶ A federal agency ▶ A university contact (informal) ▶ A specific university department	31 31 14 16 0 3

Table 4. Montana State University as a source of general technical assistance for local government.

Description of Use	No. of Responses
Frequently use	1
Sometimes use	5
Rarely use	22
Never use	7

In conclusion, a majority of university subunits have demonstrated a degree of openness to the provision of technical assistance to local government. However, local government officials, while open to outside information, generally do not rely upon the university for this service.

Organizational Climate and Structure:
The University

In regard to factors inhibiting university based technical service linkage with local government, Chapter 4 identified factors within the organizational climates of the two entities, and the organizational structure of the university as major impediments. Montana State University subunits and local government practitioners were asked a combination of open and closed questions to determine which inhibiting factors are relevant to their linkage relationship.

From the university's perspective, the degree to which technical service efforts are institutionalized is a good indicator of the strength of the

organization's commitment. Financial and staff commitment is one measure of the degree of institutionalization. Table 5 identifies the sources of funding for Montana State University technical service efforts directed at local government.

Table 5. Funding sources for local government technical service efforts.

Funding Sources	No. of Responses
Voluntary (non-funded)	15
Fee for service	8
Grants from external sources	4
Formal utilization of department funds	3
University funds	2

In terms of amount of funding, many respondents were either unsure of an exact amount or unwilling to disclose budgetary information. Therefore, it is difficult to conclude exactly how many dollars are in fact budgeted for local government service. With this caveat in mind, it is estimated that approximately \$135,400 is spent annually in service to local government. As this does not include those subunits either unwilling or unable to disclose budgetary information, the actual figure is probably somewhat higher. It also must be noted that of this total figure, \$125,000 is from one source, the Rural Technical Assistance Program, funded by the Federal Highway Administration.

Concerning staff time dedicated to technical service to local government, approximately 3.7 FTE was indicated by all subunits. This includes both formal and informal estimates, the time of county extension agents, and is only considered an estimate due to the uncertainty of many subunit heads.

An additional indicator of institutionalization is the degree to which a university's technical service efforts are of a formalized nature. In regard to formal versus informal provision of service, 10 subunits (19.6%) characterized their relationship with local government as formal in nature. Nineteen subunits (37.2%) have had informal technical service interaction with local government. The remaining 22 subunits (43.1%) reported no interaction with local government.

It appears that the provision of technical service to local government has indeed been institutionalized at the subunit and individual levels at Montana State University. While a majority of providers consider their linkage with local government as informal and voluntary in nature, 19.6% are engaged in formal technical service relationships, with eight subunits receiving fees for their services. To the contrary, institutional support appears to be minimal, with only two subunits mentioning institutional funding.

Local Government

From the perspective of local government, Chapter 4 mentions the local government practitioner's need for both urgent information and confidential information as factors that inhibit reliance on the university as a technical

service resource. Tables 6 and 7 detail local government officials' responses to open questions regarding their choice of an information source when faced with the need for urgent information and for politically sensitive information.

Table 6. Local government officials' preferred sources for urgent information.

Preferred Sources for Urgent Information	No. of Responses
Private consultant	17
University contact	3
No response	15

Table 7. Local government officials' preferred sources for politically sensitive information.

Preferred Sources for Politically Sensitive Information	No. of Responses
Another local official	8
League of Cities	7
Private consultant	6
University contact	1
No response	13

It is interesting to note that local government officials in need of urgent information rely upon the private sector, and are more inclined to rely upon outside information than other local officials when in need of confidential information. Once again, the university is rarely utilized.

In a final effort to determine what factors inhibit local government/university technical service linkage, survey respondents were asked an open question regarding their perceptions. An overwhelming 83.8% of local government respondents mentioned a general lack of knowledge concerning what types of assistance were available, and whom to contact within the university organization for such information. This would seem to indicate that the cloaking phenomenon described in Chapter 4 is a major factor in inhibiting Montana local government's technical service linkage with Montana State University. When asked the same question, university subunit heads responded with a greater variety of factors. Table 8 details those responses.

Table 8. University perceptions of factors inhibiting technical service linkage.

Inhibiting Factors	No. of Responses
Scarcity of resources	24
Not part of mission	9
Lack of institutional support	8
Large turnover in local government	3
Resistance to change by local government	2
Local government unaware of what is available	2
Physical distance	1

It appears that university subunits view a scarcity of resources as a major obstacle in providing technical service to local government. Informal

comments indicated that many subunit heads view service in general as a valuable component of their mission, yet one that is of a lower priority in the competition for scarce resources, when compared with teaching and research.

Communication Channels

Chapter 4 identified an appropriate mix of communication channels as valuable components in a successful information transfer relationship. Table 9 identifies preferred service modes of university subunits providing technical service and Table 10 identifies preferred delivery modes of these subunits.

As can be seen from the data presented in Tables 9 and 10, technical service providers rely upon a variety of methods to transfer information to local government. This would seem to indicate that the communication channels necessary for successful university/local government technical service linkage are indeed available at Montana State University.

Table 9. Preferred service modes of university subunits.

Preferred Service Modes	No. of Responses
Responding to requests for technical information	23
Contract research	6
Student interns	6
Training sessions	5

Table 10. Preferred delivery modes of university subunits.

Preferred Delivery Modes	No. of Responses
Telephone	19
Personal contact	11
Video tape	5
Written communication	4
Newsletters	3
Computer links	2
Teleconferencing	2
Direct broadcast television	1

Summary

In conclusion, the technical service relationship between Montana State University and local government in Montana could be described as somewhat less than successful. The university houses a wide variety of relevant information, and although constrained by scarce resources, is open to providing information to local government practitioners. A majority of subunits have engaged in past technical service interactions with local government, and the university as a whole utilizes a wide variety of communication channels to transact those interactions.

On the contrary, the local government officials who were surveyed indicated they rarely rely upon the university as a source of technical

information, although they are open to outside information in a variety of subject areas. The major factor inhibiting this relationship from the perspective of local government is the previously mentioned cloaking phenomenon; that is, Information of potential value to local government officials is hidden within the complex organizational structure of the university.

Chapter 6 will provide a brief summary of the information presented in the preceding chapters. Recommendations that could potentially strengthen the technical service relationship between Montana State University and local government in Montana will be offered.

CHAPTER 6

SUMMARY AND RECOMMENDATIONS

Summary

In Chapter 1, the history of university based technical assistance linkage with state and local government was discussed. The initial charge of the land grant institution was seen to include that of "being broadly useful to their states, in effect, attempting to serve as community service centers."¹

The linkage efforts of Charles R. Van Hise at the University of Wisconsin served as an early model that was emulated by a number of land grant universities interested in providing technical assistance to, in many cases, fledgling state and local government agencies.

Much of the expansion in technical assistance efforts was based on responding to the specific needs of governmental practitioners. The economic depression of the thirties, and the urban turmoil of the sixties were periods that saw increased technical assistance linkage between the land grant university and state and local government.

The development of educational programs in public administration has been identified as an additional factor critical to strengthening the university's technical service linkage with state and local government. As the number of

universities offering education in public administration has increased, so has the effort to provide extended offerings to public servants at all levels of government. Results of a 1982 survey of 235 institutions offering graduate programs in public administration indicated that nearly 60% were involved in extension activities including off-campus classes, workshops, training programs, and technical assistance programs.²

The linkage relationship is seen as offering reciprocal benefits. Universities can gain in terms of prestige within their constituencies. Practical, problem oriented research contributes to student education, particularly in the area of public administration. In times of dwindling enrollments of traditional students, state and local governments can offer a stable client base for some university services. State and local governments benefit in relation to how effectively they can access and utilize the services offered by universities to solve the myriad of practical problems they currently face.

At this point, the question becomes not whether universities have been or should be involved in a technical assistance linkage with state and local government, but rather how can that relationship be strengthened? Chapter 4 examined several inhibiting factors that are relevant to a successful knowledge transfer relationship. An understanding of the strength of existing ties and historical precedence are identified as crucial to understanding the linkage relationship of specific client and user systems. In some cases, with little or no past interaction, the idea of utilizing the university as a source of

technical assistance could be considered innovative in itself. Establishing a technical assistance relationship under these circumstances would differ from that of maintaining an already strong relationship.

Inhibiting factors were identified and discussed under the general headings of degree of system openness, organizational climate and organizational structure, and communication channels. Organizational disparity is viewed as the greatest single factor impeding the successful technical assistance linkage of the state and land grant university and state and local government. Although a great deal of information useful to state and local government practitioners may exist within a university, it is often cloaked within an organizational structure unfamiliar to state and local government practitioners.

Chapter 5 described the status of technical assistance linkage between Montana State University and local government in Montana. In terms of system openness, 56.9% of the surveyed subunits at Montana State University had some technical service interaction with local government in Montana. Local government officials who were surveyed indicated reliance on a number of outside sources for technical information. Only in matters of a politically sensitive nature did they seem to slightly prefer the assistance of another local official. Montana State University was not mentioned as a predominant source of technical assistance, with 83.8% of local government respondents indicating a general lack of knowledge concerning what types of assistance

were available, and whom to contact within the university organization for such information.

In terms of Montana State University as resource system, the linkage relationship could be described as follows:

- (1) A wide variety of technical information relevant to local government practitioners exists within the university as resource system.
- (2) The climate of the university seems to be one of openness to technical service linkage with local government.
- (3) This openness is tempered by a scarcity of resources, both financial and human, and a general lack of institutional support.

In terms of user systems, local government officials in Montana appear to be:

- (1) in need of technical assistance in many of the areas available at the state university;
- (2) generally open to information from external sources; and
- (3) for the most part unaware of how to access the many resources that the university has to offer.

Recommendations

Based on both the review of literature and survey information, the following recommendations could serve to strengthen the currently existing

technical assistance linkage between Montana State University and local government in Montana:

- (1) Although a number of subunits of the university mentioned past technical assistance efforts directed at local government, the current relationship does not seem to have the historical precedent of some of the successful programs presented in the literature. Further, local government officials do not seem to have an inclination to think in terms of the university as a technical assistance resource of first choice. Personal contact has been identified as one method of overcoming these barriers. This contact could come in the form of change agents visiting local government practitioners, student interns serving as informal boundary spanners, or university sponsored seminars and training sessions that would bring the officials to the university.
- (2) One purpose of surveying university subunits was to identify and categorize available information that is relevant to local government. The information included as Appendices A, B, and C could provide the initial step in the creation of this data base. From this information, a catalog of available assistance could be published and made available to both state and local government agencies.
- (3) The aforementioned survey of Montana State University subunits seemed to indicate the lack of a coordinated technical assistance effort aimed at state and local government. Under those circumstances, it is not difficult

to understand the frustration expressed by governmental practitioners in not knowing what assistance was available and whom to contact to find out. Schools of public administration and institutes of government have both been identified as successfully providing a linkage mechanism between the university as resource system and state and local government as user system. Technical assistance efforts directed at state and local government by Montana State University should be coordinated by one of these two subunits.

- (4) The size of Montana and relative isolation of many of its communities should tend to increase the need for a strong technical assistance linkage between its local governments and state university. It also makes the process more difficult, and regular personal contact nearly impossible. Subunits at Montana State University mentioned telephone communication as the predominant means of communicating technical information to local government practitioners. Communication technology such as data lines, telefacsimile, videotape, audio and video conferencing, and broadcast television should be considered as additional means of bridging the physical gap between resource and user systems.
- (5) Local government officials, particularly those holding elected office, can represent an extremely transient user system. For this reason, an ongoing effort must be made to maintain contact with local governments

in regard to the technical assistance resources available to them through the university.

Endnotes

¹Lloyd Morey, The State-Supported University (Carbondale, IL: Southern Illinois University Press, 1961), 22.

²Mark R. Daniels et al., "Public Administration Extension Activities by American Colleges and Universities," Public Administration Review (January/February 1982): 55-63.

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APPENDICES

APPENDIX A

**MONTANA STATE UNIVERSITY RESOURCES AND
CONTACTS FOR INFORMATION IN THE
AREA OF PUBLIC WORKS**

PUBLIC WORKS

Construction Technologies:

- ▶ Department of Architecture
 - Design feasibility
 - Construction site selection
- ▶ Department of Civil Engineering
 - Structural snow loads
- ▶ Resource Center
 - Equal access information

Energy Management:

- ▶ Department of Mechanical Engineering
 - Alternative energy sources
 - Assessment of heating and/or air conditioning systems
 - Energy management
- ▶ Department of Physics
 - Wind and solar energy

Environmental Quality:

- ▶ Agricultural Experiment Station
 - Range renovation
- ▶ Department of Biology
 - Stream quality improvement
- ▶ Department of Chemistry
 - Chemical safety; hazards and application

- ▶ Department of Civil Engineering
 - Contamination of water supply
 - Cost/benefit analysis of water storage
 - Streamflow software evaluation
 - Water school
- ▶ Department of Earth Sciences
 - Urban resource planning
- ▶ Department of Entomology
 - Biological weed control
- ▶ Department of Physics
 - Light pollution standards and monitoring
 - Sound pollution standards and monitoring
 - Radiation pollution monitoring
- ▶ Department of Plant and Soil Science
 - Sewage treatment
 - Sewage application for farmland enhancement
- ▶ Rural Technical Assistance Program
 - Water systems
 - Sewage treatment
 - Solid waste disposal

Road/Street/Bridge Maintenance:

- ▶ Department of Civil Engineering
 - Asphalt technology
 - Road and street maintenance conference
- ▶ Rural Technical Assistance Program
 - Road, street, and bridge maintenance (all areas)

APPENDIX B

**MONTANA STATE UNIVERSITY RESOURCES AND
CONTACTS FOR INFORMATION IN THE
AREA OF PUBLIC MANAGEMENT**

PUBLIC MANAGEMENT

Administrative:

- ▶ Center for Data Systems and Analysis
 - Reference to relevant hardcopy data
- ▶ Department of Mathematics
 - Public opinion survey assistance
- ▶ Department of Political Science
 - Interpretation of governing statutes
 - Local government review assistance
 - Rural administration
 - Structural alternatives and improvements
 - Survey assistance
- ▶ Rural Technical Assistance Program
 - Assistance in hiring consultants
- ▶ Department of Sociology
 - Local law enforcement

Financial Management:

- ▶ Department of Accounting
 - Standard accounting procedures
- ▶ Department of Extended Studies
 - Training for municipal clerks
- ▶ Department of Political Science
 - Public budgeting assistance
 - Training for municipal clerks
- ▶ Rural Technical Assistance Program
 - Tort liability for cities and counties
 - Workman's Compensation information

Land Use Planning:

- ▶ Department of Computer Science
 - Developing graphic image analysis for use in land use planning
- ▶ Department of Earth Sciences
 - Land use planning assistance
- ▶ Rural Technical Assistance Program
 - Subdivision control

Personnel Management:

- ▶ Affirmative Action Office
 - General information on Affirmative Action procedures
- ▶ Cooperative Extension Service
 - Conflict management
 - Personnel management
- ▶ Department of Health and Human Development
 - Employee Wellness Programs
- ▶ Resource Center
 - Information regarding employing the handicapped
- ▶ Department of Speech Communication
 - Conflict management
 - Organizational communication
 - Group process and team building

APPENDIX C

**MONTANA STATE UNIVERSITY RESOURCES AND
CONTACTS FOR INFORMATION IN THE AREA OF
COMMUNITY AND ECONOMIC DEVELOPMENT**

COMMUNITY AND ECONOMIC DEVELOPMENT

- ▶ Cooperative Extension Service
 - Community leadership skills
- ▶ Department of Educational Services
 - All areas of community education
- ▶ Department of History
 - Historical preservation information
- ▶ Office of Vice President for Research
 - Information on grant availability
- ▶ Department of Political Science
 - Local decision making