STATE SCIENCE, ENGINEERING AND TECHNOLOGY PROJECT REPORT

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EXECUTIVE SUMMARY

This study is an outgrowth of efforts by the National Science Foundation to encourage state governments to identify and analyze potentially useful ways in which they can increase their capacities for using science, engineering and technology (SET) in meeting the needs of their citizens. It represents an effort to determine if the Nevada legislature needs more scientific and technical information and in what areas the information is most needed. It examines the ways in which the legislature and its members currently get scientific and technical information in order to offer recommendations as to how more and better scientific and technical information might be provided to the legislature.

While the scope of scientific, engineering and technical information required by state legislatures can be, and often has been, construed quite broadly, another tact has been taken in this study. Scientific, engineering and technical information has been limited to include information regarding the physical, biological or life sciences, engineering, or those aspects of the social sciences capable of reasonably rigorous analysis such as psychological testing, forecasting techniques, modelling efforts, testing procedures and methodological analyses commonly employed throughout the social sciences. This definition narrowed the focus of the study. It was adopted after an examination of the capabilities of the existing staff-supported information activities within the Nevada legislature. It was tailored to complement the prevailing views on such information among Nevada legislators.

What are the scientific and technical information needs of the Nevada legislature? Ultimately, they are determined by the amount and types of legislation considered in each of the houses, and by each legislator's ability to obtain the information he deems necessary to make prudent and reasoned policy choices. During its four sessions in the seventies, 6,868 measures were brought before the houses of the Nevada legislature. Of these, a little less than 5 percent have dealt with matters squarely requiring scientific and technical information. But another 10 percent of all measures considered during the seventies involve concerns in which the need for some scientific or technical information is implied. Further, the proportion of scientific and technical matters considered by the legislature has been increasing from session to session throughout the seventies. It has moved from about 10 percent of all measures considered in 1971 to around 19 percent in 1977. These figures would suggest that the Nevada legislature's need for scientific and technical information is both substantial and growing.

Most members report that, despite such statistics, they have scientific and technical information adequate for policymaking. A survey of the members of the fifty-ninth legislature revealed legislators are generally satisfied with the amount, accessibility, quality, timeliness and usefulness of the scientific and technical information they receive. But this satisfaction is relative. When asked to compare the scientific and technical information with other types of information they receive, members evidenced the need for more accessible, more timely, more useful and greater amounts of scientific and technical information.

A legislator's needs for information are constantly changing. Yet some problems are so persistent, so complex, that while the specific information needs they generate may change, the overall area of need remains. In other words, scientific and technical information is more critical in some areas than in others. In Nevada, four areas of concern have been shown by this study to have dominated legislative involvement in scientific and technical matters during the seventies: health, natural resources, energy and the environment. Nonetheless, their importance has varied with each session and throughout the decade. Environmental issues, for example, have been raised less frequently over time; while energy issues have begun to take on an increased importance. This sort of change has affected much of the legislation considered in each house. It appears that the range of issues before the legislature involving some need for scientific or technical information is increasing. Evidence for this increase comes not only from an analysis of proposed legislation but also from the opinions of the members themselves. While certain areas such as natural resources, environment and energy are generally cited as among those most in need of scientific or technical information, a range of secondary concerns such as consumer protection and community development are also now seen to merit such information. Gradually, Nevada's legislature is coming to require scientific and technical information in a whole range of issue areas.

Good information is always "hard" to find; but some information is particularly difficult to come by. Nevada's legislators are particularly troubled by the inaccessibility of information on issues involving energy, health and the environment. Faced with need for information and its varying availability on each matter of policy, every legislator must develop his own repertoire of information sources. While the pattern of reliance varies with the legislator, this study has identified certain tendencies among Nevada's representatives. Unlike their colleagues in other states, Nevada's legislators report they do not rely heavily on lobbyists for information. Rather, members suggest their most important sources of scientific and technical information are committee hearings and the staff of the Legislative Counsel Bureau.

This finding has important consequences for the ways in which scientific and technical information acquisition can be improved in Nevada because this study has shown neither of these sources is particularly well suited to furnish high quality, in-depth information on scientific or technical matters. The Legislative Counsel Bureau lacks personnel with expertise in scientific or technical matters, while committee hearings offer the members alternatives without providing a means by which untrained or inexperienced individuals can evaluate information on technical subjects.

It is not enough that legislators obtain SET information. The information must help them resolve the many difficulties of legislative life. It must take its place among the many demands on each representative's time. Accessibility and convenience, this study finds, are the most important factors bearing on the representative's use of SET information sources. Other factors are important, though, because legislators learn different things from various sources. For example, among Nevada legislators this study finds that committee hearings are favored as sources which identify alternatives, calculate costs and benefits, point to future trends and problems while affording each member high accessibility and convenience in information retrieval. On the other hand, the Legislative Counsel Bureau serves as a source of concise, reliable information, but it is not used to identify future trends by most legislators. There are lessons to be learned from such tendencies; they should be applied to any SET acquisition mechanism designed to serve the legislature. The mechanism must offer information which is readily obtainable, but it must fit into the overall information gathering effort of the legislature. It must offer each legislator information which cannot easily be obtained elsewhere if it is to succeed.

The findings of this study can be summarized briefly. Nevada's legislature needs more scientific and technical information. The need is greatest in a few areas such as energy, natural resources, health and the environment, but increasingly more legislation of all sorts requires technical expertise. Neither the legislators themselves nor the information mechanisms they have come to rely upon are properly equipped to handle this growing need. New ways of bring SET information into the legislative arena must be developed as Nevada's population and problems grow. But these methods must be tailored to the conditions which obtain in the legislature and within the state generally. Nevada should not attempt to emulate the efforts of states with larger legislatures and far greater resources. Nor can it expect to draw upon as extensive pool of scientific and technical expertise as most other states. New methods of acquiring SET information must complement the overall information effort of the legislature and enhance its ability to draw selectively upon those scientific and technical resources open to it.

There are numerous ways to enhance the Nevada legislature's acquisition and use of scientific and technical information which are consistent with the lessons learned in this study. Twenty-seven different alternatives were evaluated. From these, eight specific recommendations result. They represent the author's evaluation of the different alternatives. The recommendations are a skeletal form of proposals which will have to be given life through further discussion and planning. In each case, however, the recommendations represent modest improvements which should yield substantial payoffs to the legislature for relatively modest investments.

Recommendations

1. Enhance the capability of the Research Division of the LCB to handle SET information through the addition of one or more researchers with training or experience in scientific, engineering and technical matters.

2. Expansion of the present intern program within the LCB during session. Interns with scientific or technical experience, and drawn from the University of Nevada System, could serve in the Research or Fiscal Divisions of the LCB.

3. Development and maintenance of a Resource and Information Directory providing the Research Division and the Legislative Counsel Bureau generally with a list of experts and information sources on scientific, engineering and technical topics who might assist the legislature.

4. The organized research funds within the University of Nevada System should be increased with some proportion of the additional moneys going to policy research of legislative concern.

5. Publication and dissemination of a handbook for faculty in the University of Nevada System to facilitate their understanding and participation in the legislative process.

6. Creation of a fund within each house of the legislature to provide honoria and expenses for expert witnesses appearing in committee testimony. The funds should be allocated at the request of committee chairmen and with the concurrence of the leadership.

7. Development of a policy of faculty leave for members of the University of Nevada System for service with the legislature during session.

8. The office of the state science adviser was created by the 1977 Session of the Legislature to investigate different ways by which the SET acquired and used by the various branches and many layers of government in Nevada might be improved. His recommendations together with this study should be considered by a committee of the legislature.

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INTRODUCTION

In October of 1977 the Nevada Legislative Commission authorized the staff of the Legislative Counsel Bureau to apply for a State Science, Engineering and Technology (SSET) grant from the National Science Foundation. A few months later, in March 1978, a grant was awarded to the Legislative Counsel Bureau by NSF. It provided $25,000 in support for a project entitled "Enhancement of the Legislature's Access to and Optimum Use of Science, Engineering and Technology Resources in Public Policy Formulation" (Grant No. ISP78-04616).

The State Science, Engineering and Technology Program (SSET) is the realization of several years of lobbying by the National Conference of State Legislatures and the National Governors Conference. It is the inchoate embodiment of the hope held by many state legislators that the Federal Government might assist states in developing and improving their ability to apply science and technology resources to policy formulation, enactment and implementation. The program became a reality as part of the National Science Foundation Authorization Act for the fiscal year 1977. It makes available up to $25,000 each for the executive and legislative branches of each state government to identify and analyze potentially useful ways in which they can increase their capacities for using science, engineering and technology in meeting the needs of their citizens. These moneys represent the federal share of the costs of the study grants in each state; the federal share cannot exceed two-thirds of the total project cost. States participate by establishing their portion of the funding for each study in the form of cash or equivalent services.

Should participation alone be the judge, the SSET program has been an enormous success. Forty-two legislatures and forty-nine governors are involved in the program. The form of participation and the purposes animating such involvement vary considerably though. Some states have taken advantage of procedural guidelines allowing for a joint application to be submitted by both the executive and legislative branches. But most states have had separate applications by each branch. Many states have designated the funds for improvement of existing scientific and technical advisory mechanisms. Others have focused on providing some initial capacity.

In Nevada, both the executive and the legislative branches tendered proposals to the National Science Foundation. Both were accepted. Both were advanced in the absence of existing, formal scientific and technical advisory mechanisms. While the two projects have complemented one another at a few important junctures, they have remained unambiguously distinct. Each was designed to serve its respective branch of government.

The objective of the legislature's project has been to:

> Provide an initial capacity in the permanent legislative staff to identify scientific and technical issues coming before the legislature in session and interim study committees and to bring the best qualified expertise available into the policy formulation process of the legislature.

More specifically, the animus of this objective has been taken to comprise several concrete work tasks. As written into the grant proposal, they are:

1. Review and analyze legislation introduced in last three sessions for scientific and technical content. Review committee minutes and other sources to identify sources of expert input.

2. Identify the scientific and technical disciplines pertinent to the legislation identified under the first task.

3. Catalog expert resources available to the legislature, and the conditions under which these resources can be made available.

4. Develop a mechanism to convene available expertise. This will include a review of other states' programs and ideas from NSF and NCSL, and an analysis of staff capabilities required.

This report is the culmination of the study outlined in these work tasks. For practical purposes, the tasks themselves were redefined into a work effort consisting of several steps. No one step reproduces exactly the demands of any one task; each contributes to the completion of all the tasks.

The steps can be traced in skeletal fashion as follows:

1. Determine the meaning of scientific, engineering and technical (SET) matters in the context of the Nevada legislature and its support facilities.

2. Determine the overall SET information needs of the legislature.

3. Determine the areas in which SET information needs are most critical.

4. Determine how the needs for SET information are being met within the legislature.

5. Determine the conditions affecting the acquisition and use of SET information by the legislature.

6. Develop alternative SET information acquisition and use mechanisms for Nevada's legislative context.

7. Offer recommendations for feasible SET information mechanisms.

Each of these steps is a section in this report. The report focuses on the need for scientific, engineering and technical (SET) information in the Nevada legislature and the means by which such information can be acquired. It uses an assortment of evidence to provide answers to the many questions prompted at each step. Both the opinions of the legislators and the views of staff members throughout the Legislative Counsel Bureau are included. It examines the written record of committee hearings and the overall history of several legislative sessions. In the end, of course, the interpretation given this evidence is mine. The recommendations in the concluding section represent my own best judgement and should not be construed otherwise.

1. SCIENCE, ENGINEERING AND TECHNOLOGY IN THE LEGISLATIVE CONTEXT

The modern age is marked by its singular dependence on instrumentalities and the knowledge shaping them. The last hundred years has witnessed the global mobilization of the technical arts. Science has become, as Benjamin Franklin foresaw, the "handmaiden to the arts." Scientific technology has been used by the lone entrepreneur, the private corporation and government to forge a new society. It is a society of unprecedented opportunities and burdensome responsibilities. Modern engineering, technology and science offer the promise of security, leisure and personal well-being. But for many Americans, this has come to resemble only remotely life, liberty and the pursuit of happiness. For the new technology also offers the chance to unalterably affect the way and the world in which we exist. The good or ill of it all hangs precariously in the balance.

That which is offered cannot always be declined. So it is with technology. Technique and science have been integrated wholly into modern society. Their triumph is no longer in dispute. Even movements such as "Small is Beautiful" pin their hopes for societal redirection on appropriate technology. Shrinking before the penetration of society by technique is no longer a real possibility. It is the form, direction and intensity of technological change which must be faced. This is the challenge facing legislatures across the country. This is the challenge of contemporary representative government. But it is a challenge

which must be met on its own terms. Legislatures will make important policy choices on terribly complex issues; they must acquire, evaluate and use the scientific, engineering and technical information necessary to make prudent policy decisions.

Of course, the need for more, better or timely information is among the oldest bromides of legislative reform. Scientific, engineering and technical information is, after all, but another form of information. Yet what makes this particular sentiment palatable is the widely held belief that legislatures are not properly equipped to make sound judgements on SET-related matters and that poor judgement in such areas is likely to have wide-ranging and long-lasting impact. It is just such a presumption on which the funding and interest for state science, engineering and technology projects is based. It is with this assumption that this report must deal. But before one can determine if a need exists within legislatures for enhanced SET information gathering and dissemination mechanisms, another determination must be made. Specifically, just what does scientific, engineering and technical information encompass; what policy areas does it subsume?

Starkly conceived, there are two positions on the scope of science, engineering and technology. In its broadest formulation, scientific, engineering and technical information could be said to have a role in virtually every public decision faced by state legislators. This implication issues from the understanding of these terms developed within the academic community, most especially in economics, anthropology and history.

Such a view should not be surprising. Nowadays, science has come to mean that body of accumulated and accepted knowledge which has been systematized and formulated with reference to the discovery of general or the existence of perceived regularities in the world. "Technological knowledge," on the other hand, "ought to be understood as the sort of information which improves man's capacity to control and to manipulate the natural environment in the fulfillment of human goals, and to make the environment more responsive to human needs."[1] This is related to but broader than engineering which, typically, is known as the science by which sources of energy in nature are made useful to man in structures, machines and products. Together technology and engineering emphasize the manner in which benefits are accrued to humankind through the application of systematic knowledge. They are linked by the notion that technique can transform knowledge into tangible benefits. Knowledge--scientific knowledge--frames the domain of technique. Technique assumes the cast of science; it is methodical, it clarifies, arranges and rationalizes. It renders the world both understandable and manipulable.

[1] Rosenberg, Technology and American Economic Growth, p.18.

In this view, the policy domain of scientific, engineering and technical information is large indeed. It extends to all those policies which are thought to be amenable to the application of systematic methods and established procedures. To the degree that a problem is believed capable of resolution, the model for resolution is science. Since legislation itself shares the presumption that action can bring remedy, the temptation exists to confuse merely addressing a problem with resolving it. Any policy decision, in such a view, would merit the application of scientific, engineering or technical expertise. Every decision would require the "input" of a technical expert.

As pervasive as this view has become in some quarters, it should be remembered that technology is often conceived much more narrowly. Quite simply, it is frequently associated with the "physical and natural sciences, engineering technology, engineering hardware."[2] This view is unabashedly concerned with the hardware of modern technology. The efforts of social science with the exception of certain economic modelling tools are typically excluded from consideration. In this view, water pollution requires SET advice and information, while judicial reform does not. Administrative arrangements, termed technological under the broad conceptualization of the first view, earn no such epithet when the perspective is narrowed.

The difference in these two views is important. It is important precisely because each is widely held. Science, engineering and technology can mean different things to different people, legislators included. This ambiguity has important ramifications for the kinds of information-gathering activities which legislators are likely to support and in which institutional investment will be made. No analysis can afford to ignore the context within which it is to be used if the analysis means to be useful. Thus a general definition of science, engineering and technology is unlikely to serve in understanding how the capabilities of a specific legislature to make informed decisions on complex issues can be improved if it is conceived in ignorance of the conditions to which it will be applied. Instead, the definition must be tailored to the scope of the legislature's entire information-gathering effort and to the legislative context in which the information must ultimately function.

Among state legislatures there are some general similarities and numerous specific differences which are likely to affect the way in which science, engineering and technology are viewed. Consider the statement appearing in a Council of State Governments' publication a few years ago dealing with the utilization of science and technology by state governments:

[2] Nat. Academy of P.A., Technology Assessment in State Government, quoted on pg. 6

> State governments perceive their needs in terms that they do not equate with science and technology. They are oriented to problem areas and issues--environmental management, health care, urban transportation and the like. Science and technology, when perceived at all, are seen as means for dealing with these conspicuous policy problems. When state governments need science and technology they need them fast; but the main chance is in finding a workable response to a public policy issue. The states will take some action whether or not science and technology have been fed into the decision process, as they must.[3]

This statement raises several interesting points. First, it suggests state governments and, by implication, state legislatures tend to be functionally oriented. Second, it reveals the instrumental orientation legislatures have toward science and technology. Third, it confronts the contingent use of scientific and technical information in the policy process. Finally, it offers a vivid portrayal of the milieu in which decisions are framed: the air of necessity which permeates the accelerated pace of legislative life, which scores the legislative rhythm. It is this last factor which, I believe, conditions legislators' views of the information-gathering process in general and SET information in particular.

It may be oversimplistic to argue any one factor dominates the many features of legislative action, but the impact of time is striking. The character and sheer amount of time given to each legislator throughout the legislative cycle is continually changing. It can be expanded or contracted through various institutional mechanisms. The ways in which time for legislative action is constrained or created in the many states have important ramifications for the form assumed by the more general characteristics of state legislatures.

Sine die marks the end of a period of feverish activity, it signals a lull. It is also a feature of legislative life over which a state's citizenry often has attempted to exert control. In controlling the length and frequency of sessions, citizens have sought to control the time available to legislators for policy formulation and decisionmaking.

> By the turn of the twentieth century, all but a handful of states had abandoned yearly meetings of the legislature. A legislature not in session could not very well get into trouble. Moreover,

[3] Council of State Governments, Power to the States, p. 14.

> an enfeebled legislature meeting infrequently and for short sessions was not as great a threat to the status quo and to the new men of vast economic power.[4]

Time is a critical factor in legislative politics. The committee process represents one way to expand the amount of time available for legislative decisionmaking. Professional staffs are another. Small legislatures decrease the division of labor; time is contracted. Part-time legislators have less time to spend on legislative matters than those working full time, all things being equal.

Of course, all things are never equal among state legislatures. Devices designed to expand the time available for consideration of legislation get compromised to a growing number of bill introductions. Professional staff, in uncovering problems and providing more information, often increase the workload of representatives and thereby diminish the time for reflective consideration of legislation. In each legislature, the time available to legislators for policymaking is held in a delicate balance by an array of institutional elements. These elements whet the appetite of legislators for certain kinds and different amounts of information. It is these elements which must be considered in choosing the definition of science, engineering and technology under which this study will labor.

Nevada has a small number of legislators, sixty in all. They meet in biennial session for a limited and limiting period. The legislators are compensated for all legislative activity, but not so generously as to threaten their status as citizen legislators. They employ a well-articulated committee system to handle session activities. Energetic interim committees punctuate the legislative cycle. Professional staffing is provided for the appropriation committees on a continuing basis, but information gathering and analysis is handled by the central Legislative Counsel Bureau under the authority of the 12 member legislative commission. Within the bureau, four divisions handle the daily stream of legislative requests. Two of these, the Audit and Legal Divisions, have carefully delineated responsibilities whose sphere is removed from SET information gathering or analysis however viewed. The Fiscal and Research Divisions are more explicitly involved in information gathering and analysis.

As could be expected, the Fiscal Division is charged with making projections of future state revenues, reviewing the state budget and charting the state's financial position. It also is responsible for the preparation of fiscal notes on the impact of legislation.

[4] Keefe and Ogul, The American Legislative Process, 2nd ed. p.49.

The Research Division is the general information adjunct to the legislature. Its statutory charge is "to provide the legislature and its members and committees with research reports and background papers on subjects of legislative interest."[5]

Both the Research and Fiscal Divisions handle SET information. Of these however, the purvue of the Fiscal Division is more narrowly defined. It is already honed to provide a specific type of technical advice: financial analysis. Other types of SET information gathering and analysis fall to the Research Division. Yet, the Research Division has only a small professional staff of generalists with which to tackle this diversity. The backgrounds and interests of the staff members are outside the natural scientific disciplines; they are grounded in business, psychology and social science. The research library is replete with materials which reflect this orientation.

The institutional position of the legislators in Nevada and the constitution of their support agency are such that a broadly defined conception of SET information appears grossly out of place in a report investigating their use of science, engineering and technical information. In the absence of the many institutional devices which might effectively increase the time they have for policymaking, legislators are likely to assume the most direct posture on pending legislation. The necessity for action ensures that only the most important aspects of a policy will be dealt with. More peripheral elements, which might merit examination under more leisurely conditions, will often be overlooked. The secondary effects or indirect consequences of legislation must give way before the immediate necessity of examining existing conditions and direct effects. Technical advice must often be relegated to the consideration of technicalities. More broadly aimed perspectives become contingent on the swirl of activity around a bill. Only a narrowly conceived definition of SET information activities bears any relevance to the process of legislation in Nevada.

There is another reason for adopting the more narrow definition of SET information in the Nevada context. The existing information and analysis capabilities of the Research Division of the Legislative Counsel Bureau are noticeably deficient in this area. The mix of skills on the staff of the Legislative Counsel Bureau includes no scientists or engineers. Thus, the use of the more narrow definition would reflect the existing vacuum in legislative support capabilities and complement the existing information-gathering and analysis system.

[5] Grose, "The Nevada Legislative Counsel Bureau," Governmental Research Newsletter, pg. 9.

For such reasons, this study will define SET information to include information regarding physical, biological or life sciences, engineering or those aspects of the social science capable of reasonably rigorous analysis such as psychological testing, forecasting techniques, modelling efforts, testing procedures and methodological analyses commonly employed throughout the social sciences.[6]

2. OVERALL SET INFORMATION NEEDS OF THE NEVADA LEGISLATURE

State legislatures have a growing need for scientific, engineering and technical information. That is the bold assertion of many observers throughout the United States. The need, they argue, has arisen in the confluence of several pointed trends. First, it is noted, the issues confronting state legislatures are increasing in their complexity. Second, government's area of competence has broadened and with it the technologies of service delivery. Third, state government's area of responsibility has increased with the intergovernmental system, placing increasingly complex programs under state control. Fourth, the rising tide of voter dissatisfaction over taxation has created the concern with state government for improved productivity through technological innovations. Fifth, constituent pressure for the regulation of private technology and its effects has risen considerably, especially over environmental and safety matters. Finally, state governments have increasingly come to realize the connection between technological development and industrial development. Economic development can be fostered and improved in a seedbed of scientific and technological knowledge.

Do such observations hold in Nevada? It is easy to believe so. During the last legislative session, bills were considered in areas requiring SET information such as home insulation, cancer inhibiting drugs, aerosol propellants, life-cycle cost accounting, geothermal exploration, nuclear wastes, solar energy, weather modification and air pollution. Waste in government has become a familiar theme on the campaign stump. State government has been forced to exercise its federal role in such areas as point water pollution and sewage treatment. Yet such evidence is anecdotal at best and may well be incidental to the great range of issues affecting the state legislature. So the question remains. What are the SET information needs of the Nevada legislature?

Unfortunately, there is no single answer to this question. The determination of need rests, ultimately, with the judgement of the observer, on the criteria used. Yet different perspectives

[6] Sabatier, The Sacramento Connection, p.5.

on the situation in the legislature can be framed and, taken as a whole, they can paint a balanced picture of legislative SET information needs.

In this section, two different perspectives on the question will be considered. The first involves an attempt to examine systematically the range of legislative action taken during the seventies for those matters on which SET information might have been brought to bear. This effort works from the assumption that where the proportion of SET-related activities is high, the need for SET information is great. It relies on a particular type of evidence. Namely, the records of the legislature and the Legislative Counsel Bureau are used to constitute "objective" fragments upon which inferences about legislative needs can be made. They are "objective" in the sense that these data are available for inspection and evaluation by any researcher.

The second perspective issues from the views of the legislators themselves. Each member of the legislature was asked for his opinion on a number of issues concerning the need for and use of SET information by the legislature. Forty of the sixty members replied to a structured questionnaire; twenty-six assemblymen and fourteen senators registered their views. Their answers provided a "subjective" consideration of the question (see Appendix A for questionnaire).

Legislative Workload and SET Information

Each session the members of the Nevada legislature handle over 1500 measures. In their four sessions during the seventies, 6868 measures have been considered by the houses of the Nevada legislature. In the senate this means almost 600 bills will be introduced in a little over 100 days; the assembly will introduce 800 in the same period. While no two bills receive the same attention or achieve the same priority on the legislative agenda, the sheer amount and diversity of the legislation helps create a frenetic atmosphere. The pace of activity has slackened slightly since the 1973 session. But, as seen in Table 1, more resolutions were considered during the 1977 session by both houses than in either 1971 or 1973. It is only bill introductions which are decreasing.

Compared with many state legislatures, Nevada enacts a significant proportion of the legislation introduced. Nearly half of all the legislation introduced is enacted. In the assembly, typically, 40 percent of all bills introduced become law. For the small, 20-member senate, the figure is higher. Here more than half of all introductions are enacted. Table 2 reveals these figures have remained relatively constant throughout the seventies. The 59th Session (1977) did show a reduction of enactments in both the assembly and the senate from the previous session.

TABLE 1.

Legislative Totals By Session

Total Bills:

	1971	1973	1975	1977	Total
Senate:	663	654	620	524	2461
Assembly:	843	968	806	757	3374
Total:	1506	1622	1426	1281	5835

Total Measures:

	1971	1973	1975	1977	Total
Senate:	757	742	743	631	2873
Assembly:	978	1105	986	926	3995
Total:	1735	1847	1729	1557	6868

TABLE 2.

Proportion of Legislation Enacted

	1971	1973	1975	1977
Assembly				
Bills	39.6%	43.9%	51.9%	46.5%
Joint Resolutions	34.1	51.0	54.1	51.6
Concurrent Resolutions	60.6	50.0	60.7	54.4
One-House Resolutions	87.1	90.9	66.7	77.1
Total*	42.1	45.6	53.5	48.5**
Senate				
Bills	52.3	58.9	56.5	47.5
Joint Resolutions	37.5	30.0	59.0	60.7
Concurrent Resolutions	59.5	65.9	80.6	73.2
One-House Resolutions	95.0	100.0	52.6	78.9
Total*	53.4	59.0	58.5	51.3
Total*	47.0	51.0	55.7	49.6**

* Includes Joint Resolutions from previous session and action on vetoes.

** A.J.R. 45 is being held by Legislative Counsel.

The SET information needs of the legislature in passing on all this legislation is difficult to estimate. However, one indicator can be constructed from a classification of all the measures introduced into the legislative arena regarding their scientific, engineering or technical content. Each piece of legislation can be categorized by the degree to which SET information, as defined in the previous section, is required to reach a prudent, informed decision. Some bills, such as S.B.2 of the 1977 session which changed certain filing and publication requirements for corporations, involve no apparent or implied need for SET information. Others, such as A.B.8 (1977) dealing with the voluntary cessation of life-sustaining procedures for terminally ill persons, have implied SET information needs. While the question at issue might well be a moral one, medical and psychological information could prove beneficial in understanding the implementation and ramifications of the bill. Finally, there are bills such as S.B.106 (1977) whose modification of the requirements for the regulation of certain sources of air pollution involve the apparent need for SET information.

When this classification scheme is applied to the introductions of the last four sessions, the proportion of legislation involving the need for SET information can be gauged. Table 3 offers an estimate of the proportion of all legislation involving the SET information need. The proportion of legislation in which there is an apparent need for SET information has remained relatively constant throughout the seventies. About 5 percent of all legislation has a direct, definite connection with SET matters. The proportion of legislation with an implied technical content has changed throughout the period. Between the 1973 and 1975 sessions the percentage moved from about 8 percent to 14 percent. This change maintained itself in the 1977 session when the implied SET need was estimated to be around 13 percent of all bills considered.*

These estimates should be considered as a range in which to place the SET information needs of the Negada legislature. Using the averages for the whole period from 1971 to 1977, it is clear that somewhere between 4.7 and 14.7 percent of all

* This change appears to be a "real" movement and not the product of the procedure used or the individual performing the classification. Independent trials at categorizing the legislation in 2 years 1973 and 1975 have yielded significantly similar results. The effect appears to be the result of a drop in non-SET-related legislation between 1973 and 1975. In fact, the number of senate implied SET information bills only increased by 17 in this period. On the other hand, there was an increase of 63 such bills in the assembly in this period. A check of 1975 assembly legislation confirms that implied SET matters are more numerous than in 1973.

TABLE 3.

Proportion of SET Legislation By Session

	1971	1973	1975	1977	Total
Apparent SET Bills: (as a proportion of all bills referred)					
Senate	2.7%	6.3%	6.0%	6.9%	5.4%
Assembly	4.1	4.8	4.6	4.5	4.5
Total	3.5	5.4	5.2	5.5	4.9
Implied SET Bills: (as a proportion of all bills referred)					
Senate	6.8	7.8	10.9	12.2	9.3
Assembly	7.1	7.5	16.7	14.2	11.1
Total	7.0	7.6	14.2	13.4	10.4
All SET Bills: (as a proportion of all bills referred)					
Senate	9.5	14.1	16.9	19.1	14.6
Assembly	11.3	12.3	21.3	18.8	15.6
Total	10.5	13.0	19.4	18.9	15.2
Apparent SET Measures: (as a proportion of all measures)					
Senate	2.9	6.1	5.9	6.5	5.3
Assembly	3.6	4.4	4.4	4.9	5.1
Total	3.3	5.1	5.1	5.5	4.7
Implied SET Measures: (as a proportion of all measures)					
Senate	7.1	7.4	11.1	11.9	9.2
Assembly	6.7	7.1	15.0	13.6	12.3
Total	6.9	7.2	13.3	12.9	9.9
All SET Measures: (as a proportion of all measures)					
Senate	10.1	13.5	17.1	18.4	14.6
Assembly	10.3	11.6	19.5	18.5	14.8
Total	10.2	12.3	18.5	18.4	14.7

legislation has involved the need for SET information. Moreover, there has been a slight increase in estimated need for such information across the period. By 1977, as little as 6 percent and as much as 18 percent of all legislation demonstrates a need for SET information. These figures are in keeping with the estimates of the proportion of SET legislation produced in other states. A 1972 Council of State Government study puts the estimate at around 17 percent.[7] A study of the Wisconsin legislature in 1971 revealed that about 13 percent of all bills introduced contained technical material.[8] In New York, the assembly handles approximately 10,000 bills a year, between 5 and 20 percent of which can be said to involve SET-related matters.

Another way of considering the SET information needs of the legislature can be had by examining the proportion of all enacted legislation which deals with SET-related matters. It is often said in the commentary on legislative action that technically complicated legislation draws less controversy than other types of matters. Consequently, it is maintained, such legislation is more likely to be passed uncritically by the legislature.[9] If the proportion of enacted SET-related legislation is higher than that of non-SET-related legislation introduced, then the chances are that the legislature is taking an uncritical stance toward such legislation. If the legislature is treating SET-related matters in much the same way as other types of legislation, then the proportion enacted should approach that associated with all types of legislation. If the proportion is less than that which might be expected, then this may constitute evidence the legislature is unusually circumspect with reference to SET-related matters.

A comparison of the figures presented in Table 4 with those appearing in Table 3 shows SET-related legislation is not enacted more frequently than would be expected from its proportion in the stream of all legislation considered. In fact, SET-related legislation is enacted at a lower level than might be anticipated. This provides indirect evidence that the legislature is not intimidated by matters requiring SET information. In fact, bills involving relatively apparent SET-related matters are enacted in almost direct proportion to their appearance among all bills considered. The legislature does not appear to have taken the uncritical stance on technical issues

7 Council of State Governments, op. cit., p. 21.

8 James Waeffler, "Science, Technology and the Legislature: An Analysis of State Legislative Capabilities in Wisconsin."

9 Cobb and Elder, Participation in American Politics: The Dynamics of Agenda Building, p. 99.

TABLE 4.

Enacted SET-Related Legislation as a Proportion of Enacted Legislation

	1971		1973		1975		1977	
	Apparent SET	All SET	Apparent SET	All SET	Apparent SET	All SET	Apparent SET	All SET
Assembly								
Bills	3.3%	11.1%	3.5%	9.9%	4.8%	21.8%	4.3%	16.5%
All Measures	2.7	9.4	3.0	10.9	4.4	19.3	4.7	16.5
Senate								
Bills	1.7	7.5	7.3	17.1	5.4	15.4	6.8	18.1
All Measures	1.7	7.4	6.8	15.8	5.3	13.8	6.2	17.0
Total	2.2	8.4	4.8	13.2	4.8	16.8	5.3	16.7

which some observers would have predicted. Bills with implied SET information needs and legislation generally involving SET-related matters are enacted in a manner which indicates the legislature might be especially cautious on matters involving SET expertise. Yet it is difficult to attribute this particular feature to the legislature on the basis of such thin evidence. Since this circumspection occurs on matters with implied SET information needs, it may be that other aspects of the issues at hand have more salience for the legislature than the SET-related matters. But in any case, it does not appear the legislature has been forced into an uncritical posture on SET-related matters solely because of their complexity. The legislature may delay enactment of a piece of legislation because of its complexity, but it does not rush to judgement.

Quantitative analysis of legislation deserves a cautionary note. No two bills are alike. They differ in many respects, but most especially they can differ in their importance for society. One incredibly meaningful piece of legislation can justify a whole series of mechanisms designed to improve SET information gathering and dissemination. However, there is no way of knowing just when or what that legislation will be. In the absence of such knowledge, only a comprehensive examination of all the legislation before the legislature can provide an inkling of what the SET information needs might be in the future. An increasing percentage of the legislation considered by both houses in Nevada deals with SET-related matters. Almost one-fifth of all items under scrutiny have an implied SET information need.

The Legislators' View of SET Information Needs

No matter what statistics say of the SET information needs of the Nevada legislature, in the end, it is the legislators themselves who must use the information. Perhaps their experience with SET-related matters is such that they cannot appreciate the need. Perhaps they are inundated with information of all sorts; SET information gets lost in the shuffle. Whatever the case, the perceptions of legislators are important for the types of institutional support that a SET information-gathering effort can muster. They are important because it is the legislators who must be served.

Each Nevada legislator was asked to answer the question found in Table 5. They were not provided with a definition of Science, Engineering and Technological (SET) information but were allowed to generate their own meaning. Only examples provided in Question 1 of the questionnaire (see Appendix A for Questionnaire) offered a cue as to the intent behind the term. Thirty-eight legislators replied to this question; twenty-four assemblymen and fourteen senators.

TABLE 5.

Percent of Legislators Registering Legislative Satisfaction with Received SET Information
(N = 38)

Question: On a scale ranging from 1 to 5, where 1 is very satisfied and 5 is not at all satisfied, how satisfied are you with the amount, accessibility, quality, timeliness and usefulness of the Science, Engineering and Technological (SET) information you receive on matters of legislative concern?

	Very Satisfied 1	Satisfied 2	Ambiv-alent 3	Unsat-isfied 4	Not at all Satisfied 5
Amount	13%	29%	39%	15%	5%
Accessibility	18	18	47	15	3
Quality	16	34	39	11	0
Timeliness	13	21	39	18	8
Usefulness	11	24	39	21	5

The results are quite vivid. The amount of dissatisfaction nowhere exceeds the satisfaction shown with the current SET information. Only the timeliness of SET information raises some doubts among a significant proportion of the legislators.

In the light of the earlier finding that SET-related matters are on the increase in the legislature, how can this satisfaction be accounted for? That is, is there any systematic difference between those legislators who are satisfied and those who are not? Consider the following factors: member's occupation, his educational achievements, his experience in the legislature, his experience on interim committees delving into SET-related matters, his institutional position within the legislature, his use of the inquiry service provided by the Research Division of the Legislative Counsel Bureau, his sponsorship of legislation with SET content, his partisan affiliation, or the house in which he serves in the legislature. Do any of these factors account for the differences? In general, no. Republicans are more dissatisfied with the SET information they are receiving than Democrats; senators are more dissatisfied than assemblymen on the whole. But even these observations do not uniformly hold and they are based on minute differences. To an extent, dissatisfaction over the timeliness of SET information can be linked to those with high educational credentials and considerable legislative experience. Those who introduce the most legislation with SET content or who make the greatest use of the Research Division tend to be the most dissatisfied with the usefulness of the SET information they are receiving. Here again, however, these tendencies are based on only marginal evidence. In other words, the satisfaction is quite general. It appears to reflect the considered opinion of most all who serve in the legislature.

The members are satisfied with the SET information they are receiving. This is strong evidence to suggest SET information needs are not pressing. Yet need, as satisfaction, is relative. Satisfaction allows for improvement.

In order to gauge the relative need for SET information in the Nevada legislature, the members were asked another question. As seen in Table 6, this question asks each member to assess his satisfaction with the SET information he is receiving against the other types of information he receives. This question provides a crude indicator of the relative need each member has for SET information. It also provides a context in which the SET information being received can be judged. Further, it acts as a check on the propensity of most people, legislators included I believe, to give favorable opinions on the issues in which they are questioned.

TABLE 6.

Percent of Legislators Registering Relative Satisfaction with Received SET Information
(N = 37)

Question: We would like to know, in general, how the Science, Engineering and Technological (SET) information you obtain on legislative issues compares with the other types of information you receive on matters of legislative concern.

a.	The accessibility of SET information is other types of information.	1. Better than	5%
		2. About the same as	51%
		3. Worse than	43%
b.	The amount of SET information is other types of information.	1. Greater than	8%
		2. About the same as	41%
		3. Less than	51%
c.	The quality of SET information is other types of information.	1. Better than	22%
		2. About the same as	67%
		3. Worse than	11%
d.	The timeliness of SET information is other types of information.	1. Better than	3%
		2. About the same as	53%
		3. Worse than	44%
e.	The usefulness of SET information is other types of information.	1. Greater than	17%
		2. About the same as	53%
		3. Less than	31%

Table 6 reveals legislators typically find the SET information they are receiving to be less accessible, less timely, less useful and less plentiful than the information they receive on other topics. At the same time, they find the quality of the SET information they obtain to be better than that they obtain on other subjects. This is the general opinion of all the members. There is no systematic examination available to explain this result other than the legislative context itself and the SET information. Senate members find the quality of the SET information better than to their colleagues in the assembly, but only marginally so. None of the several factors considered as possible explanations for member satisfaction give any better explanation of their relative satisfaction. In other words, there is every reason to believe that what has been recorded is attributable to the nature of the SET information itself and not to the peculiar aspects of those recording their opinions.

Overall then, Nevada legislators have not been overwhelmed by the increasing amounts of SET-related matters on which they are called to act. They feel generally satisfied with the amount, accessibility, quality, timeliness and usefulness of the SET information they receive. On the other hand, theirs is the general recognition that SET information suffers in comparison with other types of information. To this degree there is a need for more accessible, more timely, more useful SET information.

3. AREAS OF SET INFORMATION NEED

Every legislator is in a bout with time. No legislator can accomplish everything he might want. The press of activity in the legislative arena demands specialization, setting priorities, and honing one's legislative interests. The committee process is an outgrowth of this realization. But specialization also means that the information needs of each legislator will be slightly different. No two are likely to be equally involved with SET-related matters or to require SET information in the same areas. This makes gauging the precise areas of SET information need for the legislature as a whole quite different.

In addition to the sheer diversity among legislators, the cast of issues and problems before the legislators is ever in flux. New issues arise, old problems are accommodated. Legislators face issues, learn something of how the problem can be understood, and determine which need new or different information. Information needs evolve. And yet some problems are so persistent, so complex that while the specific nature of the problem may change, everyone can readily agree that the generic form of the problem is the same. This is the basis of the functional specialization given most legislative committees. Farmers may have to worry more about point water pollution than irrigation

for the time being, but everyone can agree both problems are agricultural. So it is then that the information needs of the legislature in specific areas can be considered despite the diversity of the legislators and the evolution of issues. The needs can be viewed in terms of functional groups or policy bundles.

There are several ways in which the SET information needs of the legislature can be estimated. Each way calls for grouping the issues under legislative consideration into policy bundles and then using the activity noted within each bundle as an indicator for the need of SET information. In this section, several different ways of grouping activity will be investigated. First, the apportionment of legislative workload among the committees will be examined. Second, a functional classification of legislation will be considered. Third, a look at the statutory classification used throughout Nevada will be undertaken. And, finally, the opinions of the legislators on the need for SET information in various areas will be presented. In sum, these various perspectives will provide a balanced view of the areas of SET information need within the Nevada legislature during much of the seventies.

The Apportionment of Legislative Workload

Committees are the heart of the legislative process in most state legislatures. Much of the work of the legislature goes on in committee. Much of the legislation introduced during the session is submitted under committee auspices. Committees provide a fundamental avenue for citizen participation in the legislative process. Committee hearings offer members an important means of obtaining information. They allow members to focus their energies and to acquire expertise. Legislative analysis of pending legislation is undertaken primarily in committee. Committees help structure the political organization of the legislature.

The Nevada legislature, as most state legislatures, relies on several types of committees. Of these, the standing committees offer the best indicator of the allocation of work in the legislature. They also provide an indication of the amount of legislation being considered in each functional area. In fact, the political aspects of referral are probably less in Nevada than in most states. Typically, the introducer can refer the bill to the committee of his choice. In 1977, the senate began the referral of bills and resolutions according to their functional disposition within the Nevada Revised Statutes (see Appendix B for Senate Standing Rules on this point). This should help ensure that a bill or resolution, at least initially, comes under the purvue of a committee whose functional area of

competence matches that of the bill or resolution. Of course, there can be no guarantee that politically motivated referrals will not occur, or that concurrent referral and rereferral will will not affect the distribution of legislation throughout the several standing committees of both houses.

The number and size of the standing committees in both houses has varied considerably throughout the seventies. This is expecially true of the senate standing committees. The 13 committees which met during the 1971 session had been pared to nine for the 1977 session. In the assembly, only the Fish and Game Committee of the 1971 session did not survive through subsequent sessions. The assembly had 14 standing committees in 1971; 13 were left in 1977. The number of members serving on various committees changed over the years as well. For example, Senate Taxation usually had seven members, but in 1977 only six legislators sat for meetings. Assembly Ways and Means started the decade with 11 members, changed to nine for 1973 and 1975 sessions, and finished 1977 with 11 once again.

All this change in the functional purvue of committees and in their size has serious ramifications for the use of committee workload as an indicator of SET information need over time. Strictly speaking, such changes make it impossible to compare workload throughout the seventies unless heroic assumptions about the nature of the changes are made. Practically, however, the effort is still worthwhile since it paints a fairly accurate picture of the evolving nature of the legislature and its mechanisms for handling different sorts of legislation. One means of judging SET information need in different committees then is to examine the proportion of all legislation coming before a committee which has to do with SET-related matters. But another method does exist. It is possible to assume that committee mergers involve substantive mergers as well; that the functional transfer which comes with a reduction in the number of committees has no effect on the allocation of legislation in the many committees. Using this perspective, the change in areas of SET information need can be estimated throughout the seventies as among the committees. Each of these methods will be tried and their results presented below.

Consider Table 7. It summarizes the extensive history of four sessions of standing committees and their involvement in SET-related matters as classified in the previous section (see Appendix C for a more detailed treatment of committee experience). Both types of SET information, apparent and implied, are included in this analysis. For each standing committee, the table lists that proportion of its total legislative workload dealing with SET-related matters for each session. This workload is understood to comprehend bills and resolutions

TABLE 7.

Proportion of SET Legislation Workload by Session

Senate:	Measures				Bills			
	1971	1973	1975	1977	1971	1973	1975	1977
COMMERCE[1]	12.9%	10.5%	18.5%	22.8%	11.6%	10.6%	18.1%	22.1%
LABOR[1]	6.7	...	...	...	6.7	...	...	...
ECOLOGY[2]	86.4	39.4	72.2	83.3	88.2	37.9	69.5	71.8
PUBLIC RESOURCES[2]	37.0	...	...	...	38.0	...	...	...
FEDERAL, STATE & LOCAL GOVERNMENT[5]	7.6	10.3	13.8	12.1	7.2	9.3	13.5	11.9
FINANCE	8.2	7.9	15.8	12.5	8.1	7.6	16.2	13.4
EDUCATION[3]	8.8	9.1	13.0	...	9.3	10.6	14.2	...
HEALTH AND WELFARE[4]	28.9	19.6	39.4	33.3	28.0	18.9	40.4	33.3
STATE INSTITUTIONS[4]	20.0	...	...	...	25.0	...	...	...
JUDICIARY	2.3	5.8	5.7	8.4	2.3	6.3	5.6	8.7
LEGISLATIVE FUNCTIONS	11.8	12.1	13.8	13.9	0.0	0.0	0.0	0.0
TAXATION	5.1	5.3	12.5	15.8	2.0	6.6	15.2	12.0
TRANSPORTATION	8.3	9.2	34.2	15.8	8.6	9.2	33.8	16.9

[1]Merged to become committee on Commerce and Labor in 1973

[2]Merged to become committee on Ecology and Public Resources in 1973; Environment and Public Resources in 1975; Natural Resources in 1977

[3]Merged to become Human Resources and Facilities in 1977

[4]Merged to become Health, Welfare and State Institutions in 1973; Human Resources and Facilities in 1977

[5]Became Government Affairs in 1975

TABLE 7. (continued)

Proportion of SET Legislation Workload by Session

Assembly:	Measures				Bills			
	1971	1973	1975	1977	1971	1973	1975	1977
AGRICULTURE	38.8%	64.3%	61.8%	72.7%	39.0%	64.2%	58.6%	76.5%
COMMERCE	8.1	17.2	23.8	24.7	6.7	16.9	24.2	24.1
EDUCATION	7.7	5.5	18.9	32.6	8.1	5.9	20.6	34.1
ELECTIONS	0.0	1.8	1.7	0.0	0.0	1.8	1.9	0.0
ENVIRONMENT AND PUBLIC RESOURCES	70.5	48.4	70.2	86.0	72.0	48.2	64.7	85.1
FISH AND GAME[1]	21.1	...	...	...	22.2	...	...	...
GOVERNMENT AFFAIRS	6.8	11.9	16.1	17.9	6.5	11.2	16.2	18.1
HEALTH AND WELFARE	28.0	37.1	45.6	50.9	29.9	38.1	48.0	55.5
JUDICIARY	1.7	5.7	6.1	7.0	1.8	6.1	6.4	7.4
LABOR AND MANAGEMENT	5.2	3.8	15.9	10.5	5.2	3.8	15.9	10.5
LEGISLATIVE FUNCTIONS	6.1	9.1	17.5	13.8	0.0	5.3	4.5	0.0
TAXATION	3.9	0.0	15.0	13.4	4.8	0.0	12.2	10.2
TRANSPORTATION	10.4	12.9	34.8	24.6	10.8	12.1	35.2	25.0
WAYS AND MEANS	8.5	8.5	17.4	16.6	9.0	8.1	17.0	17.0

[1]Ceased to exist in 1973

issuing from both houses. (For a treatment of the relative SET content of legislation of in-house and transmitted legislation, see Appendix C.)

The results recorded in Table 7 are quite unambiguous. In the assembly, three committees consistently find themselves embroiled in SET-related matters: Agriculture, Environment and Public Resources, and Health and Welfare. The proportion of legislation which they consider involving SET-related matters has been rather steadily increasing through the decade. This is especially true of Health and Welfare. Most other assembly standing committees have relatively little involvement with SET-related matters. The exceptions to this are Commerce and Education. Both have increasingly come to focus their energies on legislation requiring SET information.

The situation is also relatively straightforward in the senate. Two standing committees are heavily involved in SET-related affairs: Natural Resources and Human Resources and Facilities. The Senate Commerce Committee increasingly has become involved in matters requiring SET information. The remaining senate committees have been marginally involved in such legislation.

It might be noted at this point that the slight systematic differences discovered in the opinions of assemblymen and senators in the previous section are not reflected in an analysis of the proportion of SET-related legislation handled by each house. A cursory inspection of Table 8 will reveal, in almost every instance, the proportions of SET-related matters before the two houses are quite similar. These similarities are maintained over time and as between in-house legislation and transmitted legislation. By this gauge, the information needs of the two houses are roughly similar.

There are difficulties associated with the use of percentage figures to estimate SET information needs. Specifically, percentages only provide a relative approximation of need. A committee handling a few pieces of legislation several of which dealt with SET-related matters would be cited as having a substantial need. Some means of gauging the need of each committee in terms of the overall needs of its house would provide a useful complement to the percentage figures. Such a statistic exists and is usually called a Z-score. A Z-score considers how an individual observation stands in relation to the "average" observation of a series of data when the difference between these is judged in terms of the variation noted among all the points considered. Since the number of bills and resolutions being acted upon each session varies enormously, it would be a gross distortion to consider the amount of legislation acted upon in committee one session as opposed to the amount in the next

TABLE 8.

Proportion of SET Legislative Workload by Session

Category Proportion	1971	1973	1975	1977
Measures before Assembly Committees	10.0%	13.0%	20.3%	19.6%
Measures before Senate Committees	10.5	11.0	19.6	18.3
Measures before Assembly Committees reported out	8.2	11.2	19.3	18.6
Measures before Senate Committees reported out	9.7	11.1	20.5	15.4
Assembly Bills in Assembly Committees	11.1	11.5	21.9	19.1
Assembly Bills in Assembly Committees reported out	9.2	10.4	21.3	18.7
Senate Bills in Senate Committees	9.7	11.4	16.3	18.6
Senate Bills in Senate Committees reported out	8.1	12.7	15.9	16.8
Assembly Bills in Senate Committees	10.4	9.7	22.6	15.9
Assembly Bills in Senate Committees reported out	10.5	9.6	23.7	12.5
Senate Bills in Assembly Committees	7.4	16.3	18.9	19.8
Senate Bills in Assembly Committees reported out	6.7	16.6	18.1	18.7
Assembly Resolutions in Assembly Committees	10.9	10.2	17.2	23.6
Assembly Resolutions in Assembly Committees reported out	6.1	10.1	19.0	31.2
Senate Resolutions in Senate Committees	22.1	18.0	27.2	21.4
Senate Resolutions in Senate Committees reported out	19.2	21.4	33.3	16.9
Assembly Resolutions in Senate Committees	6.5	9.5	19.7	26.7
Assembly Resolutions in Senate Committees reported out	7.1	5.4	19.0	26.9
Senate Resolutions in Assembly Committees	15.4	21.9	33.3	20.8
Senate Resolutions in Assembly Committees reported out	16.0	11.1	29.3	12.8
Assembly Bills	9.9	12.9	20.1	19.3
Assembly Bills reported out	8.1	12.9	18.9	17.6
Assembly Resolutions	9.9	13.1	21.6	22.9
Assembly Resolutions reported out	9.5	11.2	22.4	25.2
Senate Bills	9.9	10.7	19.1	17.4
Senate Bills reported out	9.1	11.2	19.8	14.5
Senate Resolutions	15.8	13.7	23.6	24.4
Senate Resolutions reported out	15.0	10.1	25.7	21.6

session. The Z-scores provide a common basis upon which to judge the relative amount of SET-related legislation taken up by the many standing committees from session to session.

In Table 9 the Z-scores of the SET-related legislation handled by each standing committee from 1971 through 1977 are presented. The activities of several committees, especially in the senate, have been collapsed in order to provide for the comparison of results over time. The data were collapsed along the same lines as the committee mergers which occured throughout the period. Scores of near zero indicate that a committee's SET workload, in absolute terms, was about typical for that year. High positive scores are indicative of heavy SET information requirements; high negative scores are taken to mean the committee involvement with SET-related matters is low.

Table 9 shows that relatively large numbers of SET-related matters have been considered in several of the assembly standing committees throughout the four sessions: Commerce, Environment and Public Resources, Government Affairs, Health and Welfare and Ways and Means. The results reveal the Agricultural Committee does not deal in the volume of SET-related matters handled by these committees despite the earlier finding that a high proportion of all its legislation is concerned with matters requiring some form of SET information. Among senate committees, several handled relatively large numbers of SET-related pieces of legislation over the period: Natural Resources, Federal, State and Local Government, and Human Resources and Facilities. The Commerce Committee of the senate took up a substantial number of SET-related matters during the 1977 session.

The pattern of SET information needs represented in the two sets of indicators is summarized in Table 10. Several committees appear on both lists. In the assembly, the Commerce, Environment and Public Resources and Health and Welfare Committees appear in both places. So do the Natural Resources, Human Resources and Facilities, and Commerce Committees in the senate. Each of these committees, if the indicators be the judge, have a certifiable need for SET information. They are the most likely target of any activity designed to offer more SET information directly to the standing committees of the legislature.

TABLE 9.
Z-Scores SET
Legislative Workload by Session

SENATE	Measures 1971	1973	1975	1977	Bills 1971	1973	1975	1977
Commerce[1]	-.241	-.190	-.368	1.225	-.203	.012	-.197	1.498
Labor[1]								
Ecology[2]	2.376	1.200	1.705	1.600	2.238	1.109	1.070	.690
Public Resources[2]								
Federal, State & Local Government	.282	1.414	.994	.250	.145	1.219	1.133	.448
Finance	.208	-.083	.224	-.350	.319	.012	.499	-.036
Education[3]								
Health & Welfare[4]	.208	.879	.698	.625	.494	.889	.943	.852
State Institutions[4]								
Judiciary	-.465	.023	-.842	-.200	-.377	.231	-.767	.0449
Legis. Functions	-.914	-.938	-.901	-.950	-1.076	-1.523	-1.527	-1.569
Taxation	-.839	-1.473	-1.375	-1.100	-.988	-1.304	-1.211	-1.085
Transportation	-.615	-.831	-.132	-1.100	-.552	-.645	.056	-.843

[1]Merged to become committee on Commerce and Labor in 1973

[2]Merged to become committee on Ecology and Public Resources in 1973; Environment and Public Resources in 1975; Natural Resources in 1977

[3]Merged to become Human Resources and Facilities in 1977

[4]Merged to become Health, Welfare and State Institutions in 1973; Human Resources and Facilities in 1977

[5]For comparability, the efforts of committees which were later merged were combined

TABLE 9. (continued)
Z-Scores SET
Legislative Workload by Session

ASSEMBLY	Measures: 1971	1973	1975	1977	Bills: 1971	1973	1975	1977
Agriculture	.324	.139	-.124	-.276	.347	.885	-.185	-.275
Commerce	-.068	.667	1.138	1.396	-.190	1.530	1.217	1.427
Education	-.754	-.916	-1.105	-.434	-.728	-.620	-.853	-.193
Elections	-1.048	-1.143	-1.526	-1.549	-1.050	-.943	-1.253	-1.327
Environment & Pub. Resources	2.382	1.044	.717	.919	2.175	1.852	.149	.131
Fish & Game[1]								
Govt. Affairs	.618	1.873	1.558	1.714	.562	2.927	1.551	1.751
Health & Welfare	1.206	1.271	.927	.521	1.422	2.389	1.084	.698
Judiciary	-.459	.214	-.474	.043	-.405	.992	-.318	.292
Labor & Management	-.950	-1.067	-1.105	-1.231	-.942	-.835	-.853	-1.003
Legis. Functions	-.852	-.690	-.334	-.594	-1.05	-.942	-1.253	-1.327
Taxation	-.754	-1.218	-.965	-.832	-.727	-1.050	-.919	-.841
Transportation	-.166	-.162	.576	-.435	-.083	.347	.749	-.274
Ways & Means	.520	-.011	.717	.759	.669	.562	.883	.941

[1]Ceased to exist in 1973, 1971 efforts placed into Environment and Public Resources

TABLE 10.

Committees Highly Involved with SET-Related Legislation

	Committees Handling a High Proportion of SET-Related Legislation	Committees Handling a Relatively High Volume of SET-Related Legislation
Assembly	Agriculture Environment and Public Resources Health and Welfare Commerce* Education*	Commerce Environment and Public Resources Government Affairs Health and Welfare Ways and Means
Senate	Natural Resources Human Resources and Facilities Commerce*	Natural Resources Human Resources and Facilities Commerce* Federal, State and Local Government

*Involvement is marginal or uneven over the four sessions

The Functional Distribution of SET-Related Legislation

Suppose that the information needs of the legislatures are not defined in terms of its committees. How else can the SET information needs of the legislature be understood and analyzed? One obvious tack is to consider the generic aspect of a piece of legislation. Each bill or resolution can be classified according to a scheme which differentiates it by notions of its underlying sphere of functional competence. Unfortunately, there is no generally agreed upon way of sifting all the pieces of SET-related legislation which appear before state legislatures. In this absence, I have adapted a scheme used by the Committee on Domestic Technology of the Federal Council of Science and Technology (see Appendix D). This scheme has 17 categories; the Science and Technology category serves to gather miscellaneous or transcategory pieces of legislation. The categories are listed in Table 11.

Table 11 uses the now familiar Z-scores explained earlier. Once again high positive scores are indicative of relatively large numbers of SET-related matters. High negative values denote relatively few such pieces of legislation. Values near zero represent rather typical numbers of SET-related matters. Remember the values can be compared to one another and over time since each year's figures have been normalized to the underlying degree of variation present within those figures.

An inspection of Table 11 shows the senate has considered substantial amounts of SET-related legislation in three areas through the seventies: Environment, Health and Natural Resources. Energy matters have become increasingly important throughout the period while environmental concerns have diminished. Transportation and consumer protection issues have in a couple of sessions proved quite important. Predictably, the same three functional issue areas have dominated the assembly over this period: Environment, Health and Natural Resources. The rise of energy issues is not nearly as apparent, but environmental concerns have slipped nonetheless. Social services, rather than transportation, has proved an issue in which occasional amounts of SET information is necessary.

Perhaps the most interesting aspect of this functional classification is the manner in which it complements the findings with respect to the involvement of various standing committees in SET-related matters. Here again the importance of health, natural resource and environmental issues has been established. They form the central core of most of the SET-related matters dealt with by the legislature in the seventies.

TABLE 11.
Z-Scores of SET-Related
Matters for Assembly By Session

ASSEMBLY	Measures 1971	1973	1975	1977	Bills 1971	1973	1975	1977
Agriculture	-.417	.302	-.044	-.331	-.389	.083	-.017	-.191
Business & Commerce	-.275	-.187	.452	-.547	-.328	-.318	.414	-.486
Community Develop.	-.842	-.799	-.663	-.547	-.839	-.720	-.735	-.632
Constr. & Housing	-.275	.179	-.663	-.547	-.238	.083	-.735	-.485
Consumer Protection	-.133	-.187	-.663	-.547	-.088	-.218	-.591	-.632
Disaster Prevention	-.700	-.921	-1.283	-1.088	-.689	-.820	-1.309	-1.222
Education	-.417	-.921	-.539	-.115	-.388	-.820	-.448	.104
Employmt.& Labor	-.700	-.799	-.415	-.980	-.689	-.720	-.304	-1.074
Energy	-.558	-.677	-.663	1.076	-.539	-.619	-.879	.840
Environment	1.992	1.037	1.071	.101	2.013	.684	1.132	.104
Health	2.275	3.117	1.567	1.508	2.313	2.289	1.419	2.166
Natural Resources	1.567	1.037	2.558	2.698	1.413	2.590	2.568	2.019
Social Services	-.417	-.309	.452	.859	-.539	-.319	.558	1.135
Product Developmt.	-.558	-.309	-1.035	-.115	-.539	-.419	-1.022	-.043
Safety	.717	.179	-.539	-.872	.812	.083	-.448	-.927
Transportation	-.842	-.432	.452	-.006	-.838	-.519	.414	-.043
Science & Technology	-.417	-.310	-.044	-.547	-.539	-.319	-.017	-.632

TABLE 11. (continued)
Z-Scores of SET-Related
Matters for Senate by Session

SENATE	Measures				Bills			
	1971	1973	1975	1977	1971	1973	1975	1977
Agriculture	-.495	-.585	-.702	-.692	-.512	-.645	-.707	-.729
Business & Commerce	-.637	-.283	-.575	-.339	-.701	-.197	-.543	-.389
Community Develop.	-.637	-.133	-.321	-.457	-.701	-.026	-.213	-.389
Constr.& Housing	-.352	-.434	-.829	-.339	-.323	-.421	-.872	-.559
Consumer Protection	.075	-.283	.313	-.104	.245	-.197	.611	.119
Disaster Prevention	-.495	-.585	-.956	-.809	-.512	-.645	-1.037	-.898
Education	-.352	-.735	-.829	-.457	-.323	-.868	-.872	-.559
Employ. & Labor	-.495	-.585	-.829	-.339	-.512	-.645	-.872	-.219
Energy	-.495	-.585	-.194	.367	-.512	-.645	-.378	.290
Environment	2.782	.619	1.838	.485	2.513	.921	1.269	.799
Health	1.215	3.029	1.711	2.838	1.757	2.263	2.258	2.326
Natural Resources	1.928	1.824	2.218	2.132	1.757	2.489	1.764	2.496
Social Services	-.637	-.434	-.575	-.457	-.701	-.421	-.872	-.559
Product Develop.	-,209	-.434	-.322	-.574	-.323	-.421	-.213	-.729
Safety	-.352	-.585	-.067	-.574	-.323	-.645	.116	-.599
Transportation	-.637	.319	.440	-.221	-.701	.474	.775	-.050
Science & Technology	-.210	-.133	-.321	-.457	-.133	-.421	-.213	-.389

The Distribution of SET-Related Legislation in the Nevada Revised Statutes

Analyses of the functional distribution of legislation and committee involvement with SET-related matters during the seventies have yielded rather similar results. To an extent most of the legislation requiring SET information comes through a few committees or involves a few topical areas. Yet an inspection of the tables upon which this proposition is based will reveal that the mix of SET-related matters is constantly changing. Committees vary in their involvement; each session is characterized by a slightly different mix of issues. It should be remembered from Section One that the proportion of all legislation being considered by the legislature requiring some form of SET information is rising. What are the ramifications of this increase? Does it mean that a few committees will be increasingly involved in SET-related matters? Or will the SET information requirements begin to spread throughout the committee system? Is there a trend to the SET information need?

Some tentative thoughts on this question can be framed by renewing the examination of Tables 7, 9 and 11. Certainly the proportion of SET-related legislation considered by various standing committees has increased over time. In the assembly, Education, Government Affairs and Labor, to name just three, increased the proportion of SET-related legislation they handle. Taxation in the senate provides another example. But these examples or ones which could be gleaned from an inspection of Z-scores do not provide substantial evidence that the scope of SET information needs is broadening. In most cases the proportion of SET-related legislation handled by the most SET-oriented committees also increased.

One convenient and readily comprehensible way of producing evidence in this matter lies with the form assumed by each bill taken up in the legislature. Each bill drafted by the Legislative Counsel Bureau is given a Bill Draft Request (BDR) number whose first digits identify that portion of the Nevada Revised Statutes to which it applies. Each BDR number identifies a title in the Nevada Revised Statutes. Nevada Revised Statutes is the codification of all statute laws in Nevada of a general, public and permanent nature.[10] Each title embraces a major subject of the law. In sum they provide an extensive classification system into which every bill falls. An examination of the manner in which proposed legislation throughout the seventies falls into the various titles will provide an indicator of the distribution of need for SET information.

10 Legislative Counsel Bureau, Legislative Manual, 1977, p. 136.

In Table 12 each of the Nevada Revised Statutes titles is listed together with the number of bills in each session bearing that title number.[11] The total number of implied or apparent SET-related bills is also listed. A rapid glance through the 58 titles will show many subjects to have prompted little legislation requiring SET information. Others, such as Title 40, have had numerous attempts. But the main impression the table presents, I believe, is of the difficulty in trying to gauge whether SET-related bills have become more evenly distributed throughout the entire range of titles.

One way around this difficulty lies in the use of a correlation statistic.[12] This will facilitate an examination of the way in which the distribution of legislation across all titles for one session relates to that of another session. It can provide a measure of the relationships between the distribution of the proposed legislation and the SET-related legislation in a single session. And finally, it will offer a view of the relationship between the distributions of SET-related legislation in different sessions. These statistics will indicate whether the emphases of sessions are different and whether there is a diffusion of SET-related legislation throughout the Nevada Revised Statutes.

Each of the appropriate statistics is recorded in Table 13. Notice that the relationship between the distribution of legislation in most years is quite close. The exception is 1975 which by indications was an abnormal year. The sessions of

[11] The ultimate title designation of an enacted bill does not necessarily bear the same number as indicated in the BDR number. However, a change in designation is relatively rare and should not affect the analysis appreciably.

[12] The statistic I use is Pearson's, Product-Moment, Correlation (R). Aside from its ease of calculation which prompts its wide-spread use, there are several reasons for resorting to this statistic. First, although the data may appear ordinal, within the context of the proposition at issue, these are in fact interval level. Two bills are just half of four. Second, such underlying assumptions as normality and homoscedasticity have not been grossly violated. Finally, it enables the statistical significance between statistics to be established. The prime difficulty lies in the linearity of the relationship. In my defense, I would say the statistic is intended only to help buttress the evidence from a series of other sources. In addition, as a population of events the tests which some analysts might insist upon (and which do damage to the case as presented) are not really necessary.

TABLE 12.
Proposed Legislation Classified by BDR Number
In the NRS Titles

NRS Title and Number	1971		1973		1975		1977	
	Total	SET	Total	SET	Total	SET	Total	SET
1 Courts of Justice; Judicial Officiers; Juries	37	0	29	0	27	0	42	0
2. Civil Practice	18	0	7	0	9	1	15	0
3 Remedies; Special Actions and Proceedings	31	2	27	1	29	1	23	7
4 Witnesses & Evidence	4	0	20	2	7	0	4	0
5 Procedure in Juvenile Cases	14	0	7	0	7	0	6	0
6 Justices' Courts & Civil Procedure Therein	1	0	0	0	2	0	1	0
7 Corporations; Associations; Partnerships	10	0	6	0	8	1	15	0
8 Commercial Instruments & Transactions	7	0	4	0	9	0	3	0
9 Mortgages; Deeds of Trusts; Liens	9	0	6	1	6	1	3	1
10 Property Rights & Transactions	10	1	16	0	18	4	17	3
11 Domestic Relations	18	1	16	2	21	2	15	0
12 Wills & Estates of Deceased	16	0	12	0	4	0	9	0
13 Guardianships; Conservatorships	7	0	2	0	2	0	4	0
14 Procedure in Criminal Cases	38	0	50	3	23	2	37	2
15 Procedure in Criminal Cases in Justices Courts	0	0	1	0	1	0	0	0
16 Crimes; Punishments; Correctional Institutions	76	7	87	3	64	9	62	6
17 State Legislative Department	29	0	42	0	37	0	32	1
18 State Executive Department	21	1	33	1	26	6	30	4
19 Miscellaneous Matters Related to Government & Public Affairs	22	2	27	3	12	1	17	2

TABLE 12.
(continued)

NRS Title and Number	1971		1973		1975		1977	
	Total	SET	Total	SET	Total	SET	Total	SET
20 Counties & Townships	33	4	72	6	53	4	46	7
21 Cities & Towns	11	0	21	0	10	0	11	0
22 Exercise of Powers & Duties By Public Agencies; Planning & Zoning	15	1	34	15	24	14	16	11
23 Public Officers & Employees	76	0	79	0	62	0	43	1
24 Elections	36	0	40	1	35	1	28	0
25 Public Organizations for Community Service	12	0	6	1	11	0	10	1
26 Public Lands	1	0	3	2	9	2	6	4
27 Public Property & Purchasing	20	2	16	0	17	2	11	2
28 Public Works & Planning	17	1	9	3	8	4	13	5
29 State Printing & Publications	4	0	6	0	3	0	4	0
30 Public Borrowing & Bonds	16	1	2	0	3	0	3	0
31 Public Financial Administration	16	0	25	1	27	1	19	1
32 Revenue & Taxation	68	0	61	4	46	7	58	8
33 Libraries & Museums	13	2	10	1	3	2	4	1
34 Education	76	7	76	8	50	10	65	16
35 Highways; Roads; Bridges; Parks	26	1	11	1	16	7	11	2
36 Military Affairs; Civil Defense & Disaster Relief	8	0	16	0	9	1	3	0
37 Veterans' & Servicemen's Privileges & Benefits	4	0	2	0	1	0	4	0
38 Public Welfare	31	1	45	2	35	4	17	4
39 Mental Health & Mental Retardation	7	4	20	5	7	1	8	5
40 Public Health & Safety	63	18	81	39	51	26	50	36

TABLE 12
(continued)

NRS Title and Number	1971		1973		1975		1977	
	Total	SET	Total	SET	Total	SET	Total	SET
41 Gaming; Horse Racing; Sporting Events	23	0	11	0	7	0	21	0
42 Protection from Fire; Explosives	13	5	7	3	6	1	1	0
43 Vehicle & Watercraft	87	8	113	17	106	30	51	10
44 Aeronautics	4	1	2	0	3	2	3	1
45 Fish & Game	20	5	24	6	21	8	10	7
46 Mines & Minerals	12	3	3	2	3	2	0	0
47 Forestry; Forestry Products & Flora	4	4	5	3	2	2	2	2
48 Water	13	5	13	8	14	10	9	5
49 Agriculture	5	3	9	5	6	4	4	4
50 Animals	11	3	8	1	11	1	7	2
51 Food & other Commodities; Purity; Sanitation; Standards; Labels; Weights & Measures; Marketing	22	9	13	11	21	15	13	13
52 Trade Regulations & Practices	18	3	20	3	19	2	12	2
53 Labor & Industrial Relations	58	4	96	5	76	11	74	9
54 Professions, Occupations & Businesses	61	15	67	18	107	34	66	30
55 Banks & Trust Companies	4	0	6	0	5	0	4	0
56 Loan Associations & Lending Institutions	8	0	9	0	9	1	8	0
57 Nevada Insurance Code	23	1	26	1	28	4	46	2
58 Utilities; Railroads & other Carriers	32	5	21	6	31	12	28	18

TABLE 13.

Correlation, Pearson's R. Matrix Between Legislative Sessions' Consideration of Legislation Typed by BDR Number in the NRS Titles*

Exhibit A
All Proposed Legislation

		Session 1973	1975	1977
	1971	.924	.601	.900
Session	1973		.675	.900
	1975			.623

Exhibit B
All SET-Related Legislation

		Session 1973	1975	1977
	1971	.866	.843	.884
Session	1973		.849	.892
	1975			.867

Exhibit C

Relation Between Proposed Legislation Across Titles and Proposed SET-Related Legislation Across Titles by Session:

Session	Coefficient
1971	.520
1973	.536
1975	.564
1977	.581

* Correlation Coefficient calculated by CORRELATION function provided in Stanley Cohen and Steven Pieper, The Speakeasy-3 Reference Manual, Level MU: IBM OS/VS Version, Argonne National Laboratory, Argonne, Illinois, prepared for the US Energy Research and Development Administration, ANL-8000, August, 1977.

1971, 1973 and 1977 are highly similar. On the other hand, the relationship between the records of the various sessions on SET-related legislation is not so close. With the exception of the 1975 session-related statistics, they are uniformly smaller than the statistics for proposed legislation. Although the differences between the correlation statistics can not be judged to be statistically significant, the direction of the differences points to the relatively volatile nature of SET-related legislation. In comparison to all legislation, the pattern of SET-related legislation across the titles of the Nevada Revised Statutes changes more from session to session. The direction of this change is hinted at in the last exhibit of Table 13. It shows SET-related legislation is slowly beginning to track the pattern of all proposed legislation. This is slight, if statistically insignificant, evidence for the diffusion of SET-related legislation throughout the Nevada Revised Statutes. If these data are held reliable, Nevada's legislature is slowly coming to require SET information in an expanding number of areas.

The Legislators' View of SET Information Needs

The view of legislative SET information need presented in this section has relied solely on the quantity or persistent quality of the SET-related legislation before the members of each house. There is indication of the need for SET information; indications the needs are growing slowly. But these indications lack the experential quality of first-hand knowledge and involvement. The opinions of the legislators themselves must count as heavy testimony on the areas of great need.

In the questionnaire sent to each member, the question appearing in Table 14 was asked. Thirty-eight members responded to the question. Not all provided five responses, but most did. The results can be seen in Table 14. Energy information needs are felt most keenly by the members. Almost 87 percent of the members viewed this as an area where more SET information was needed. Only one other subject so concerned the members. Just over 60 percent of the legislators responding felt environmental information was among those areas in which the need for SET information was greatest. No other subject drew the attention of over 50 percent of the members. Six subjects attracted between 25 and 50 percent of the members. Of these, Natural Resources drew the most response, followed by Agriculture, Community Development, Consumer Protection, Business and Commerce, and Health.

How do these results square with the earlier findings? The categories were essentially the same as those appearing in Table 11. As before both Environment and Natural Resources appear as areas of significant need. In the members' view, however, Health is not so significant as the aggregate analysis would indicate. Instead, energy matters which were shown to be an area of increasing concern using aggregate indicators loom as the preeminent issue bundle on which SET information is necessary. Agriculture, shown to be an area in which a significant proportion of the legislation discussed involved SET-related matters, is also cited by members as a subject in which there is a concern for SET information. For the most visible of the policy bundles, the several perspectives taken in this section buttress one another to a high degree. But it should be noted that members point to the need for SET information in such areas as Community Development, Consumer Protection, and Business and Commerce while the aggregate analysis shows little need. Again it is possible that looking only toward the quantity of legislation in an area the aggregate indicators have missed something which legislators know all too well. It is also possible that the members' opinions, registered in mid-1978, have moved well beyond the indications of 1977. The rapid growth of Nevada's urban areas could help account for an increased interest in such matters as community development and business.

Table 14.
Legislators' Citations of Areas
Where Need for SET Information
is Greatest (N = 38)

Question: In which of the following areas of legislative concern do you feel there is the greatest need for additional science, engineering and technological (SET) information?

Topical Area	Frequency of Citation	Relative Frequency	Percent of Members Indicating Area
Agriculture	13	7.8%	34.2
Business and Commerce	11	6.6%	28.9
Community Development	13	7.8%	34.2
Construction and Housing	8	4.8%	21.1
Consumer Protection	12	7.2%	31.6
Disaster Prevention	3	1.8%	7.9
Education	1	0.6%	2.6
Employment and Labor	2	1.2%	5.3
Energy	33	19.9%	86.8
Environment	23	13.9%	60.5
Health	11	6.6%	28.9
Natural Resources	17	10.2%	44.7
Social Services	5	3.0%	13.2
Product Development	5	3.0%	13.2
Safety	1	0.6%	2.6
Transportation	8	4.8%	21.1

4. HOW THE SET INFORMATION NEEDS OF NEVADA LEGISLATORS ARE BEING MET

In a quite fundamental way legislative action "is built around the process of acquiring information and intelligence with respect to particular conditions and situations, and the application of that information to the fashioning of laws".[13] SET information poses a special difficulty for most lawmakers. They seldom have technical backgrounds. They are generalists in the fullest sense. Not only are they expected to have a wide-ranging acquaintance with the affairs of the day, they are expected to take actions based on this knowledge. In the face of such demands, the thirst for information, for synthesis, for perspective can be high.

Good information is "hard" to find. Yet the difficulty is not the same for all sorts of information. Some things are easier to learn about than others. Nor does the availability of information ncessarily match the need the legislators have for the information. This is as true of SET information as all other types which legislators must have. Regard Table 15. It exhibits the fashion in which Nevada legislators identified those types of SET information which they consider the most difficult to obtain. As in the case of subjective need, energy information again is said to be the most important. Nearly half the legislators responding cited information in this area as difficult to obtain. Again environmental information rates the attention of Nevada lawmakers. About one-third cite information in this area as difficult to obtain. Beyond these two areas, the differences between the needs identified in Table 14 and the acquisition problems cited in Table 15 are considerable.

These differences are best seen in the disparities between the percentages of members indicating an area of concern in each of the two tables. Take energy. Despite the near unanimity among legislators on the need for SET information in this area, less than half cite it as an area in which information is difficult to obtain. The same is true of other areas: Agriculture, Construction and Housing, Environment and Natural Resources. In each, significant need appears to be attended by relatively accessible information. Other areas, such as health, social services, product development, and employment and labor, display a different pattern. Here the need is not so great, but the difficulty in obtaining SET information is. While the need for information in health and social service matters was indicated in the earlier functional analysis, concern for areas such as product development has not appeared before in this study. This places a slightly different edge on the meaning of SET information need in the legislative context. Should need be defined

[13] H. Alexander Smith, "Information and Intelligence for Congress," Annals of the American Academy of Political and Social Sciences, Vol. 289 (September, 1953) p. 114.

Table 15.
Legislators' Citations of Areas Where
SET Information is Difficult to Find (N = 34)

Question: In which of the above areas do you feel Science, Engineering and Technological (SET) information is most difficult for you to obtain?

Topical Area	Frequency of Citation	Relative Frequency	Percent of Member Indicating Area
Agriculture	4	3.3%	11.8
Business and Commerce	9	7.5%	26.5
Community Development	11	9.2%	32.4
Construction and Housing	3	2.5%	8.8
Consumer Protection	7	5.8%	20.6
Disaster Prevention	5	4.2%	14.7
Education	2	1.7%	5.9
Employment and Labor	7	5.8%	20.6
Energy	15	12.5%	44.1
Environment	11	9.2%	32.4
Health	11	9.2%	32.4
Natural Resources	8	6.7%	23.5
Social Services	8	6.7%	23.5
Product Development	9	7.5%	26.5
Safety	2	1.7%	5.9
Transportation	8	6.7%	23.5

solely in terms of the number and scope of the legislation considered by the legislature or should other factors such as availability be included in the equation? Strictly speaking, the need for information exists whether or not it is satisfied. In practical terms the knowledge that certain needs are being met, while others are not, conditions the character of any remedial response that might be taken to change the situation. In sum, it is almost as important to know how needs are being met as to know the needs exist.

In this section, I will consider how the legislature meets its needs for SET information. Unfortunately, very little information exists on the ways in which legislators are informed about specific topical concerns. For the most part then this section deals with the sources of information on which legislators rely. What are they? What roles do they play in serving the legislators?

The Legislators' View of their SET Information Sources

State legislators have access to and are barraged by information from a number of sources. The usefulness of these sources varies as does the legislators' reliance on them. Studies in other states of the flow of general information to legislators have revealed the importance of legislators themselves. Knowledgeable colleagues are among the very most important sources of information.[14] Committee and floor debate together with the information provided by lobbyists are typically ranked next in importance. Institutional reference service, personal staff and individual constituents appear next in such rankings.

The situation in Nevada does not follow this pattern. At least with respect to SET information, legislators rate various sources differently. Table 16 features a question asked of all Nevada legislators. Each legislator was asked to rank those SET information sources of benefit to him. The results can be examined in two ways since each legislator was asked to rank the four most beneficial sources. The sources can be considered as to the number placed within each rank or they can be viewed in

[14] H. Owen Porter, "Legislative Information Needs and Staff Resources in the American States," in James Heaphey and Alan Balutis (eds.) Legislative Staffing: A Comparative Perspective, pp. 39-59.

Table 16.
Legislative Views on the Usefulness
of Various SET Information Sources
(N = 40)

Question: Legislators ordinarily obtain information from a variety of sources. We are interested in how you obtain Science, Engineering and Technology (SET) information on issues such as nuclear powerplant siting, water quality, emission control, PCB, Laetrile, solid waste disposal and the like.

Below you will find several information sources which legislators often use. After reading through the entire list, please rank the 4 sources which are of most benefit to you in obtaining Science, Engineering and Technological (SET) information. (#1 is the one most beneficial, and so on.)

Source	Number of Legislators Who Ranked Source as:* 1	2	3	4	Proportion of all Legislators Ranking the Source
Committee Hearings	15	5	5	5	.75
Issue Conferences & Forums	1	1	5	2	.23
Federal Agencies	-	-	1	2	.08
Floor Debates	-	1	-	1	.05
Interested Parties	3	6	7	5	.53
Legislative Counsel Bureau Staff	11	10	5	5	.78
Multi-state Organizations	-	4	2	-	.15
News Media	3	3	1	2	.23
Other Legislators	1	1	3	2	.18
Private R&D; Other Firms	2	2	-	2	.15
Personal Knowledge	-	-	4	3	.18
Public Interest Groups	1	4	4	3	.30
State Agencies	1	2	2	4	.23
State Libraries	-	1	-	-	.03
University Personnel	2	-	1	1	.10

*Two legislators provided other opinions. These were not included for the sake of compatability. Both related to personal sources of information study.

terms of the total number of legislators ranking each source.[15] Both are presented in Table 16. By either measure, two sources stand as the most important: Committee Hearings and the Legislative Counsel Bureau staff. Of these, members more often chose committee hearings as their most beneficial source of SET information. The Legislative Counsel Bureau staff, on the other hand, was chosen by more of the members as among the most beneficial sources of SET information. In either case, these sources far outdistanced their nearest rivals. Perhaps it should be argued though that the category of interested parties and public interest groups should be combined to form a single source, lobbyists.[16] If this is done, then is it true that 83 percent of all members rely heavily on lobbyists as sources of SET information. But this new group, lobbyists, still ranks behind both committee hearings and Legislative Counsel Bureau staff as the most important source of information. And it remains behind counsel bureau staff in the number of second place mentions. The conclusion remains then that only two sources are recognized as generally beneficial: hearings and staff.

It is hardly surprising legislators rate interested parties as an important source of information. They undoubtedly play an important role in establishing one side of the argument in any case.

[15] There are advantages and disadvantages to each method. Since each legislator was asked to rank four sources, the danger is that he would feel compelled to do so even if he did not believe four were of use. Thus some ranked sources would be, in fact, artifacts of the question. Considering the total mentions for each source would mitigate the effect of such a phenomenon. On the other hand, the sheer number of choices given each legislator is likely to have an impact on the way in which sources are picked and the distribution of sources. Limiting attention to those sources ranked one or two would help reduce the effects of the size of the list.

[16] This argument is appealing but can only be done based on some tenuous assumptions. First, respondents would have to understand the categories in the same sense. Second, it would mean that no or very few members were affected by the spread between the two; that the physical appearances of the two on the questionnaire had no effect. Third, it would mean that members would have responded identically to the word "lobbyist" as they did to the two separately. That is, it would mean that lobbyists would not get more first place votes, for example, than did the two combined.

Nor is it surprising that public interest groups would be ranked highly. As at least one political observer has pointed out, this is the age of public interest group liberalism.[17] But Table 16 does contain a few surprises. First, issue conferences and forms drew several responses despite the ad hoc and infrequent nature of such mechanisms. Second, state agencies which in some studies have rated quite highly are, in Nevada, not seen as primary sources of information. It may be that state agency information is imparted mainly through the hearings process and so this figure is misleading. Certainly, it does not appear the executive branch has control over the flow of SET information to legislators. Finally, legislators only rarely cited university personnel as important sources of information. This is surprising not only because, in Nevada as in most states, university personnel form the largest single concentrated pool of SET expertise but because Nevada is a highly urbanized state whose university system has branches in each of the urban centers.[18] As a whole, the results found in Table 16 are not astonishing. They appear as a useful corrective to the literature on state legislatures which often emphasizes the processes and procedures of larger states and much larger legislative settings.

The Legislative Counsel Bureau's Role

Legislators point toward the Legislative Counsel Bureau as a prime source of useful SET information. But the bureau is a diverse organization. It handles many jobs. It is difficult to know exactly what elements of the bureau are involved in the legislators' opinions. It may be members cite the bureau not so much for its usefulness in SET-related matters but because of its general worth to them. After all, under the policymaking authority of the Legislative Commission, the bureau is engaged in bill drafting, statutory revision, offering legal opinions on legislation, post-audits of state agencies, fiscal analysis, budgetary review and a wide range of general research. The bureau gives legislators a substantial degree of autonomy from both the executive branch and lobbyists. Yet with the exception of the technical aspects of fiscal analysis most of the functions named above have little to do with providing SET information. On what do legislators base their claim?

17 Theodore Lowi, The End of Liberalism: Ideology, Policy and the Crisis of Public Authority.

18 It is possible the lack of interest in categories such as university personnel stems from the construction of the questionnaire. Fatigue and choice constraint may have exercised some effect. However, this explanation does not account for the ranking given public interest groups or the marginal interest shown in state agencies which also appear toward the end of question 1.

In large measure, their opinion must be based on the activities of the Research Division. The Research Division has general responsibility for responding to requests by legislators for information on "virtually any subject amenable to legislation exclusive of fiscal matters".[19] It performs analysis and interpretation for legislators on both a quick response and in-depth basis. In fact, it serves as the general information collection and dissemination arm of the legislature. In this sense, it resembles only poorly the description given of some other legislative reference services. It is in sharp contrast to the following view of reference services:

> Even when representatives have more lead time to initiate study, they do not ask the institutional research personnel who are available. The six members of the Michigan Legislative Reference Service in 1970 said that most of the requests they receive from legislators are for copies of existing legislation or bills in progress, and these mostly go to constitutents. Although the researchers encourage requests for "spot" or in-depth research, they agree that less than twenty percent of their assignments fall into these categories. One senior member of the staff could only remember four requests for in-depth research from members of either house in the previous three years. Spot research, which refers to specific limited questions, can easily be handled by the staff, but they are rarely asked.[20]

Between September of 1976 and December of 1977, the three researchers in the division answered 854 requests. This includes only those requests which were recorded in the division log of activity. It ignores "spot" requests performed outside the capitol or ones which the researcher was unable, for some reason, to record. Most of these requests were made by legislators; 737 can be associated with specific representatives. Other requests were made and answered as part of the community service provided by the counsel bureau. These included inter-state requests and requests made by regional or national organizations. By and large, these requests do not include the types of activities cited in the excerpt on the Michigan Legislative Reference Service.

[19] Grose, op. cit., p. 10.

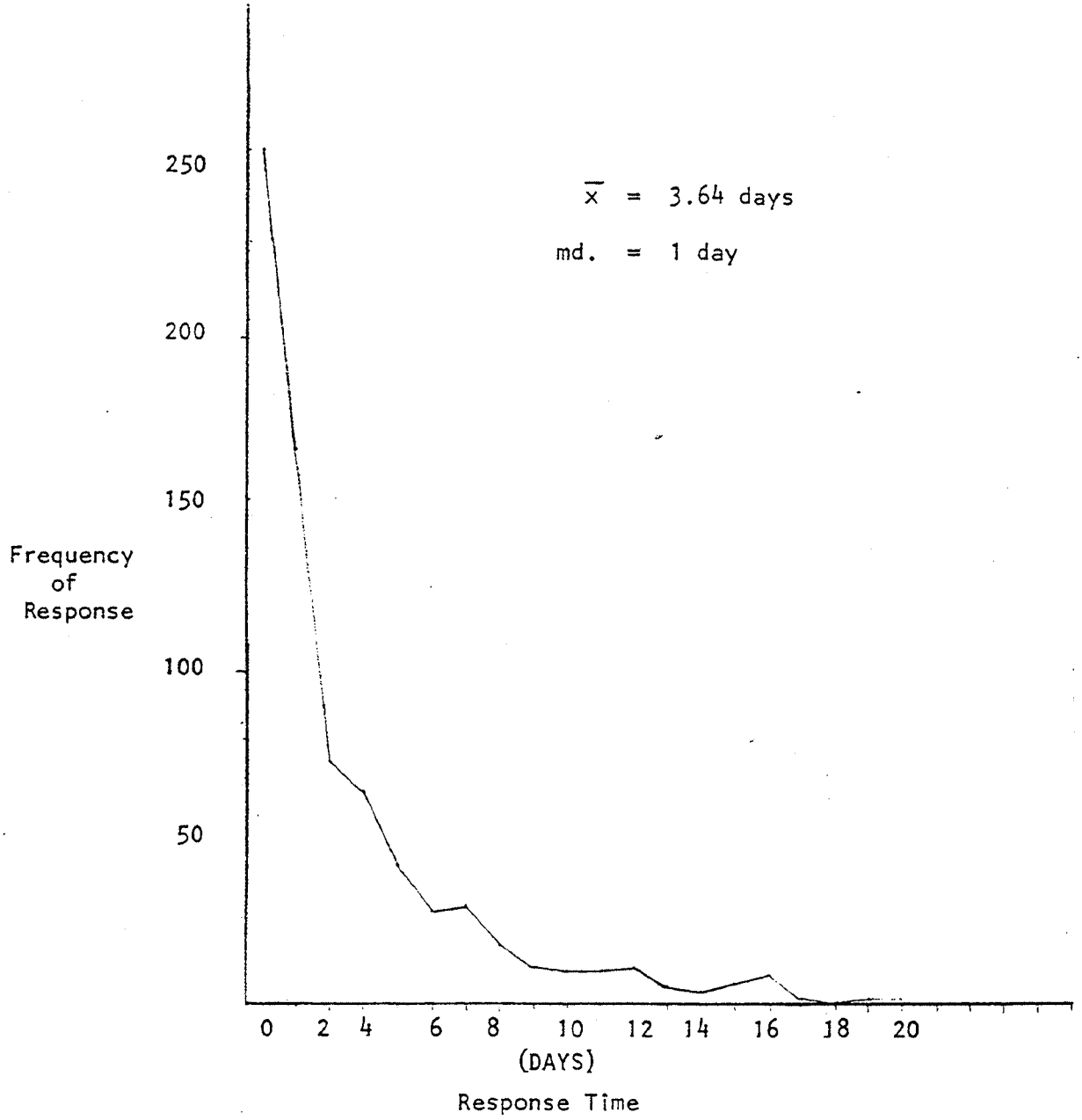
[20] Porter, op. cit. p. 49.

The requests range from inquiries on the alternatives for growth policy to the status of sex education in Nevada schools.

Of the hundreds of requests the Research Division processed during 1977, only 62 dealt with SET-related matters. The distribution of these requests can be seen in Table B of Appendix D. Energy, health, environment and natural resources dominated the concerns. Less than half (17) of the assemblymen made requests that could be considered to involve SET-related matters; slightly over half (11) of the senators made SET-related requests during this period. Almost every legislator by contrast made several general information requests during the same period. The median number of requests was 11.

The present staff of the Research Division has little scientific or technical training. While the director served in a technical capacity in the U.S. Air Force, his formal training is in political science. The other researchers have diverse backgrounds in business, psychology, sociology and American studies but virtually none in technical fields. This background appears to have affected the response given those ten percent of all requests which concern SET-related matters. Figure 1 shows the pattern of Research Division response time on all legislative requests; figure 2 gives the same information for SET-related requests. A comparison of the two reveals a significant difference. The average response time on all legislative requests is 3.64 days; the median response time is 1 day. The average response time for SET-related matters is 7.15 days; the median is 2 days. By any measure, it takes nearly twice as long for the research staff to comply with legislative requests for SET information.

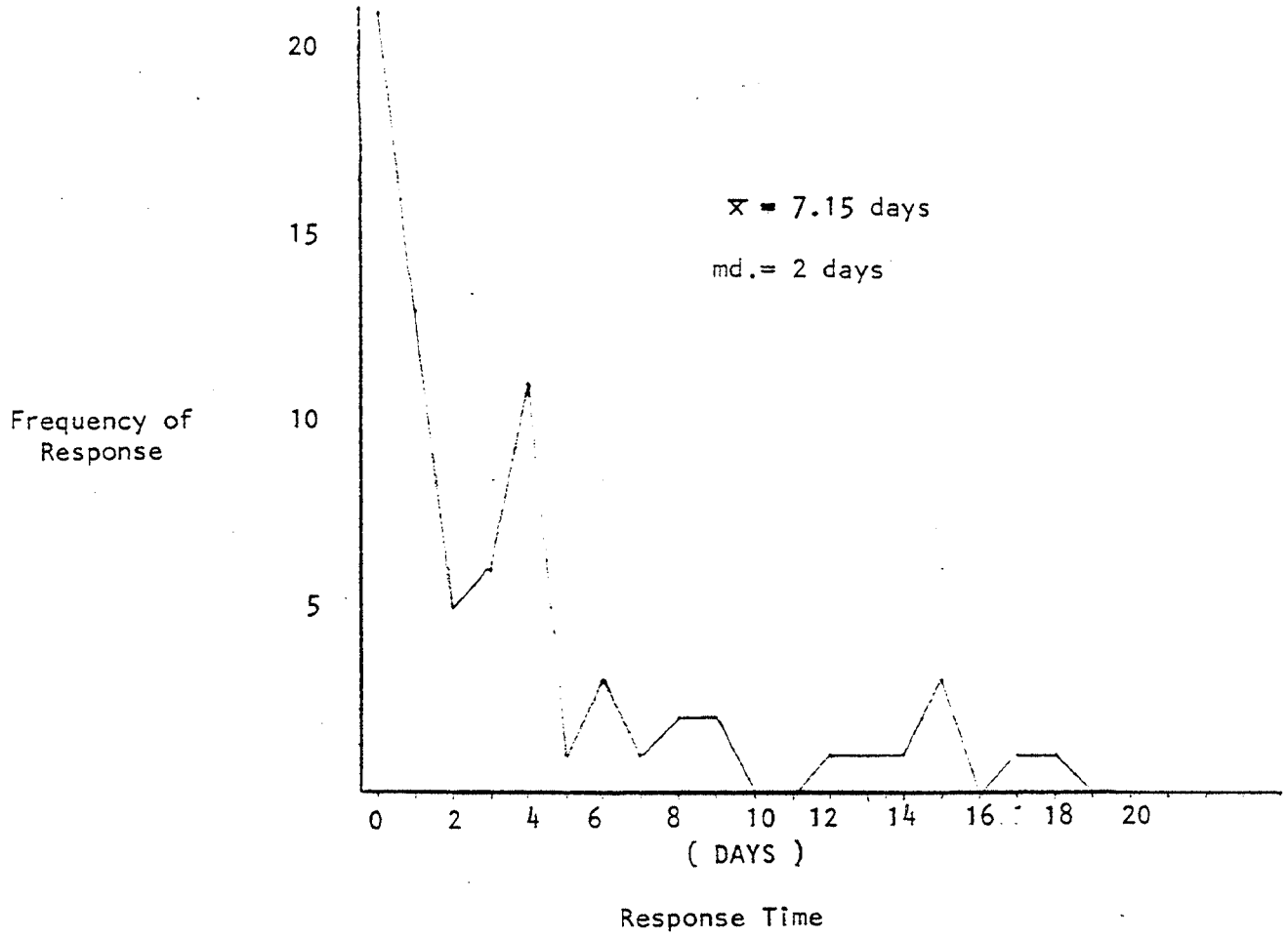
The 8.5 percent of research requests involving SET-related matters represents a proportion less than that found in the total legislation considered during the 1977 session. While several of the research requests handled by the Research Division, such as the alternative forms state science adviser legislation has assumed in the states, dealt with pending legislation, many of the efforts came during the interim. During session the recorded use of the Research Division for SET-related requests is small. Even when the Research Division's role in facilitating expert testimony is factored into the equation, it is difficult to see how it is adequately meeting the SET information needs of the legislators. While the division performs the range of tasks it is assigned quite admirably, it is poorly equipped to handle SET information requests. In the future this capacity may diminish even further. The use of the Research Division inquiry service appears to be increasing over time. This should place more strain on the staff and make it even more difficult to acquire information for which they have little competence.



Frequency of Response on Non-SET Requests Handled By Research Division of Legislative Counsel Bureau

Period: 9/14/76
12/31/77

FIGURE 1



Frequency of Response on SET Requests Handled By Research Division of Legislative Counsel Bureau
Period: 9/14/76
12/30/77

FIGURE 2

These observations on the capacity of the Research Division to acquire, process and evaluate SET information should give some pause to the interpretation placed on the figures in Table 16. If legislators see the Legislative Counsel Bureau as a prime source of SET information, they must not have had recourse to many alternatives. While the counsel bureau can answer SET-related questions, and answer them well if given time, neither the volume of SET requests nor the response time on such requests would appear to particularly mark the bureau as a prime source. The fact that it is perceived as a useful source of SET information is no recommendation as to the quality and mix of the SET information legislators are now receiving.

The Role of Committee Hearings

Nevada's legislators indicate committee hearings are among the most important sources of useful SET information. In fact, as Table 16 shows, committee hearings are the source most often rated by legislators as their most important source on SET-related matters.

It is hardly surprising Nevada legislators place such an emphasis on committee hearings and the committee process. One highly respected study of committee performance in the fifty states has ranked Nevada as among the most effective committee systems.[21]

Almost all the legislation before either house is handled by committee; committees play a crucial role in shaping the legislation referred to them; they exercise considerable discretion in reporting out legislation; and most committees have good success with their legislation on the floor. The division of labor among the members is adequate but not severe. Most members serve on three committees. Committee meetings occur throughout the week during session. Certain committees meet almost daily for the entire session: in the assembly, Government Affairs, Judiciary and Ways and Means; in the senate, Finance, Judiciary and Human Resources and Facilities. Most other committees meet several times a week. Committee hearings are typically open to the public; advance notification of the legislation to be considered is usually five days.[22] The public

[21] Rosenthal, Legislative Performance in the States: Explorations in Committee Behavior. p. 42.

[22] Senate Standing Rule 13 requires open meetings except if closed by two-thirds of the committee members; Rule 92 mandates adequate notice be posted and made available to news media except when suspended by two-thirds of committee members. Assembly Standing Rules 11 and 92 require open meetings and a notice of 5 calendar days before hearings except when suspended by a two-thirds vote of committee members.

can learn of hearings through legislative calendars published in regional newspapers, through daily histories or through public notices posted throughout the capitol complex.

There can be no doubt the committee system works well in Nevada. Recent efforts such as the delineation of jurisdiction in senate committees, the introduction of a consent calendar in each house, the institutionalization of pre-session orientation, the use of bill deadlines and the increasing significance of interim committees should improve the legislative product further. Yet neither the general competence of Nevada's standing committees nor such recent changes bear directly on the committee's function as a communication center. How well do committee hearings serve the SET information needs of the representatives? Put more generally the question becomes:

> What questions do the committee and its members ask? To whom are communications addressed, and what kind of information is likely to be accepted and acted upon? What sorts of appeals and demands are addressed to the committee, to whom does it listen, and upon whom does it depend? Do these communications facilitate independent policy initiatives or do they predispose the group to some other role?[23]

Legislators in Nevada do not have personal staff. During session some members avail themselves of interns, undergraduate students from the University of Nevada, to perform certain routine, but necessary tasks. Standing committees, with the exception of the appropriation committees in each house, are staffed by professionals only on a limited, ad hoc basis. And while each member can seek assistance from the Legislative Counsel Bureau his performance in committee or on the floor is largely a matter of his own persistence, energy and personal resources. His ability to ask questions, develop testimony and synthesize information is fundamental to the success of the committee process.

During the seventies between eight and fourteen percent of all Nevada legislators have had some SET-related experience in their professional careers. Few of these are directly involved in SET-related matters on a regular basis. While approximately 60 percent of all legislators have at least a college degree, few have been trained in scientific or technical fields. These facts do not indicate Nevada's representatives are incapable or unwilling to cope with and evaluate SET information. Rather,

[23] Price, Who Makes the Laws?: Creativity and Power in Senate Committees, p. 22.

they suggest the members' abilities in dealing with facts, concepts and alternatives about SET-related matters may be somewhat limited. Working in unfamiliar conceptual terrain is liable to prove slow going. Experience and exposure should help. Over time most members are quite capable of becoming policy experts in any of the scientific or technical fields.

Unfortunately, the pattern of committee membership and chairmanships during the seventies has not been favorable to specialization in SET-related areas. Table 17 provides a rough summary of the turnover in each of the standing committees of the assembly and senate. In the assembly, Environment and Public Resources, Health and Welfare and Commerce are the committees most involved with SET-related matters. In the senate, the committees are Natural Resources, Human Resources and Facilities, and, to a lesser extent, Commerce. The continuity of membership in the assembly in these committees has been slight. No member has served more than two terms on the Environment and Public Resources Committee; only one member has served three terms on Health and Welfare; and only one member has served three terms in Commerce. The continuity here is greater than in committees such as Elections but much less than in committees such as Judiciary, Ways and Means or Transportation. The record in the senate is slightly better. Human Resources and Facilities has retained members throughout several sessions despite the changing nature of that committee since 1971. The continuity in Commerce and Natural Resources has been less impressive although Natural Resources has had one member sitting since 1971. But as in the assembly, the continuity of membership is much less for SET-related committees than for committees such as Federal, State and Local Government, Finance or Judiciary.

The turnover in SET-related committees is such that few members have the opportunity to acquire the experience and exposure necessary to compensate for their lack of training in SET-related fields. In fact, committees with high involvement in SET-related matters appear to serve as a training ground for legislators. A relatively high proportion of these committees' members will usually be first-term members of the house. After a brief stay, usually one session, these members move along to more important committees.

Of course, in a small legislature such as Nevada's, it is quite possible for members to share experiences and insights. The senate with only 20 members is itself smaller than the committees in many states. Rapid turnover in committees affords each member a broad perspective on the business of state government and may well help policymaking in general. It is difficult to see how it might help the communications function of individual committees. There is little specialization within the Nevada legislature on SET-related matters. Even committee chairmen in such areas change more often than not. These factors make it difficult for

Table 17.
Characteristics of Committee
Structure in Nevada Legislature

	Continuity (Holdovers/Total Members)				First-Term (First Termers/Total Members)			
Assembly:	1971	1973	1975	1977	1971	1973	1975	1977
AGRICULTURE	--	1/7	1/7	3/7	0/7	2/7	3/7	2/7
COMMERCE	--	2/9	2/9	3/9	0/9	3/9	4/9	0/9
EDUCATION	--	1/7	1/7	1/7	0/7	4/7	4/7	5/7
ELECTIONS	--	1/7	1/7	3/7	1/7	4/7	3/7	3/7
ENVIRONMENT AND PUBLIC RESOURCES	--	1/9	3/9	3/9	0/9	5/9	5/9	4/9
FISH AND GAME[1]	--	--	--	--	1/7	--	--	--
GOVERNMENT AFFAIRS	--	3/9	4/9	4/9	0/9	2/9	4/9	1/9
HEALTH AND WELFARE	--	0/7	1/9	1/9	0/9	5/7	3/9	3/9
JUDICIARY	--	4/9	3/9	6/9	1/9	5/9	4/9	1/9
LABOR AND MANAGEMENT	--	1/7	2/7	1/7	0/7	5/7	4/7	2/7
LEGISLATIVE FUNCTIONS	--	3/7	4/7	3/7	1/7	2/7	2/7	0/7
TAXATION	--	1/9	2/9	4/9	0/7	5/9	4/9	1/9
TRANSPORTATION	--	1/7	5/7	4/7	0/7	2/7	1/7	1/7
WAYS AND MEANS	--	5/9	4/9	5/11	1/11	1/9	1/9	3/11

[1]Ceased to exist in 1973

Table 17.

Continuity of Chairman

Assembly:	1971	1973	1975	1977
AGRICULTURE	--	no	yes	yes
COMMERCE	--	no	no	no
EDUCATION	--	no	no	no
ELECTIONS	--	no	yes	no
ENVIRONMENT AND PUBLIC RESOURCES	--	no	no	no
FISH AND GAME[1]	--	--	--	--
GOVERNMENT AFFAIRS	--	no	yes	no
HEALTH AND WELFARE	--	no	yes	no
JUDICIARY	--	no	no	yes
LABOR AND MANAGEMENT	--	no	yes	yes
LEGISLATIVE FUNCTIONS	--	no	no	no
TAXATION	--	no	yes	yes
TRANSPORTATION	--	no	yes	no
WAYS AND MEANS	--	no	yes	yes

[1]Ceased to exist in 1973

Table 17.

Continuity of Chairman

Senate:	1971	1973	1975	1977
COMMERCE [1]	----	no	no	no
LABOR [1]	----	----	----	----
ECOLOGY [2]	----	yes	yes	no
PUBLIC RESOURCES [2]	----	no	----	----
FEDERAL, STATE AND LOCAL GOVERNMENT [5]	----	yes	yes	yes
FINANCE	----	yes	yes	yes
EDUCATION [3]	----	no	no	----
HEALTH AND WELFARE [4]	----	yes	yes	no
STATE INSTITUTIONS [4]	----	----	----	----
JUDICIARY	----	no	yes	yes
LEGISLATIVE FUNCTIONS	----	no	yes	no
TAXATION	----	yes	yes	no
TRANSPORTATION	----	yes	yes	no

[1]Merged to became committee on Commerce and Labor in 1973
[2]Merged to became committee on Ecology and Public Resources in 1973;Environment and Public Resources in 1975; Natural Resources in 1977.
[3]Merged to became Human Resources and Facilities in 1977
[4]Merged to became Health, Welfare and State Institutions in 1973; Human Resources and Facilities in 1977
[5]Became Government Affairs in 1975

Table 17.

Senate:	Continuity (Holdovers/Total Members) 1971	1973	1975	1977	First-Term (First Termers/Total Members) 1971	1973	1975	1977
COMMERCE[1]		6/7	1/7	2/7	2/5	1/7	2/7	2/7
LABOR[1]		-	-	-	2/7	-	-	-
ECOLOGY[2]		5/7	4/7	2/7	3/7	3/7	2/7	1/6
PUBLIC RESOURCES[2]					0/7	-	-	-
FEDERAL, STATE AND LOCAL GOVERNMENT		6/7	3/7	5/7	2/7	0/7	4/7	1/7
FINANCE		4/7	6/7	3/7	0/7	1/7	0	0
EDUCATION[3]		3/7	3/7	-	3/7	3/7	3/7	-
HEALTH AND WELFARE[4]		5/7	4/7	3/6	1/5	2/7	3/7	2/6
STATE INSTITUTIONS[4]		-	-	-	1/5	-	-	-
JUDICIARY		5/7	4/7	5/7	3/7	1/7	3/7	1/6
LEGISLATIVE FUNCTIONS		3/7	5/7	3/7	2/5	2/7	0	0
TAXATION		4/7	4/7	1/7	0	1/7	1/7	1/6
TRANSPORTATION		4/7	5/7	2/7	1/7	3/7	2/7	3/7

[1]Merged to become committee on Commerce and Labor in 1973.
[2]Merged to become committee on Ecology and Public Resources in 1973; Environment and Public Resources in 1975; Natural Resources in 1977.
[3]Merged to become Human Resources and Facilities in 1977.
[4]Merged to become Health, Welfare and State Institutions in 1973; Human Resources and Facilities in 1977.

hearings to yield the type of in-depth appraisal of SET-related matters which the legislature deserves. But it may help account for the legislators' views of the worth of the hearings. If most members are indeed unfamiliar with SET-related matters, their appreciation of any SET information may be heightened. And committee hearings do provide SET information.

Committee hearings are perhaps the most prominent feature of legislative life. They make severe demands on each legislator. They are a focal point of lobbying activity. They allow legislators to hear, question, evaluate and challenge various perspectives. They convene for legislators' information on virtually every subject of legislative interest. H. Owen Porter has summarized well the dilemma this activity can create for a representative:

> Although he is not intentionally recruited to be expert in any area, he is expected to choose among alternatives in many areas, and he is often given little time to assemble relevant information. His ability to gather and evaluate that information is further limited by his own training and experience, whether or not he is full or part time, availability of staff and research facilities, and particularly by the limitations on human intellect and energy when faced with tasks of processing large amounts of information. In part the problem is to avoid inappropriate information while securing the discrete information needed to make rational decisions.[24]

In Nevada, legislators face all the problems cited by Porter. Committee hearings typically attract large numbers of people with all manner of qualifications. In any one meeting, several issues will be discussed; scores of witnesses heard. One important problem confronting each legislator is simply the differentiation of testimony according to its reliability and usefulness. It is not unusual to find quite contrary "facts" being presented in the same case by alternate witnesses. This can be a serious problem when the issue at hand is complex or replete with scientific technicalities.

Of course, experts do appear before committees in testimony on pending legislation. An extensive analysis of the minutes of the 1977 session revealed experts could be categorized into two types: state agency personnel and lobbyists. University personnel did not figure prominently in the vast majority of

[24] H. Owen Porter, "Legislative Experts and Outsiders: The Two-Step Flow of Communication," Journal of Politics, Vol. 36, p. 703, (August, 1974).

cases where SET information was being collected by standing committees. Only on occasion did the committees seek out specific expertise whose interests were not intimately connected with the legislation at issue. Legislators realize the information is not neutral. The committee process is designed to use adversary proceedings to draw out and develop various perspectives. But this process makes the presumption that the facts of the situation can be determined and evaluated. Oftentimes, SET-related matters turn on the perception of the facts. In cases such as the legalization of Laetrile or the expiration of water rights, it is the technical features of the discussion which must be evaluated. The adversary process requires additional help at this point. A greater diversity of views or a more facile understanding of the underlying complexities is necessary.

The committee process has another weakness when SET-related matters are at issue. Too frequently, the pace of legislative activity and the concern for action result in an over-emphasis on the direct effects of the legislation under consideration. The examination of committee activity during the 1977 session underscored this point. Most of the discussion around SET-related matters dealt with existing conditions and the direct effects of legislation to the exclusion of other considerations. Rarely did the discussion, testimony or questioning delve into the indirect effects of the legislation, consider the nature of supporting or competing technologies, examine the role of non-technical factors, mull over the irreversibility of impact or its immediacy and unavoidability, or even seriously instigate the search for alternatives. Some of these items are well understood by all the participants. Certainly in such issues as the removal of yucca and cacti or the requirement for water metering devices much of the legislative action was based on widely shared perceptions of irreversibility and the alternatives. But in many cases, such as restricting the taking of game with unidentified traps or proposals providing for additional testing of new born infants, the discussion featured largely irrelevant posturing by one witness after another. The ramifications of the legislation, its technical underpinning or forecasts as to its impact were largely missing.

The proceedings of standing committees are not immune to the logic of the legislature. It may be that the members of the committees know full well which pieces of legislation have enough support throughout both houses to warrant in-depth consideration of their attributes. Some legislation is sent to committee only that it might die there. And everyone knows it. It is unlikely that a substantial proportion of all the SET-related legislation considered in both houses was so designated in 1977. The failure of committees to develop fully the ramifications of legislation should not be traced to such causes. It has rather more to do with the structure of legislative activity, the effort made by

committees, the capacity of committees and the characteristics of the legislators. Of these only the capacity of committees to handle SET information can be readily improved.

Committee hearings and the Legislative Counsel Bureau provide valuable SET information to Nevada legislators. Each contributes greatly to the members' abilities to reach prudent decisions. But despite the members' own perceptions, neither appears particularly well suited to furnish SET information. The bureau lacks the personnel to supply SET information on the same basis and of the same quality it provides in other areas. Committee hearings offer the member alternatives but provide little means by which the untrained or inexperienced representative can evaluate information on technical subjects.

5. LEGISLATIVE ACQUISITION AND USE OF SET INFORMATION

Each legislator develops his own methods of acquiring information. Some are better than others. Each is slightly different. In general, though, information dissemination and utilization strategies can be analyzed in terms of the following questions:

1. Who is initiating or providing the information?
2. To whom is the information being sent?
3. What does the information concern?
4. When is the information received?
5. Where does the communication occur?
6. How is the message communicated?
7. Why does the communication take place?
8. To what effect does the exchange transpire?
9. At what cost is the exchange completed?[25]

The answer to each of these questions can depend on a number of factors. For legislators, the overarching factor is the legislative context itself. It sets the parameters which, in large measure, condition their acquisition and use of information of any sort, and of SET information in particular. Necessarily, it also conditions the feasibility of mechanisms which might be used to enhance SET information gathering within the legislature.

Some of the forces working on legislators, affecting SET information, have already been mentioned. The rhythm of legislative activity and the demands which rise and fall throughout the biennium unevenly distribute every representative's time for reflection and study. The slack appears during interim. Interim study committees give members the chance to gain in-depth knowledge on relatively narrow subjects. They create the opportunity for members to overcome their deficiencies in training or experience and to become expert in such diverse areas as geothermal assessment and taxation, electric and gas utilities or medical malpractice. The lull of interim gives members the chance to make requests of the Legislative Counsel Bureau without the press of pending legislation. Members have an opportunity to read prepared background papers or do personal research. Most of these opportunities disappear with session. In short, the pace of activity which accompanies the legislative

[25] Modified from the scheme presented in Ronald Havelock, et al., Knowledge Utilization and Dissemination: A Bibliography, p. ix.

cycle helps determine how information is communicated, where members receive information, with whom they communicate and why they need it. Other factors such as the division of labor within the legislature, the capacity of the reference service, the structure of committee hearings, and the skill and experience of the members themselves condition the information process as well. Their effects on the manner in which SET information needs are met have already been examined.

There are three additional factors which have a systematic impact on the acquisition and use of SET information in the Nevada legislature. First, there is the motivation of the legislators themselves as it is structured by the legislative context. Namely, what effect does the legislative setting and its demands have on the criteria legislators establish in their selection of information sources? Why do they use one source of SET information as opposed to another? Second, information-gathering activities are but one aspect of legislative concern. SET information forms just a portion of the overall information requirements of the legislature. How does this factor constrain the enhancement of SET information acquisition activities? At what cost to the overall legislative effort is SET information brought to bear on pending legislation or provided to legislators? Third, given that in large measure the Nevada legislature must draw upon the SET resources within the state, how do the character and quantity of SET resources within the state affect the provision of SET information to the state legislature? These are the questions to be examined in this section. They condition the feasibility and shape of alternative SET information-gathering mechanisms for the Nevada legislature.

The Attraction of Various SET Information Sources

Why do Nevada's legislators rely more on one source of SET information than another? All things being equal, the search for information should turn on the quality and usefulness of that information. But within the legislative milieu other features become important. Legislators come to depend on those sources of information which help resolve the difficulties of legislative life. The pattern of their reliance reflects needs other than those filled by the substance of the information. Table 16 represents the preferences of legislators for various SET information sources. Committee hearings, the Legislative Counsel Bureau, interested parties and public interest groups scored highest in the legislators' esteem. Why?

Each legislator was asked to indicate those attributes which, he felt, contributed to the special usefulness of a source providing SET information. In Table 18 these opinions are

shown for the four sources most frequently identified by members as important in offering SET information.[26] These opinions provide insight into the factors legislators value in the information sources they use. They help establish necessary elements of any information system which hopes to be used by legislators.

Examine Table 18. The various sources are valued, to a great extent, for different reasons. Committee hearings are favored as sources which identify alternatives, identify costs and benefits, point toward future trends and problems, remain accessible and are convenient to use. The Legislative Counsel Bureau rates highly in the opinion of members on almost every point. It is generally thought to be weak only in identifying future trends, in revealing the indirect effects of legislation and in its value as a politically sensitive source. Members generally recognize that the non-partisan agency is unable to give political advice. Representatives view interested parties as useful sources of SET information on the benefits and costs associated with an issue. There is general regard for their convenience as SET information sources and for the factual information they provide. In this respect they resemble public interest groups. But public interest groups are viewed slightly different than interested parties. They are more accessible than interested parties in the eyes of most members and they are more useful in offering an indication of future trends and problems.

The figures in Table 18 are not surprising. They summarize in a more comprehensive fashion the conventional wisdom on such matters in Nevada. Certainly no one has claimed that committee hearings are thorough, concise or even particularly good factual sources of information. And the Legislative Counsel Bureau hardly has the personnel or the resources to provide analyses which can identify future trends or the indirect effects of most legislation. Yet the figures are remarkable in one aspect. They fix upon those particular features which members value most. Amidst the differences among sources some commonalities can be seen. They can be seen best in Table 19 which presents each legislator's views on the features which make his most important sources of SET information particularly valuable. Looking for a moment only at the total figures for all the ranked sources, two factors stand out. Members cite accessibility and convenience as the most important factors bearing on their use of these SET information sources. These factors are important in the use of each of the most important information sources

[26] This list is restricted to these sources primarily because the number of members identifying others was too small to justify confidence in the results. As it is, Table 18 uses one group for which only 11 members are represented.

TABLE 18.
Percent of Members Citing Attribute As Reason Behind Special Usefulness of Particular Source of SET Information

Attribute	SET Information Source				
	Committee Hearings	Legislative Counsel Bureau	Interested Parties	Public Interest Groups	Lobbyists[1]
a. Identifies Alternatives	69	57	31	36	33
b. Identifies both Benefits and Costs	62	50	44	18	33
c. Identifies Future Trends and Problems	42	29	38	55	44
d. Identifies Indirect Effects	35	25	38	27	33
e. Is Accessible	46	78	38	55	44
f. Is Thorough	8	64	6	18	11
g. Is Politically Sensitive	19	29	38	27	33
h. Is Reliable	23	75	31	27	30
i. Is Convenient to Use	42	65	44	45	44
j. Provides Concise Information	15	68	6	9	7
k. Provides Factual Information	19	79	44	45	44
l. Provides Quick Response	31	57	38	27	33
m. Provides Understandable Information	50	61	38	36	37
	N = 26	N = 28	N = 16	N = 11	N = 27

[1] This represents the combined total of "Interested Parties" and "Public Interest Groups"

TABLE 19.
Percent of Legislators Indicating the Importance of
Various Attributes in the Use of SET Information Sources

	Importance for Sources Ranked 1	2	3	4	Total for All Ranks
A. Identifies Alternatives	53	44	40	61	49
B. Identifies Both Benefits and Costs	58	44	37	45	46
C. Identifies Future Trends and Problems	50	36	51	48	46
D. Identifies Indirect Effects	28	31	29	26	29
E. Is Accessible	72	53	54	52	58
F. Is Thorough	42	25	20	35	30
G. Is Politically Sensitive	33	22	48	13	30
H. Is Reliable	53	44	20	48	41
I. Is Convenient to Use	64	47	48	48	52
J. Provides Concise Information	42	28	23	45	34
K. Provides Factual Information	50	61	32	55	49
L. Provides Quick Response	44	44	23	29	38
M. Provides Understandable Information	64	42	43	39	47
	N = 36	N = 36	N = 35	N = 31	N = 138

identified by the legislators. They may help account for the general importance accorded the Legislative Counsel Bureau.

There is slightly less accord among members on the other factors which make important SET information sources valuable. But the identification of alternatives, the provision of factual and understandable information, the identification of benefits and costs, and the identification of future trends are generally associated with the legislators' more important information sources. Several features of such information sources were not associated with their use. Less than a third of all legislators responding believed important SET information sources identified the indirect effects of legislation, provided thorough SET information or was politically sensitive.

Legislators rely on information sources for a number of reasons. Generally speaking, however, an information source must be accessible and convenient. Any mechanisms designed to improve the acquisition of SET information in Nevada will have to meet these criteria. In addition, though, there is a need for SET information sources in Nevada which complement the mechanisms already in place. There is particular need for a mechanism which will have the capacity to provide members with a catalog of the indirect effects of pending legislation.

The Overall Information Effort in Nevada

In 1971 The Citizens' Conference on State Legislatures ranked Nevada as the nineteenth best informed legislature in the nation. This was done primarily on the basis of the legislature's capability to handle fiscal information.[27] Nonetheless, it is indicative of the type of effort a legislature representing approximately 700,000 people has put into structuring itself as an effective institution. Yet because Nevada is one of the "smaller, less developed states" the resources and revenues it can apply toward the legislature's information-gathering activities will remain relatively small.[28]

Nevada's staff offices offer a full range of services: reference facilities, bill drafting, statute revision, bill summaries, administrative management, fiscal review, research analysis, policy analysis, public information, committee staffing.[29]

[27] The Citizens' Conference on State Legislatures, op. cit. p.40.

[28] The Citizens' Conference on State Legislatures, Ibid. p.238.

[29] Council of State Governments, The American State Legislatures: Their Structures and Procedures, Table 3.9.

The range of their efforts compares well with all other states. A new data processing system will provide for statutory retrieval, bill drafting, and photo composition using a system similar to New York's. It is the depth of these efforts which is limited in Nevada. Nevada's legislature cannot tackle the same sorts of information-gathering tasks as New York or California. Despite the sensible smallness of the legislature, committees cannot be staffed by full-time professionals on any basis other than ad hoc. The Legislative Counsel Bureau does not have the personnel to undertake performance auditing of the state agencies. Individual members do not have personal staff; at best, most members will be assigned an upperclassman or graduate student as an intern for the duration of the session. These students of business, political science, public administration or law serve for a semester. The Research Division of the Legislative Counsel Bureau has taken on interns to augment its staff, but these, too, have lasted for only the length of a session.

It is in the context of the total information gathering effort of the legislature that those interested in SET information must be directed. While Nevada's need for SET information may be similar in proportion to those of other states, the absolute character of this need and the capacity that can be summoned to meet it are not. As an example, consider that the proportion of all legislation pending before the legislature dealing with SET-related matters approximates 20 percent. If research personnel were allocated in proportion to this need, then one out of every five researchers should have a SET background. Unfortunately, in 1978 there are only 3 researchers. The moral is clear. The information-gathering mechanisms of the Nevada legislature cannot be specialized. A critical mass of resources is missing.

This is the recognition which stands behing the present institutional structure of the Nevada legislature. It employs a central reference service staffed with generalists. They are expected to handle issues as they appear. They are armed with general methodological skills and act as brokers for information which stands beyond their competence. SET information is treated no differently in this content. Nor can it afford to be. Although the Research Division takes twice as long handling legislative requests in SET-related matters, this additional time, were it converted into dollars per unit of information, would still not be commensurate with the cost of additional personnel. Whatever the need for SET information, the institutionalization of specialized acquisition mechanisms within the legislature must confront the overwhelming realities of the total information needs of the legislature.

The Available SET Resources

According to one estimate, Nevada has fewer scientists and engineers than any state in the Union.[30] There were approximately 2700 scientists and engineers in the state in 1974. Of these, 1500 were scientists and 1200 were engineers. Table 20 shows the per capita percentage of scientists and engineers of the 13 western states. Here Nevada is significantly below the average for the region and well below the national average.

A national sample of scientists and engineers gathered by the National Science Foundation found that approximately 63 percent of the scientists and engineers working in Nevada received some form of federal support.[31] However, most of those in the sample were not employed directly by the Federal Government. Rather they worked in businesses or universities benefiting from federal funds.

If the sample of scientists and engineers, some 2700 in all, can be taken as representative of all those working in Nevada, then SET personnel in Nevada are concentrated in the two major urban areas, Las Vegas and Reno. Las Vegas employs about 55 percent of all the state's scientists and engineers; Reno has about 37 percent. Most of Las Vegas' scientists and engineers work in business and industry, although a sizeable portion work in state and local government.[32] In Reno the numbers employed in business and industry, educational institutions, the Federal Government and state and local government are about equal. The scientists and engineers in Reno are engaged in research and development activities to a much greater degree than their colleagues in Las Vegas.[33] A large number of the scientists and engineers in Las Vegas are managing and administering programs. Thus, they are more removed from the work for which they were originally trained than the scientists and engineers in Reno.[34]

Nevada is a rapidly growing state. The mix and numbers of scientific and technical personnel in the state may well have changed since 1974. Yet the nature of Nevada's economy and the

30 National Science Foundation, U.S. Scientists and Engineers, 1974, NSF 76-329, Sept. 1976, Table B-9.

31 National Science Foundation, Characteristics of the National Sample of Scientists and Engineers, 1974, Part 3, Geographic, NSF 76-330, December 1976, Table B-3.

32 Ibid, Table B-5.

33 Ibid, Table B-6.

34 The estimates used in these paragraphs include social scientists such as anthropologists and sociologists. Thus the estimates should be higher than might have been expected had the definition developed in Section 1 of this study been used.

TABLE 20.

Number of Scientists and Engineers per Capita for Western States, 1974.
(per 10,000 population)

State	Number
United States, total	93
Alaska	95
Arizona	83
California	116
Colorado	124
Hawaii	82
Idaho	88
Montana	62
Nevada	47
New Mexico	114
Oregon	76
Utah	85
Washington	115
Wyoming	120

Sources:

1. NSF, U.S. Scientists and Engineers, 1974, NSF 76-329, Sept. 1976, Table B-9
2. U.S. Department of Commerce, Statistical Abstract of the United States, 1977, 98th ed., Bureau of the Census, 1977, p. 11, Table No. 10. State Population 1974.

sources of its growth are not likely to have affected the picture greatly. Nevada's economy is based on service; its manufacturing component is relatively small. The SET community within the state remains small. This has important ramifications for the ability of the legislature to acquire and use SET information.

Because the SET community is relatively small and quite concentrated, the legislature should have an easier time than many other state legislatures in identifying and drawing upon those resources that do exist within the state. Yet the sheer size and character of the scientific and technical community present obstacles to this use.

A large number of scientific and technical specialities are represented among the SET personnel in Nevada. The mix is quite diverse. But it necessarily is not as rich as in Nevada's neighbors, especially California. This means many problems cannot be tackled with the existing expertise of the state. Moreover, it means that even in those areas where expertise does exist the wealth of talent is not as fulsome. Numbers alone work against the legislature's acquisition of the SET information it needs. But numbers can be made to work for the legislature in another sense. The size of the state, the extent of the SET community increases the possibilities that legislators can meaningfully interact with the technical people in the state. It offers SET researchers, who often have the reputation of being apolitical or politically unaware, the opportunity to acquire political knowledge and the sense of political efficacy necessary for their participation in the legislative process. But these advantages must be developed. And regardless of how developed they become, Nevada will never have the SET resources that many of its neighbors have.

Summary

By most measures, Nevada's legislature needs more scientific and technical information. The need is greatest in a few areas such as energy, environment and health, but increasingly more legislation of all sorts requires technical expertise. Neither the legislators themselves nor the information institutions they have come to rely upon are properly equipped to handle this growing need. New ways of bringing SET information into the legislative arena must be developed as Nevada's population and problems grow. These methods must be tailored to the conditions which obtain in the legislature and within the state generally. They must complement the overall information efforts of the legislature and enhance its ability to draw upon the scientific and technical resources open to it.

6. ALTERNATIVE SET INFORMATION ACQUISITION AND USE MECHANISMS

The rhythm of the legislative cycle scores the acquisition and use of information by the legislature. In large measure, that rhythm determines who legislators talk to, why certain information sources are used, what sorts of information are needed, how information is exchanged, and what effect the information may have. For convenience the legislative cycle can be broken into two parts: session and interim.[35] The information system each legislator uses can similarly be simplified by considering just two of its features: its acquisition features and its qualitative aspects. Examine Figure 3.

	Acquisition Features	Qualitative Aspects
Session	High	Low
Interim	Low	High

Figure 3. Information Priorities During the Legislative Cycle.

During session, acquisition of information must take priority over considerations as to its quality. Decisions must be made; legislators must truncate their research for the best information and use that information which is accessible and convenient to obtain. During interim, legislators can extend their search. Diverse sorts of information and in-depth analysis are possible. It is not imperative that the information be had immediately. The qualitative aspects of information become more important than their mere acquisition.

The means by which SET information is brought into the legislative arena must relate to this basic tendency. How information is convened is governed by when it is to be used precisely because it determines the who, what, to whom, and to what effect of the legislative information process. Acquisition mechanisms are least important for the interim when the opportunities for search

[35] This dichotomy simply catches the major periods of information activity. It ignores the demands of running for office, presession activity and the demands of serving on multiple interim committees.

are the greatest. They are most important during the session. Then the means by which information is obtained can be crucial. It can determine the quality of the information upon which policy decisions are made. The need for new SET acquisition mechanisms is shaped by this realization. New methods must be geared to enhance the members' acquisition and use of SET information during session.

There are three points at which alternative SET information systems can be aimed. They are (1) the members themselves, (2) the legislative institutions, primarily the Legislative Counsel Bureau, and (3) the legislative committees. Each of these has been featured in the analysis thus far. Their weaknesses are different. The sorts of remedies applied to each would necessarily be different. Legislators need background in and exposure to SET information; the Legislative Counsel Bureau needs a greater capacity to handle SET information or to obtain it from sources throughout the state; committee hearings require a greater diversity and better quality of SET testimony. These needs are important. At the same time these needs must be balanced against the overall information needs of the Nevada legislature and against the legislative context in which they occur. The methods by which SET information is acquired cannot be so specilized or so massive as to compromise the efforts in which the Nevada legislature is already engaged.

There are numerous ways to enhance the Nevada legislature's acquisition and use of scientific and technical information. In this section I will list those alternatives which appear most in keeping with the general principles detailed above. The alternatives reflect the experience of other states modified by the findings presented in this report on the Nevada Legislature. This is <u>not</u> a list of recommendations but rather a list of alternatives designed to paint the spectrum of actions which the legislature might consider. The recommendations of this study will be presented in a later chapter.

Sets of Alternatives

1. Alternatives for Informing Individual Legislators on SET Matters: Providing Background

   a. Tutorials for Individual Legislators

      Mini-courses available for individual subscription in which legislators receive instruction in scientific and technical matters by general topical subject matter.

b. Seminars/Workshops Involving Small Numbers of Legislators

Periodic briefings and discussion sessions in which members of appropriate committees meet with members of the scientific and technical community on matters of legislative concern.

c. Conferences

(1) Conferences sponsored by the legislature in which large numbers of legislators receive thematic, topical presentations on matters of legislative concern by members of the scientific and technical community at predetermined intervals throughout the interim.

(2) University run conferences in which selected members of the academic community engage in interactive meetings with legislators and their staff over SET matters identified as important within the academic community.

d. Professional Society Cooperation

Cooperation with the several SET professional societies throughout Nevada in order to facilitate interaction with the legislature leading to:

(a) Legislator involvement in the discussions of local chapters,
(b) Studies of legislative interest performed by members at legislative request,
(c) Submission of selected pending legislation to local chapters for assistance in eliciting SET testimony at committee hearings,
(d) Symposia involving various professional societies and legislators in day-long conferences on matters of mutual concern.

e. Field Trips Within the State

Field trips conducted for members of SET committees by SET personnel in order to provide members with both a first-hand perspective and well-rounded consideration of the situation of concern.

2. Alternatives for Informing Legislators on SET Matters: Inquiry Mechanisms

a. Task Forces

Places legislators alongside SET professionals and knowledgeable citizens to develop recommendations for managing a particular problem.

b. Interim Committees

Provide a means of considering a topical issue or area of legislative concern in some depth during the interim. Its participants consist primarily of legislators, coming from both houses, but in special instances, SET professionals and citizens can be included.

c. Joint Legislative Scientific Advisory Committee

Provides a formal means of involving SET professionals in the legislative process by commissioning the review of pending legislation with SET elements by a part-time, volunteer committee of appointed SET professionals from various disciplines.

3. Alternatives for Increasing the Capacity of the Legislative Counsel Bureau: In-House Mechanisms

a. Resource and Information Directory System

A means whereby experts and SET information sources throughout the state and region can be referenced and contacted by members of the Legislative Counsel Bureau.

b. Intern Program Designed Solely for the Session

A complement to the present intern program in which one or two interns with SET background are added to the research division for the duration of the biennial session.

c. A Continuing Internship Program

An extension of the intern activities currently featured only during session in which individuals with a SET background would serve in the counsel bureau over the entire biennium.

d. One Area Expertise

An enhancement of Legislative Counsel Bureau expertise in a single area of pressing SET concern.

e. Enhancement of Research Division

An addition of a researcher with SET background to Research Division as part of the generalist staff.

4. Alternatives for Increasing the Capacity of the Legislative Counsel Bureau: Interfacing Mechanisms

a. Use of the State Science Adviser

Reliance upon the State Science Adviser as a focal point for scientific and technical inquiries by the Legislative Counsel Bureau in accord with section 3, S.B. 197, Chap. 486, Statutes of Nevada, 1977.

b. Expanded Cooperation with the Executive Branch

Use of executive branch resources and findings as brokered through the office of the State Science Adviser or the State Planning Coordinator.

c. Enhanced State Library Facilities

Addition of a reference librarian to State Library with primary expertise in scientific and technical information.

d. Expanded SET Network Participation by Legislative Counsel Bureau

Reliance of LCB, Research Division, on the networking of Scientific and Technical information produced in other states or by the federal government and disseminated in such networks as the National Technical Service, the Smithsonian Science Information Exchange, The Model Interstate Scientific and Technical Information Clearinghouse, The Legislative Information System, or the National Referral Center.

e. Greater University Cooperation

(1) Creation and dissemination to the Legislative Counsel Bureau and appropriate executive agencies of a loose-leaf retrieval system to identify current research projects and faculty experts by policy area. (cf: Resource and Information Directory System)

(2) Encouragement of faculty leave for service with legislative committees or Legislative Counsel Bureau.

(3) Restructuring of university guidelines for faculty reappointment and tenure to reflect the significance of state oriented policy research.

(4) Increase of organized research funds for universities with the provision that a specified proportion be allocated to state-oriented policy research.

(5) Publication and dissemination of a handbook for faculty members on meaningful participation in the legislative process.

(6) Creation within the university system of an office of public service programs to encourage state-oriented policy research and to act as liaison with LCB and the State Science Adviser in acquiring policy expertise for matters of legislative concern.

(7) Authorization and appropriation for a state policy seminar in which a subcommittee of legislators would fund research proposals from members of the university system on matters of legislative interest.

5. Alternatives for Increasing Information Diversity and Quality at Committee Hearings: Encouraging Diversity

a. Allocation for Honoraria and Expenses in the Case of Expert Testimony

Would create a small pool of funds in each house to be used with the authorization of committee chairmen and house leadership to encourage the use of expert testimony without the necessity of concurrent resolutions.

b. Expert Consulting Funds

Commissioning short-term consulting experts to provide systematic and comprehensive sets of policy alternatives for use in guiding subsequent committee testimony and soliciting similar information from different witnesses.

c. Publication and Notification System

Providing systematic and extensive notice concerning legislative activities during session through use of a public notification system using selected newspapers throughout the state.

d. Announcement and Invitation System

Providing committee chairmen with a more comprehensive list of parties interested in and expert on matters on which public comment had been solicited.

6. Alternatives for Increasing Information Diversity and Quality in Committee Hearings: Encouraging the Quality of Discussion

a. See 5.a.

b. See 5.b.

c. Staffing Pertinent Committees with SET Interns

Would complement the present session staffing arrangement by assigning individuals with SET background to those chairmen whose committees were most involved in SET legislation.

d. Staff Workups on Alternatives and Their Effects

Would provide chairmen and committee members with a worksheet on complex or unfamiliar SET matters detailing the most prominent policy alternatives and their effects as featured in national discussions of the issue at hand. This would provide a common basis on which to conduct the adversary proceedings with respect to each witness giving testimonv.

e. Legislative Review of Federally Mandated Documents

Would provide for a formal, systematic review of documents in SET areas published by state agencies and localities in compliance with federal reporting requirements.

Evaluating the Alternatives

Considered in isolation, each of the alternatives has merit. Many have been implemented in other states. But as serious candidates for improving the SET information acquisition and utilization capabilities of the Nevada legislature, each must compete against numerous other proposals for the attention of representatives and the resources of the state. The advantages and disadvantages of each proposal deserve to be weighed extensively. It is possible to consider each alternative, to rate it on a number of criteria and to arrive at a detailed understanding of its worth (see Appendix F for such an evaluation schedule). But it is infeasible to conduct such an analysis in the absence of legislative involvement. Ultimately it is the legislators themselves who evaluate and implement the alternatives. Their own analytical and political judgements must be brought to bear on the relative merits of each alternative. Failing such legislative involvement, it is possible nonetheless to sketch the apparent advantages and disadvantages of each alternative. Such sketches, while hardly a substitute for the exchange of views among legislators, will describe many of the features attendent to each alternative. In the absence of specific implementation strategies, they will provide some notion of the costs associated with each.

In the next few pages, I lay out the pros and cons associated with each alternative. I have tried to be as specific as the general idea underlying each alternative would allow. Quite consciously I have avoided becoming so specific as to prejudice the case against a given option when the conditions or modifications under which it might be implemented are not known.

1a. Tutorials

Pro: Tutorials would provide direct, individual attention to a legislator's scientific and technical information needs. They could be tailored to different levels of understanding and could combine the features of a correspondence course with those of individualized instruction. Within the University of Nevada system, the Division of Extended Programs and Continuing Education might serve as the facilitator for what would in the long run be relatively inexpensive offerings.

Con: Tutorials, unless conducted solely on a one-to-one basis would demand considerable attention from each participating legislator. Time intensive, they could easily entail considerable development costs so as to become suitable vehicles for legislator use. Current tutorials offered at the

university would have to be adapted for legislative use if they were to fit successfully into the severe time constraints placed on each citizen legislator.

1b. Seminars/workshops involving small numbers of legislators

Pro: Periodic briefings of members involved in framing SET legislation by individuals in the SET community could be used to provide in-depth consideration on a face-to-face basis. Their brevity, focus and convenience augur for their usefulness to legislators. In addition, quarterly briefings with small groups of legislators relying upon the physical and personnel resources of the University of Nevada system would be relatively inexpensive. A preliminary estimate of costs for 4 seminars/workshops per year in which legislative involvement approaches 15 members per meeting is $10,000.

Con: Seminars and workshops require considerable coordination and development costs. While such costs could be apportioned through user fees, any coordinating body outside the legislature, such as the University of Nevada Division of Extended Programs and Continuing Education, would have to be funded on a continuing basis. Because only a few topics could be considered each year, some means of choosing them must be concluded. Any means is likely to involve money and legislators' time.

1c. Conferences

Pro: Conferences provide an excellent means of disseminating information from a great many different sources to a large number of legislators. They would provide an excellent opportunity for most legislators to meet and interact with members of the SET community within the state. Unlike smaller seminars or workshops, all members would share a common experience and set of information in a particular SET area. And since conferences concentrate information and require little independent study, their demands on legislators are relatively small.

Con: Conferences can be quite expensive. One in which most members participated and were compensated in typical fashion could exceed $10,000 once travel and administrative costs were calculated. As with seminars, workshops and tutorials, the benefits

of most conferences are indirect. Unlike regional conferences in which interested legislators currently participate, involvement by many legislators need not bring a proportionate gain in the benefits derived. Large conferences, in state, might well include more legislators than could be merited by their interest or personal benefit. Finally, conferences entail coordination tasks which would severely strain the capabilities of the LCB if conducted on a periodic basis. And while the University of Nevada system has excellent facilities and staff for handling conferences, moving coordination outside the legislature would probably increase the cost.

1d. Professional Society Cooperation

Pro: In several states, groups of professional societies have worked together to increase legislative awareness of and knowledge about pressing SET issues. Such cooperation between societies and the legislature brings together in a coordinated fashion an extensive range of expertise offering both diversity of opinion and perspective. Society cooperation can be utilized to sponsor conferences and to act as focal points for legislative inquiry on SET matters. It can help defray the expense of topical conferences and decrease the burden on legislative staff. Finally, such cooperation fosters legislative trust in the SET community and can provide carry-over possibilities into legislative initiatives ranging as far afield as industrial development.

Con: While Nevada has numerous professional society members, local chapters are not nearly as numerous or as active as in many states. Both these factors mitigate the possibilities of mobilizing state SET resources in this fashion. At present, the only governmental entity with the capacity to act as liaison with such societies is the state science adviser, an as yet nascent office. The Legislative Counsel Bureau has neither the staff nor the support with which to engage in a prolonged effort of coordination.

1e. Field Trips within the State

Pro: Field trips offer legislators first-hand, intimate exposure to state problems. In the hands of skillful scientific and technical personnel such trips could combine the interactive advantages of seminars with the experimental rewards of participation. An

institutionalized procedure for participating in such trips would provide committee members with invaluable background knowledge. Such trips can be made relatively inexpensive through use of agency personnel and equipment located throughout the state.

Con: Field trips can degenerate into excursions without careful planning, sufficient coordination, and the proper personnel. They require considerable effort to be successful for a return which is intangible. Aiming such trips at committee members, while not without some carry-over value, may be of little worth given the rapid turnover of committee membership on those committees most concerned with SET matters. Finally, establishment of an institutionalized, regular pattern of field trips might lead to misuse. Ad hoc trips, arranged with the authorization of the legislature or the legislative commission would provide sufficient flexibility together with ample accountability.

2a. Task Forces

Pro: Task forces are a common feature of state life. Governor's task forces have investigated several problems within the state. So there is a wealth of experience with this mode of information acquisition. Among its prime assets is the focus it is able to develop. Each legislator and the SET professionals participating develop a common outlook on the nature of the problem(s) under examination. In this sense, individualized information needs are met. Moreover, because task forces typically convene hearings and take testimony, they resemble the setting of legislative decisionmaking and allow for an adversary relationship in which most legislators are likely to be comfortable. This form of inquiry requires relatively little of each legislator's time.

Con: Increasingly, task forces are becoming expensive ways to develop recommendations to which no one listens. This problem has many roots not the least of which lies in the constitution of such inquiries. Because task forces typically involve small numbers of participants, their usefulness as a general information acquisition tool is limited. The transitory aspect to task forces helps diffuse their impact. And more often than not, task forces are vehicles for deflecting action on a problem by placing that problem in the hands of a study group. Finally, task forces

rely heavily on the ability of a leadership group or individual to direct and coordinate activities. Thus the final effectiveness of a study task force will often depend on the qualities of a single individual. If professional direction is enlisted, task forces can indeed become quite expensive.

2b. Interim Committees

Pro: Similar to task forces, interim committees are convened on an ad hoc basis. Unlike task forces, interim committees have become an important part of interim activity. They constitute a prime means of acquiring in-depth information on selected subjects. Involving, as they do, members from both houses, interim committees insure limited information exposure by all elements of the legislative process. Moreover, interim committees have proved to be relatively inexpensive with a typical study amounting to less than $5,000.

Con: Interim committees convene testimony. For those committees without associated SET expertise, the adversary process may not cover problems in a systematic and comprehensive fashion. Present staffing arrangements bring little SET expertise to bear on complex issues. Thus the SET experience of such committees is fashioned, in large measure, by the quality and diversity of the witness called. This places a substantial burden on the manner in which testimony is convened. Interim committees also suffer from the motives behind their creation. Involving just a few legislators, their recommendations can acquire a personal tinge which impedes their progress in the legislature as a whole.

2c. Joint Legislative Scientific Advisory Committee

Pro: Cooperation and involvement with the SET community can be facilitated on a permanent basis through use of an advisory body attached to the legislature and working with the leadership. Such a body can draw its members from the university community, business and special interest groups. It can make scientific and technical advice readily accessible to legislators and their committees. It can help free the legislature from a reliance on the information generated in the executive branch or by lobbyists. It can provide quick answers to technical questions both during session and interim. It can help create a climate of understanding in diverse parts of the

SET community of the nature, limitations and possibilities of the legislative process.

Con: Advisory committees may be relatively inexpensive. Yet the use of part-time volunteer assistance exacts its own price. Reliability, thoroughness, accessibility, convenience, and response time are likely to suffer under such conditions. Unless leadership is willing to serve as coordinator and offer institutional support, such a committee will divert resources from other functions with the Legislative Counsel Bureau. The pace of session activity is likely to impact severely on such an advisory board. And unless legislators do find it both helpful and convenient, they are unlikely to use on a regular basis whatever resources it produces.

3a. Resource and Information Directory System

Pro: A list of many of the SET resources throughout the state and in the region would provide LCB, and especially the Research Division, with a more substantial capability for dealing with legislative requests in SET matters. Such a system would be relatively easy to use and maintain. It would provide a more systematic means of convening testimony for hearings and interim committees.

Con: The effective life of such a list is short unless used and maintained. Use depends in large measure on its convenience and helpfulness. Maintenance requires that some individual be charged with its upkeep. Both factors require funding. While a computerized list will run approximately $250 per year, the personnel costs associated with its upkeep could exceed $500. Moreover, if the list were to be made truly accessible it might involve enhancement of present Research Division word processing facilities or piggy-backing on other browse facilities within the LCB. This would involve slightly more expense. The worth of these costs must be judged in terms of the ability of current LCB staff and interest in and familiarity with the types of SET information residing in the system. At present, these capabilities appear marginal.

3b. Internship Program Designed Solely for the Session

Pro: Currently, the Research Division of LCB offers internship opportunities to two graduate students in the Public Administration Program at the University

of Nevada, Reno. Interns with a scientific or technical background would offer a relatively inexpensive means of increasing the access of legislators to SET information. Such interns would require little additional support capabilities and could be used to staff committees heavily involved in SET matters.

Con: Interns are always an uncertain investment. Their quality, motivation and competence are determined in the process of becoming familiar with the legislative setting. Public administration interns have considerable incentive to perform well. The incentives for SET interns are less clear. For SET graduate students, it is especially uncertain that their participation will be forthcoming, and that they will quickly fit into the legislative routine. If graduate students are likely to be difficult to obtain (especially if they are not compensated well), undergraduates may not have been sufficiently trained in SET matters to make a meaningful contribution. Monitoring the quality of intern response to legislative inquiries would be extremely difficult to do in the absence of some professional expertise. This places a heavy burden on the direction of such interns by the university faculty and may cost LCB research staff substantial coordination time during session.

3c. A Continuing Internship Program

Pro: A continuing internship program housed in the Research Division would give the division the capacity to produce better responses more quickly to legislators' inquiries. If funded at moderate levels, it would provide relatively inexpensive expertise throughout the entire legislative cycle. A figure of $6,000 per year is not unreasonable. It would represent an important means of tying the LCB into the university SET community.

Con: The same problems affecting the session interns would exist in the continuing program unless the association of the intern in the LCB was itself lengthened. Longer time commitments might impact more severely on the recruitment difficulties mentioned earlier.

3d. One Area Expertise

Pro: Should the legislature see the need, an addition to the Legislative Counsel Bureau could be made with the purpose of providing nonpartisan information retrieval, argumentation and analyses in a single area of SET

concern. This would provide in-depth, careful attention to a specific set of problems. It would facilitate legislative attempts to implement others of these alternatives by providing a means of coordination. It would also provide, in the legislature, a focus for statewide input into the SET concerns of the legislature and offer a site for legislative liaison with the executive branch and the state science adviser.

Con: A single SET professional would be too costly and too narrowly defined to work well within the current LCB administrative organization. Since SET legislation represents less than a quarter of the total workload, concentrating resources in a single direction does not appear a prudent use of funds unless the legislature embarks on several thrusts in the scientific and technical areas.

3e. Enhancement of the Research Division

Pro: Professional positions throughout the Legislative Counsel Bureau demand a generalist orientation. Resources constrain specialization. Addition of a researcher with a broad scientific and technical background together with more general research skills would provide the Research Division with a diversity consonant to its comprehensive mandate. Working part-time with SET matters, an additional researcher might complement the growing research function within the Legislative Counsel Bureau and could serve as facilitator and liaison to the broader SET community throughout the state.

Con: Additional staff personnel are costly. A single researcher together with support will increase LCB expenditures by approximately $25,000. As a generalist within the Research Division, strong incentives exist to engage in a continuation of Research Division tasks to the exclusion of SET matters. Thus the SET gains represented by such an individual might prove to be illusionary over the long run.

4a. Use of the State Science Adviser

Pro: Section 3, Chapter 486, Statutes of Nevada 1977, lists several functions for the state science adviser. Among these are included: (item 2) "Develop programs of cooperation on matters of science and technology among governmental agencies, educational institutions and business and industry in the state." (item 5)

"Respond to specific requests from the executive, legislative and judicial departments for assistance on the scientific and technological aspects of public policy issues." (item 7) "Identify for gubernatorial and legislative consideration state opportunities and problems having scientific and technological implications." (item 9) "Advise the Governor and the legislature on legislation respecting science and technology." Depending on the recommendations made by the science adviser early in 1979, legislative SET information needs may be met through the state science adviser's office. To the degree the office is not expanded, the cost of this service to the legislator will be small.

Con: Many of the alternatives being evaluated by the science adviser call for his position to include advice to both the executive and the legislature. While the science adviser as a 1-year appointee of the Governor is hardly the handmaiden of the executive branch, his location in the office of the state planning coordinator and his proximity to executive agencies create a situation in which his balanced presentation of differing perspectives is quite precarious. Further, liaison with the science adviser and his office should be established with the Legislative Counsel Bureau if that agency is to provide coordinated and continued response to legislators' inquiries. Such a liaison role could well involve LCB staff time and require additional personnel.

4b. Expanded Cooperation with the Executive Branch

Pro: Agencies throughout the state are continually developing, collecting and summarizing information in scientific and technical policy areas. In a state such as Nevada where fiscal and manpower resources are limited, cooperation between the legislative and executive branches of government is essential. The separation of powers, the distinct nature of each branch's perspective can be maintained on complex scientific and technical issues through the office of the state science adviser. A member of the university community with no fast governmental ties, his office can serve to bring agency views and information to the legislature with a tempered sense of their position in the range of possible policy alternatives.

Con: No man, no office can serve two masters. Ineluctably, the state science adviser must fall prey to the perspective dominating either branch. While Nevada must

work to get the most from its resources, the legislature must have an independent means of evaluating the information provided it by the executive. In practice, this suggests the state science adviser can be truly a broker only if he can achieve the same support and relationship with the legislature as with those individuals in the executive with whom he interacts daily. To be truly a broker, the state science adviser must be given a definite job with respect to the legislature, a definite source of legislative interest and a definite channel of communication with the legislature.

4c. Enhanced State Library Facilities

Pro: The Nevada State Library has reference facilities which are invaluable to the Legislative Counsel Bureau. As with the Legislative Counsel Bureau, its resources and expertise in scientific and technical areas is limited. University libraries which have considerable SET resources are not equipped or intended to handle reference questions. This is the function of the state library. Additional personnel and moneys mandated for the scientific and technical fields would increase the ability of the Legislative Counsel Bureau and the public at large to obtain SET information.

Con: The Nevada State Library routinely handles hundreds of requests for information of all sorts. It is designed to serve the public. This function cannot be diminished by asking it to be the exclusive enclave of the legislature. Because it is a general reference library serving all the public, its resources must be allocated in terms of the demands placed upon it. Currently, the demand for SET information is not high enough or of a character sufficient to warrant specialized SET personnel. Finally, the acquisition of materials must take place within a coordinated attempt to maximize the holdings of the entire Nevada library system and cannot be dictated by the immediate needs of the legislature. While this does not mean that such materials are not or would not be available to library personnel with a SET background it does mean that the response time to specific legislator inquiries might increase to unacceptable levels.

4d. Expanded SET Network Participation by the Legislative Counsel Bureau

Pro: The legislature yearly allocates thousands of dollars for membership in such organizations as the National

Conference of State Legislatures and the Council of State Governments. In addition, the tax dollars of Nevada's citizens provide for the support of several federal SET networking systems. Each of these systems is designed to provide the answers to complex, yet specific questions about the implications and alternatives in several policy areas. By making greater use of such facilities, the Legislative Counsel Bureau could improve the quality of its response to SET questions.

Con: To a limited extent, the Legislative Counsel Bureau already makes use of these facilities. In many cases, however, such networks can only provide partial responses or cite the experiences of other states. Often they provide only highly technical, difficult to understand responses inappropriate to legislative needs. But in any case, use of such networks requires the time to activate, assimilate and communicate their answers. At present, the LCB has few personnel with the time to access new information sources. The rhythm of the legislative cycle demands that they turn to reliable systems in which they have some experience. It is especially difficult to introduce new computer conferencing networks into a situation where most people are straining to stay even.

4e. Greater University Cooperation

(1) Looseleaf Retrieval System for Research Projects

Pro: A compilation of faculty research completed or in progress would represent a major contribution to the Legislative Counsel Bureau's knowledge of an ability to use faculty resources and research projects in the University of Nevada System. It should be compiled in consort with the resource and information directory system. If maintained and developed by the Chancellor's office through the cooperation of representatives from each campus, the costs to the legislature would be small and a central, controlled distribution system could be implemented.

Con: Lists of research, especially lists of research in progress, are incredibly misleading. They quickly become out of date or record only intentions. Further, research titles as such say little about the content, direction or applicability of the effort they represent. Someone with an intimate knowledge of the works would be required to make the titles alone meaningful to the staff of the Legislative Counsel Bureau. Finally, any attempt to catalogue

or publish a list of ongoing or completed research might be construed by some in the university community as an attempt to monitor their activities, thereby exercising some control over it.

(2) Faculty Leave for Service with Legislature

Pro: The office of the state science adviser has created the precedent of state service by university personnel. However, the sabbatical concept under which the science adviser was to be provided time to serve contains virtually no incentives for university participation in the program. Paid semester leave for university personnel would provide legislative committees and/or legislative staff with additional SET expertise. In addition, it would afford the university personnel with invaluable experience in the legislative process and contribute to their teaching backgrounds.

Con: The use of university personnel in the legislature, while serving a dual function, would be incredibly expensive for the university system or the legislature. In addition, if such individuals were to be truly useful, they should go through an orientation session which would entail additional expense.

(3) Restructuring Faculty Reappointment Guidelines

Pro: A resolution by the legislature encouraging the Board of Regents to adopt a policy rewarding faculty members to participate in policy research and policy development in the state would help provide the incentives necessary to allow more extensive university personnel participation in state and local government. It would be a relatively inexpensive gesture with the potential for great benefits.

Con: Such an incentive program would be practically impossible to monitor and would be taken by many in the university community as an unwarranted infringement on academic freedom. It might not succeed in prompting the involvement of scientific and technical personnel, but could well attract the participation of individuals whose personal predilections were already toward the political realm. Finally, since participation per se might result in no tangible benefits towards each university member's primary function, teaching, the usefulness of such a criterion in monitoring a teacher's worth is doubtful.

(4) Augmentation of Organized Research Funds

Pro: Organized research funds in the University of Nevada System amount to nearly $4 million. Of these funds, all but a tiny proportion go towards Agricultural Research and Extension Services, and the Desert Research Institute. While both these operations provide outstanding service to the State of Nevada, additional more diverse policy-related research would be forthcoming if the legislature were to increase the funds allocated to organized research with the provision that some percentage of all organized research moneys be directed toward the study of policy-relevant problems within the State of Nevada. While such a fund, in order to provide a meaningful incentive and useful resources, would have to be fairly large, the projects themselves would serve both the general public and the university community as well as the legislature.

Con: Creating a larger pool of organized research moneys would only serve to reward those faculty members who had failed to secure grants elsewhere and to assist in the establishment of unnecessary university programs. Without close monitoring, such funds would rapidly become the seed moneys whereby faculty members developed grants from national institutions on problems with little interest in Nevada. Moreover, mandating that a certain proportion of such funds be expended in support of policy research might divert university talent from considerations of basic research. At best, such a program is an inefficient means of obtaining information and evaluations best gained through contracted arrangements.

(5) Publication and Dissemination of a Handbook for Faculty Participation

Pro: The university system is the one great repository of scientific and technical expertise in the State of Nevada. This resource is crucial to the formulation of sound and prudent legislation. Yet university faculty and researchers often have little idea of what ideas the legislature is considering or of how they might have their own ideas introduced into the legislative arena. Preparation, publication and dissemination of a handbook for faculty members on the ways in which they might monitor and comment on pending legislation would be an important and inexpensive means of encouraging greater faculty involvement in legislative policy concern. Such a handbook would discuss

the limitations and frustrations of the hearing process, the role of legislative staff and the forms of technical presentation most favored in hearings.

Con: The legislature should not be engaged in outreach activities nor dealing with the basic propositions of an American Government course. A faculty handbook such as the one proposed would be an expensive and inefficient means of encouraging faculty participation. It might work at cross purposes with the university system-wide lobbying effort and could encourage special interest lobbying at a point in the political process where such actions are already meeting considerable criticism. Such a handbook would likely have marginal impact on the quality of SET information brought to bear on pending legislation.

(6) Creation of Office of Public Service Programs

Pro: Much of the policy-oriented research now conducted within the university system goes largely unnoticed by legislators and their staff. An office of public service programs created within the Chancellor's office but located in Carson City could act as a catalyst for and guide to policy research in the state. It could serve as the liaison between the legislature and the university community. It could facilitate the convention of expert testimony and provide for legislative participation in small workshops and seminars on scientific and technical matters. Within the university system, it could coordinate research efforts and help save whatever cost it might eventually assume.

Con: Without a substantial staff and support capability an office such as this would be unable to monitor effectively research activities within the university community. It might only duplicate the functions of other offices under the Chancellor's purvue. Moreover, the functions posited for this office come very close to those listed among the possibilities for the state science adviser. No action should be taken on this alternative until the state science adviser has made his report.

(7) State Policy Seminar

Pro: This alternative would directly fund research proposals from the university community dealing with

matters of legislative interest. It encourages the scientific and technical community of the state to submit grants of state-wide import to a committee of legislators and SET professionals for review and funding. Aside from the benefits derived from those projects receiving an award, proposals rejected in this process might find funding elsewhere. The result would be policy-related research far in excess of those explicitly funded by the legislature. In addition, legislators would be directly exposed to the character and diversity of state problems in which there was a university interest. This process would indirectly involve some legislators in the foresight process while giving them first hand contact with scientists throughout the state.

Con: This is an extremely expensive way in which to obtain information better obtained through contract research. While legislators would select the projects for funding, they would have little control over the range of projects submitted for consideration. This allows for significant problems of legislative interest to be ignored, while more peripheral matters are explored. The mere process of choosing the projects for funding, while giving each participating legislator some contact with state SET professionals, could easily require considerable hours of study and consideration. These costs in time exceed what many citizen legislators would be willing to pay. Finally, many technical projects would contain materials and subject matter far beyond the evaluative competence of the individual legislator and would best be left to the professionals in the field to consider.

5a. Allocation for Honoraria and Expenses in the Case of Expert Testimony

Pro: Many interim committees currently allocate funds to attract expert testimony. Yet during sessions, such funds must be approved by the legislature in the form of a concurrent resolution. While this procedure surely inhibits the frivolous expenditure of funds, it probably acts as a strong disincentive toward accessing expert testimony which requires reimbursement. While the hearing process, especially during session, is certain to draw testimony, the allocation by each house of a small fund of moneys to be drawn upon by committee chairmen with the authorization of the leadership would smooth the way for more frequent expert testimony. This cost would be minor. If previous experience proves a guide, each house could allocate $1,500 for a session.

Con: Creating a fund in this manner would only promote the reimbursement of experts who might otherwise be induced to testimony on their own accord. Also, it would provide leadership with another tool to reward or punish committee chairmen for their cooperation. It could also create pressures to convene witnesses early in the session before the funds were expended and further concurrent resolutions were necessary. This might adversely affect the flow and consideration of legislation during the first weeks of the session. Finally, such a fund could be used by chairmen to reward or punish committee members for cooperation.

5b. Expert Consulting Funds

Pro: Session activity is marked by the importance of hearings. Yet hearings, featuring oral presentation and quick exchanges of information, may not develop the many aspects of complex SET matters. Committees heavily involved in scientific and technical legislation could contract for SET expertise with the view of developing questions which would elicit from the range of witnesses their perspectives on prominent policy alternatives, their direct effects and their ramifications. The actual contracting with experts could be done by the LCB in cooperation with committee chairmen. Consultants would offer committees brief background statements in the area and would help encourage complete, reliable testimony.

Con: Consultants are expensive, often have perspectives of their own, and are outside the scope of legislative accountability. This is a role best played by a staff directly and continuously responsible to the legislature. Moreover, such consulting moneys would be allocated by criteria liable to misuse or partisan manipulation. In any case, questioning and developing the implications of public policy is an integral element of each representative's job and should not be displaced to consultants over whom the public has little control.

5c. Publication and Notification System (Publicizing Hearings)

Pro: The importance of the hearing process is acknowledged by all with a role in the legislative process. For most of the state SET community, however, state legislative actions pass unnoticed until their effects become personal. Only spotty newspaper coverage provides the SET community beyond the capitol with an inkling of pending legislation and related hearings.

Paid notices in newspapers throughout the state would increase greatly the exposure given legislative actions. It might also demonstrate in vivid fashion the range and complexity of legislative consideration to the general public. Taking the expenditures of local government as a guide, such a system need not be expensive. If limited to session activities, the total cost should be under $20,000, and this would publicize all hearings, not just those with SET content.

Con: While not incredibly expensive, such a system would be a waste of the taxpayers' money. It inefficiently attempts to summon expertise, when direct contact would do much better and be much less expensive. Such a system would inevitably lead to problems of which newspapers were to carry the service, and it could have some effect on news coverage of the legislative session. Finally, the rhythm of session activity is such that the lead times required for such publication would be impossible to meet or, worse yet, would result in inaccurate information to the inconvenience of the public.

5d. Announcement and Invitation System

Pro: The current hearing process, more often than not, convenes expert testimony by indirection. Lobbyists, concerned citizens, anxious agency personnel, and an occasional invited speaker mark the process. A systematic process of announcing hearings on complex SET matters coupled with a means whereby committee chairmen could invite a representative sampling of opinion in the SET community would lend greater diversity and improve the quality of committee hearings. Directing announcements and invitations directly to members of the SET community throughout the state would help insure that the most knowledgeable and competent commentators on the ramifications of SET legislation would be aware of pending legislative action.

Con: There exists no comprehensive list of the members of Nevada's SET community. Any announcement system would be incomplete and in constant need of revision. Moreover, direct notification on pending legislation of each of the SET community would quickly become an expensive proposition. In particular, the clerical costs associated with such a project would be high. In addition, such a process interferes in a fundamental way with the discretion of each chairman

and his committee members to convene testimony on which they can rely. Blanket invitations to members of the SET community, even if they result in greater participation, will not have an appreciable effect on the outcome of the hearings unless those participating are known and trusted as reliable sources.

6c. Staffing Pertinent Committees with SET Interns

Pro: Interns, undergraduate students from the University of Nevada - Reno, currently assist several members of the legislature throughout the session. Interns, graduate or undergraduate students assigned to each committee heavily involved in SET legislation, could facilitate legislative inquiries, locate expert witnesses and broker requests with agencies. Interns require little support and provide an inexpensive means of acquiring limited SET expertise.

Con: Staffing the several committees involved in SET legislation with undergraduates might prove more expensive than initially thought. Previous experience with such interns demonstrates the need for a brief orientation to session activity. For SET interns this need might be especially severe given their anticipated unfamiliarity with the legislative process. While undergraduate student participation might be readily arranged, staffing with graduate students might prove especially difficult unless these students were paid. Staffing of seven committees for the four to five months of session could cost more than $14,000. At present, it is common for interns to come to the Research Division for help in carrying out assignments. To the extent that regular staff time is taken up assisting interns, no economies or efficiencies would be realized.

6d. Staff Workups on Alternatives and Their Effects

Pro: The adversary process as practiced in committee hearings provides a fruitful means of portraying the range and depth of opinion held by various witnesses. However, the questioning process can easily be distracted by sensational remarks or the dynamics of group interrogation. Expert testimony is best used when subjected to a comprehensive and systematic set of prearranged questions. This allows for comparison between witnesses and helps direct the nature and purpose of the questioning process. The committee staff assigned to anticipate the range of concerns evident in committee hearings has the opportunity for

study not available to most legislators in the midst of session activity. Staff can anticipate the many alternatives open to legislative action and provide the means of probing the likely ramifications attendant to each policy choice.

Con: Current staffing capability does not allow for the resources or the time needed for such workups. In addition, in-house staff lacks the background necessary to provide the quick response needed to frame such questions in SET-related areas. In addition, such a process might be viewed as an abrogation of legislative authority to individuals only indirectly held accountable to the citizenry at large.

6e. Legislative Review of Federally Mandated Documents

Pro: Throughout the many state agencies, detailed studies of state-wide problems have been conducted in compliance with federal regulations. These documents provide valuable insight into the perception of state problems and represent the contribution of significant resources to the solution of such problems. Legislative study of these documents by appropriate subcommittees would increase each member's understanding of the problems, bring them into contact with agency personnel, and portray vividly the policy alternatives open for legislative action. While such study would be time intensive, a comprehensive program of review would be relatively inexpensive and provide for additional legislative oversight of executive agencies.

Con: The number, length and turgid prose of federally mandated documents make their systematic review by part-time citizen legislators untenable. As a means of acquiring SET information, they are roundabout. For oversight, they are inadequate. Introductions to the agency personnel can be accomplished through much easier means. And finally, the investment of legislators' time in the study of such documents, except in isolated instances, would be unlikely to produce results commensurate with the costs involved. Such documents should be handled by staff with condensations for legislative perusal.

7. RECOMMENDATIONS

There are several steps which the Nevada legislature can take immediately to enhance its acquisition and use of scientific, engineering and technical information. They are modest improvements which should yield substantial payoffs to the legislature without requiring the development of new institutions. The recommendations result from my own evaluation of the alternatives listed in the previous section. They represent my own interpretation of the situation in the Nevada legislature, its support agencies, and the SET community throughout the state. The recommendations are a skeletal form of proposals which will have to be given life through further discussion and planning.

The recommendations are aimed primarily at enhancing the ability of the Legislative Counsel Bureau to acquire and transmit information to legislators. In the short run, efforts to expose legislators to SET information directly will require coordination and development tasks far beyond the capacity of any body now serving the legislature. Task forces and interim committees serve only a few legislators and on an ad hoc basis. Most efforts to improve the quality of information coming before the committees are quite expensive or require the creation of new institutions which deserve further study. The recommendations touch only peripherally on one of the most serious challenges facing the legislature, the development and enlargement of the scientific and technical base of the state. Economic well-being, societal flexibility and policy response require technological diversity, sophistication and depth. The character of the state's economy and the extent of its need suggest the state may have to play a larger, seedbed role in introducing and inducing scientific and technical enterprise into the state.

Recommendation 1: Enhance the capability of the Research Division to handle SET information through the addition of one or more researchers with training or experience in scientific, engineering and technical matters.

This recommendation is fundamental to most serious attempts aimed at improving the legislature's acquisition and use of SET information. Without additional personnel trained in SET-related matters, the ability of the Research Division to serve the legislature in technical matters will remain meager. While no one person could be expected to have either the training or experience necessary to cover the range of scientific and technical matters appearing before the legislature, this researcher would provide an in-house facility for information brokerage, information synthesis, and information evaluation. Additional personnel create the possibility of organizing activities directed toward the legislators. An in-house capacity would provide the SET community throughout

the state with a legislative focal point. It would enable the legislature to establish and maintain a network of links with scientific and technical resources throughout the state and region. It would enable the Research Division to take full advantage of the developing national information networks such as MISTIC offered by NCSL which the legislature already supports. Although the Research Division could not afford to devote its resources to an individual or individuals who specilized solely in SET information, it could prudently allow for a generalist whose concentration was in SET-related matters. In this sense, additional personnel complement the growing need for researchers and add substantially to the legislature's overall information acquisition capability.

Recommendation 2: Expansion of the present intern program within the Legislative Counsel Bureau during session. Interns, graduate students with scientific or technical experience, could serve in research or fiscal divisions.

SET interns offer the opportunity of introducing some expertise into the legislative arena for very little cost. The fiscal division might benefit from students trained in economics, business or some form of economic analysis and modelling. Research could best use interns with broad scientific or technical backgrounds. Because of the coordination and supervision problems associated with interns, they are often best used on specific projects. The option places a strain on the in-place personnel of the divisions involved. It should be considered only to the extent that the Legislative Counsel Bureau is given some additional support to provide for coordination and supervision and should not be viewed as a means of capability enhancement that can stand alone.

Recommendation 3: Development and maintenance of a Resource and Information Directory providing the Research Division and the Legislative Counsel Bureau generally with a list of experts and information sources on scientific, engineering and technical topics.

Both the legislative and executive SSET projects have developed a preliminary list of SET information sources in the state and the region. The executive project surveyed the University of Nevada system and produced a document on the interests and research competencies of several hundred faculty members. The legislative project focused on special libraries, government agencies, information networks, industrial laboratories, research centers, technically oriented groups, and private individuals having information in scientific, engineering and technical areas. A computerized search and retrieval system has been designed to accommodate the nearly 1,000 entries gathered in this research. This system will enable the Research Division to identify quickly

those known sources of SET expertise within the state in a large variety of areas (see Appendix G for list of areas included). However, the usefulness of such a list depends greatly on its maintenance. To be maintained, it must be used and the results of that use fed back into the system. There are two ways in which maintenance can be encouraged. First, the use of computerized methods can be generally encouraged throughout the Legislative Counsel Bureau. The text processing and retrieval system being developed for the legal division should complement the interest shown by the audit division in computer assisted techniques, and should begin the process whereby the entire bureau relies more heavily on computer techniques. However, this process could be facilitated if computer assistance were readily available to the entire Legislative Counsel Bureau. The Legislative SSET project acted to provide the Research Division with computer graphic routine and data presentation features which should encourage a broader familiarity with the computer. Second, one individual either in the library or a SET-oriented person on the Research Division staff should be charged with quarterly checks of the directory system. This would be most feasible if the directory system were made interactive through a word processing system such as the System 6, by IBM.

Recommendation 4: The organized research funds within the University of Nevada system should be increased with some proportion of the additional monies going to policy research of legislative concern.

Nevada has fewer scientists, engineers and technical personnel than any other state. Its single largest pool of SET expertise lies in the university system. As a creation of the state, the university system has many functions not the least of which are community service and research.

The state legislature can act to encourage the development of science and engineering within the state, to meet its own policy needs, and to fulfill the potential of the state university system by providing more money for organized research with a policy edge. While this option is relatively expensive, its advantages go beyond the information gained through various policy projects. It will serve to bring more SET personnel to legislative hearings, will help establish the bonds of personal trust between legislators and technical people, it will increase the attractiveness of the University of Nevada system to scientists and engineers throughout the nation, and it will build a more meaningful community commitment into the university system. The legislature and the university have different goals and this difference can lead to misunderstandings and friction. Organized research monies could help offer faculty members the release time for policy oriented research and push both the legislature and the university toward their common goal, service of the citizenry.

Recommendation 5: Publication and dissemination of a handbook for faculty in the University of Nevada system to facilitate their understanding of and participation in the legislative process.

As the largest SET resource in the state, university scientists and engineers are separated in many ways from the legislative process. Neither the University of Nevada at Reno nor the University of Nevada at Las Vegas are physically close enough to Carson City to enjoy immersion in the activities of session. The interests of legislators and the SET community are often quite different. Legislators must act; researchers study. The first makes normative judgments; the second seeks objectivity. The concerns of representatives are quite broad; SET experts are quite specialized. Legislators seldom have technical training; the training of scientists, engineers and technical people often takes them far from the civic classes of their youth. In short, the best SET resources in the state are insulated from the public domain in any number of ways. But part of this insulation can be stripped away by a conscious effort on the part of the legislature which needs the resources. This can be done by actively attempting to involve SET personnel in the legislative arena. Conferences, workshops and field trips fill the bill, but are expensive and require extensive coordination and direction. A less expensive, albeit less effective, option is to provide each faculty member with a handbook on participation. If adapted from the present Legislative Manual, this would be a relatively easy method of introducing faculty members to the legislature. It could make the individual faculty member more competent in dealing with the legislature and encourage his testimony in committee hearings.

Recommendation 6: Creation of a fund within each house of the legislature to provide honoraria and expenses for expert witnesses appearing in committee testimony. The funds should be allocated at the request of committee chairmen and with the concurrence of the leadership.

The legislature already can decide to offer witnesses some inducement for their testimony. But the present procedure encourages thrift to the point of negligence. Nevada's SET resource base is small. The depth of its SET expertise in most areas is shallow. Necessarily, it will have to seek SET information outside the state. The cumbersome aspects of the current means of offering inducements to SET and other experts discourage the in-depth exploration of policy issues except in unusual or controversial circumstances. A small pool of monies set aside with the express purpose of bringing SET expertise to bear on public policy debate would encourage committees to seek the best possible advice on SET-related matters. It would help instill in the committee a search mechanism that could extend to other types of information. It would offer some incentive to in-state SET experts to contact

committees. It would provide a relatively inexpensive way of bringing significant amounts of information into the legislative arena in a format which members favor.

Recommendation 7: Development of a policy of faculty leave for members of the University of Nevada system for service with the Legislature during Session.

The incentives for involvement in the legislative process on the part of active members of the SET community are few. Scientific and technical research takes a continuing commitment of time and energy. Few members of the academic community are willing to commit their free time or an earned sabbatical to the service of the legislature. Such service has little to do with their careers in science or in the university. However, many members of the SET community might be attracted to serve the legislature for approximately six months or one semester while session lasts. If paid either by the university system or directly by the legislature, their training and experience could be enlisted by the Research Division to the improvement of the entire legislative process. Their service would further serve the legislature by introducing members of the SET community into the legislative arena and by acting as a catalyst for further involvement by the entire SET community.

Recommendation 8: The office of the state science adviser was created by the 1977 session of the legislature to investigate different ways by which the SET information acquired and used by the different branches and many layers of government in Nevada might be improved. His recommendations together with this study should be considered by a committee of the legislature.

The state science adviser is currently studying different ways in which scientific, engineering and technical information might be disseminated and used throughout Nevada's governmental bodies. The revenues of state government, the energies of the SET community and the capacities of governmental units are limited. The efforts of the state science adviser must be evaluated with a view to the serious limits constraining governmental activity. The legislature should remember though that information is a source of power within government and that as a separate branch of government it must be capable of acquiring and employing information. It must give to whatever SET information mechanism it adopts "the necessary constitutional means and personal motives to resist encroachments by other branches."[36]

[36] James Madison, The Federalist Papers, No. 52.

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Appendix A

LEGISLATIVE QUESTIONNAIRE

QUESTIONNAIRE

1. Legislators ordinarily obtain information from a variety of sources. We are interested in how you obtain Science, Engineering and Technological (SET) information on issues such as nuclear powerplant siting, water quality, emission control, PCB, laetrile, solid waste disposal and the like.

   Below you will find several information sources which legislators often use. After reading through the entire list, please rank the 4 sources which are of most benefit to you in obtaining Science, Engineering and Technological (SET) information.

   (RANK THE ONE WHICH IS MOST BENEFICIAL AS #1, AND SO ON)

   [__].... a. Committee Hearings
   [__].... b. Issue Conferences & Forums
   [__].... c. Federal Agencies
   [__].... d. Floor Debates
   [__].... e. Interested Parties
   [__].... f. Legislative Counsel Bureau Staff
   [__].... g. Multi-state organizations
   [__].... h. News Media
   [__].... i. Other Legislators
   [__].... j. Private R&D & Other Firms
   [__].... k. Personal Knowledge
   [__].... l. Public Interest Groups
   [__].... m. State Agencies
   [__].... n. State Libraries
   [__].... o. University Personnel
   [__].... p. Other: (WRITE IN) _____

2. We would like to get some idea of why each of the top ranked sources of information in Question 1 is of benefit to you. A series of attributes such information sources might have is listed below. Please check those attributes that make each source of special use to you for Science, Engineering and Technological (SET) information.

Attributes of Source	Information Source in Question 1 you Ranked			
	#1	#2	#3	#4
a. Identifies Alternatives				
b. Identifies Both Benefits and Costs				
c. Identifies Future Trends and Problems				
d. Identifies Indirect Effects				
e. Is Accessible				
f. Is Thorough				
g. Is Politically Sensitive				
h. Is Reliable				
i. Is Convenient to Use				
j. Provides Concise Information				
k. Provides Factual Information				
l. Provides Quick Response				
m. Provides Understandable Information				
n. Other: (WRITE IN)				

3. On a scale ranging from 1 to 5, where 1 is very satisfied and 5 is not at all satisfied, how satisfied are you with the amount, accessibility, quality, timeliness and usefulness of the Science, Engineering and Technological (SET) information you receive on matters of legislative concern?

   (PLEASE CIRCLE APPROPRIATE RESPONSE)

	Very Satisfied				Not At All Satisfied
a. AMOUNT	1	2	3	4	5
b. ACCESSIBILITY	1	2	3	4	5
c. QUALITY	1	2	3	4	5
d. TIMELINESS	1	2	3	4	5
e. USEFULNESS	1	2	3	4	5

Comments: (IF DESIRED) _____

4. In which of the following areas of legislative concern do you feel there is the greatest need for additional Science, Engineering and Technological (SET) information?

(PLEASE CHECK NO MORE THAN 5 BOXES)

Greatest Need for Information	Areas	Information Difficult to Obtain
[ ]	Agriculture	[ ]
[ ]	Business and Commerce	[ ]
[ ]	Community Development	[ ]
[ ]	Construction and Housing	[ ]
[ ]	Consumer Protection	[ ]
[ ]	Disaster Prevention	[ ]
[ ]	Education	[ ]
[ ]	Employment and Labor	[ ]
[ ]	Energy	[ ]
[ ]	Environment	[ ]
[ ]	Health	[ ]
[ ]	Natural Resources	[ ]
[ ]	Social Services	[ ]
[ ]	Product Development	[ ]
[ ]	Safety	[ ]
[ ]	Transportation	[ ]
[ ]	Other (WRITE IN) _____	[ ]

5. In which of the above areas do you feel Science, Engineering and Technological (SET) information is most difficult for you to obtain?

(PLEASE CHECK NO MORE THAN 5 BOXES)

6. We would like to know, in general, how the Science, Engineering and Technological (SET) information you obtain on legislative issues compares with the other types of information you receive on matters of legislative concern.

(PLEASE COMPLETE THE FOLLOWING SENTENCES BY CIRCLING THE APPROPRIATE RESPONSE)

a. The accessibility of SET information is... other types of information.
1. Better than
2. About the same as
3. Worse than

b. The amount of SET information is..... other types of information.
1. Greater than
2. About the same as
3. Less than

c. The quality of SET information is..... other types of information.
1. Better than
2. About the same as
3. Worse than

d. The timeliness of SET information is..... other types of information.
1. Better than
2. About the same as
3. Worse than

e. The usefulness of SET information is..... other types of information.
1. Greater than
2. About the same as
3. Less than

7. Please provide any comments you may have concerning the availability and quality of SET information for Nevada legislators.

_____

_____

_____

Standing Committees.

The standing committees of the Senate and their respective jurisdiction for the reference of bills and resolutions are as follows:

1. Commerce and Labor, seven members with jurisdiction over measures affecting primarily Titles 52-57, and chapters 489, 703-704A and 707-712 of NRS.

2. Human Resources and Facilities, six members, with jurisdiction over measures primarily affecting Titles 33, 34, 37-40 and 42 and chapters 583-585 of NRS.

3. Natural Resources, six members, with jurisdiction over measures primarily affecting Titles 26 and 45-50 and chapters 488, 581, 582 and 586-590 of NRS, the Tahoe Regional Planning Compact and the Nevada Tahoe regional planning agency.

4. Finance, seven members, with jurisdiction over measures primarily affecting chapter 286 of NRS and over appropriations, operating and capital budgets, bonding and any measures carrying or requiring appropriations and favorably reported by any other committee unless such reference is dispensed with by a two-thirds vote of the Senate.

5. Government Affairs, seven members, with jurisdiction over measures affecting primarily Titles 18-22, 24, 25, 27-31 and 36 and chapters 281-285, 287, 288 and 407 of NRS, except measures affecting primarily the Tahoe Regional Planning Compact and the Nevada Tahoe regional planning agency.

6. Judiciary, seven members, with jurisdiction over measures affecting primarily Titles 1-16 and 41 of NRS.

7. Legislative Functions, seven members, with jurisdiction over measures affecting primarily Title 17 of NRS and the operation of the legislative session.

8. Taxation, with jurisdiction over measures affecting primarily Title 32 of NRS.

9. Transportation, with jurisdiction over measures affecting primarily Title 44 and chapters 403-406, 408-410, 481-487, 705 and 706 of NRS.

[Statutes of Nevada 1975, 1855; A 1977, 1650, 1682]

Summary
Compilation of Measures Considered by
Senate Standing Committees
of the
56th Session of the Nevada Legislature (1971)
(* indicates reported out)

COMMITTEES	BILLS REFERRED						RESOLUTIONS REFERRED						GRAND TOTAL Committee Totals	
	Senate		Assembly		Total		Senate		Assembly		Total			
Commerce	35	18*	25	22*	60	40*	1	1*	1	1*	2	2*	62	42*
Ecology	16	10*	1	1*	17	11*	5	4*	0	0*	5	4*	22	15*
Education	21	16*	11	9*	32	25*	1	0*	1	1*	2	1*	34	26*
Fed,St. & Local Governments	104	71*	90	76*	194	147*	18	11*	25	13*	43	24*	237	171*
Finance	130	86*	68	50*	198	136*	3	3*	7	4*	10	7*	208	143*
Health & Welfare	26	18*	24	24*	50	42*	0	0*	2	1*	2	1*	52	43*
Judiciary	208	154*	119	100*	327	254*	12	12*	5	4*	17	16*	344	270*
Labor	32	18*	13	9*	45	27*	0	0*	0	0*	0	0*	45	27*
Legis.Functions	8	5*	1	1*	9	6*	8	6*	0	0*	8	6*	17	12*
Pub. Resources	35	22*	25	20*	60	42*	11	10*	2	2*	13	12*	73	54*
St.Institutions	4	2*	0	0*	4	2*	1	1*	0	0*	1	1*	5	3*
Taxation	33	18*	17	14*	50	32*	6	2*	3	2*	9	4*	59	36*
Transportation	41	19*	29	26*	70	45*	2	2*	0	0*	2	2*	72	47*
Senate Totals	693	457*	423	352*	1116	809*	68	52	46	28*	114	80*	1230	889*

Summary
Compilation of SET Measures Considered by
Senate Standing Committees
of the
56th Session of the Nevada Legislature (1971)
(* indicates reported out)

COMMITTEES	BILLS REFERRED						RESOLUTIONS REFERRED						GRAND TOTAL	
	Senate		Assembly		Total		Senate		Assembly		Total		Committee Totals	
Commerce	4	4*	3	3*	7	7*	0	0*	1	1*	1	1*	8	8*
Ecology	14	11*	1	1*	15	12*	4	3*	0	0*	4	3*	19	15*
Education	2	1*	1	1*	3	2*	0	0*	0	0*	0	0*	3	2*
Fed, St. & Local Governments	6	3*	8	7*	14	10*	4	2*	0	0*	4	2*	18	12*
Finance	10	5*	6	5*	16	10*	0	0*	1	0*	1	0*	17	10*
Health & Welfare	5	4*	9	8*	14	12*	0	0*	0	0*	0	0*	14	12*
Judiciary	7	2*	1	1*	8	3*	0	0*	0	0*	0	0*	8	3*
Labor	1	0*	2	2*	3	2*	0	0*	0	0*	0	0*	3	2*
Leg. Functions	0	0*	0	0*	0	0*	1	1*	1	1*	2	2*	2	2*
Pub. Resources	13	7*	10	7*	23	14*	4	4*	0	0*	4	4*	27	18*
St. Institutions	1	0*	0	0*	1	0*	0	0*	0	0*	0	0*	1	0*
Taxation	0	0*	1	1*	1	1*	2	0*	0	0*	2	0*	3	1*
Transportation	4	0*	2	1*	6	1*	0	0*	0	0*	0	0*	6	1*
Senate Totals	67	37*	44	37*	111	74*	15	10*	3	2*	18	12*	129	86*

Summary
Compilation of Measures Considered by
Assembly Standing Committees
of the
56th Session of the Nevada Legislature (1971)
(* indicates reported out)

COMMITTEES	BILLS REFERRED						RESOLUTIONS REFERRED						GRAND TOTAL	
	Assembly		Senate		Total		Assembly		Senate		Total		Committee Totals	
Agriculture	25	17*	8	7*	33	24*	3	0*	0	0*	3	0*	36	24*
Commerce	94	52*	26	23*	120	75*	3	3*	1	0*	4	3*	124	78*
Education	26	16*	11	11*	37	27*	2	2*	0	0*	2	2*	39	29*
Elections	34	13*	8	3*	42	16*	5	4*	0	0*	5	4*	47	20*
Environment & Pub. Resources	24	9*	12	11*	36	20*	2	1*	6	5*	8	6*	44	26*
Govt. Affairs	151	94*	78	71	229	165*	14	13*	6	6*	20	19*	249	184*
Health & Welfare	58	33*	19	17*	77	50*	4	3*	1	1*	5	4*	82	54*
Judiciary	208	111*	129	104*	337	215*	6	2*	9	5*	15	7*	352	222*
Labor & Management	11	6*	8	7*	19	13*	0	0	0	0*	0	0*	19	13*
Legis. Functions	4	2*	1	1*	5	3*	23	14*	5	5*	28	18*	33	21*
Taxation	39	13*	23	19*	62	32*	11	2*	4	1*	15	3*	77	35*
Transportation	61	29*	22	19*	83	48*	1	1*	2	1*	3	2*	86	50*
Ways & Means	108	65*	69	33*	177	128*	8	4*	4	1*	12	5*	189	133*
Fish & Game	15	9*	3	3*	18	12*	0	0*	1	1*	1	1*	19	13*
Assembly Totals	858	469*	417	359*	1275	828*	82	49*	39	25	121	74	1396	902

SUMMARY
Compilation of SET Measures Considered by
Assembly Standing Committees
of the
56th Session of the Nevada Legislature (1971)
(* indicates reported out)

COMMITTEES	BILLS REFERRED						RESOLUTIONS REFERRED						GRAND TOTAL	
	Assembly		Senate		Total		Assembly		Senate		Total		Committee Totals	
Agriculture	11	7*	2	1*	13	8*	1	0*	0	0*	1	0*	14	8*
Commerce	4	3*	4	3*	8	6*	2	2*	0	0*	2	2*	10	8*
Education	2	1*	1	1*	3	2*	0	0*	0	0*	0	0	3	2*
Elections	0	0*	0	0*	0	0*	0	0*	0	0*	0	0*	0	0*
Environment & Pub. Resources	16	3*	10	9*	26	12*	2	1*	3	2*	5	3*	31	15*
Govt. Affairs	13	6*	2	2	15	8*	0	0*	2	2*	2	2*	17	10*
Health & Welfare	16	8*	7	7*	23	15*	0	0*	0	0*	0	0*	23	15*
Judiciary	5	1*	1	0*	6	1*	0	0*	0	0*	0	0*	6	1*
Labor & Management	1	0*	0	0*	1	0*	0	0*	0	0*	0	0*	1	0*
Legis. Functions	0	0*	0	0*	0	0*	2	0*	1	0*	2	0*	2	0*
Taxation	3	1*	0	0*	3	1*	0	0*	0	0*	0	0*	3	1*
Transportation	8	3*	1	1*	9	4*	0	0*	0	0*	0	0*	9	4*
Ways & Means	13	6*	3	0*	16	6*	0	0*	0	0*	0	0*	16	6*
Fish & Game	4	4*	0	0*	4	4*	0	0*	0	0*	0	0*	4	4*
Assembly Totals	96	43*	31	24*	127	67*	6	3*	6	4*	12	7*	139	74*

Summary
Compilation of Measures Considered by
Senate Standing Committees
of the
57th Session of the Nevada Legislature (1973)
(* indicates reported out)

COMMITTEES	BILLS REFERRED						RESOLUTIONS REFERRED						GRAND TOTAL Committee Totals	
	Senate		Assembly		Total		Senate		Assembly		Total			
Commerce & Labor	89	53*	52	29*	141	82*	1	1*	0	0*	1	1*	142	83*
Ecology & Public Resources	32	22*	34	32*	66	54*	3	3*	2	2*	5	5*	71	59*
Education	30	25*	17	15*	47	40*	6	3*	2	2*	8	5*	55	45*
Fed,St. & Local Governments	125	85*	152	132*	277	217*	6	4*	9	6*	15	10*	292	227*
Finance	116	78*	81	65*	197	143*	2	1*	4	2*	6	3*	203	146*
Health,Welfare & St. Institutions	57	41*	38	34*	95	75*	3	2*	4	2*	7	4*	102	79*
Judiciary	169	125*	100	83*	269	208*	12	6*	10	8*	22	14*	291	222*
Legis. Functions	10	9*	8	6*	18	15*	23	19*	25	9*	48	28*	66	43*
Taxation	27	10*	18	14*	45	24*	5	3*	6	5*	11	8*	56	32*
Transportation	53	39*	44	40*	97	79*	0	0*	1	1*	1	1*	98	80*
Senate Totals	708	487*	544	450*	1252	937*	61	42*	63	37*	124	79*	1376	1016*

Summary
Compilation of SET Measures Considered by
Senate Standing Committees
of the
57th Session of the Nevada Legislature (1973)
(* indicates reported out)

COMMITTEES	BILLS REFERRED						RESOLUTIONS REFERRED						GRAND TOTAL	
	Senate		Assembly		Total		Senate		Assembly		Total		Committee Totals	
Commerce & Labor	7	6*	8	4*	15	10*	0	0*	0	0*	0	0*	15	10*
Ecology & Public Resources	12	7*	13	12	25	19*	3	3*	0	0*	3	0*	28	19*
Education	2	2*	3	3*	5	5*	0	0*	0	0*	0	0*	5	5*
Fed, St. & Local Governments	17	13*	9	9*	26	22*	2	2*	2	1*	4	3*	30	25*
Finance	9	7*	6	6*	15	13*	1	1*	0	0*	1	1*	16	14*
Health,Welfare & St. Institutions	15	13*	3	1*	18	14*	1	0*	1	1*	2	1*	20	15*
Judiciary	9	7*	8	6*	17	13*	0	0*	0	0*	0	0*	17	13*
Legis.Functions	1	1*	0	0*	1	1*	4	3*	3	0*	7	3*	8	4*
Taxation	2	0*	1	1*	3	1*	0	0*	0	0*	0	0*	3	1*
Transportation	7	6*	2	1*	9	7*	0	0*	0	0*	0	0*	9	7*
Senate Totals	81	62*	53	43*	134	105*	11	9*	6	2*	17	8*	151	113*

Summary
Compilation of Measures Considered by
Assembly Standing Committees
of the
57th Session of the Nevada Legislature (1973)
(* indicates reported out)

COMMITTEES	BILLS REFERRED						RESOLUTIONS REFERRED						GRAND TOTAL Committee Totals	
	Assembly		Senate		Total		Assembly		Senate		Total			
Agriculture	27	17*	1	1*	28	18*	0	0*	0	0*	0	0*	28	18*
Commerce	110	56*	32	26*	142	82*	3	2*	0	0*	3	2*	145	84*
Education	46	18*	21	20*	67	38*	5	4*	1	1*	6	5*	73	43*
Elections	49	33*	6	5*	55	38*	2	2*	0	0*	2	2*	57	40*
Environment & Pub. Resources	43	21*	13	13*	56	34*	3	3*	3	2*	6	5*	62	39*
Govt. Affairs	245	148*	84	71*	329	219*	12	9*	3	3*	15	12*	344	231*
Health & Welfare	58	40*	26	24*	84	64*	3	3*	2	2*	5	5*	89	69*
Judiciary	198	109*	118	108*	316	217*	15	10*	4	2*	19	12*	335	229*
Labor & Management	29	12*	23	18*	52	30*	1	0*	0	0*	1	0*	53	30*
Legis. Functions	11	8*	8	7*	19	15*	41	26*	17	9*	58	35*	77	50*
Taxation	39	22*	10	9*	49	31*	9	7*	2	1*	11	8*	60	39*
Transportation	68	53*	39	36*	107	89*	1	1*	0	0*	1	1*	108	90*
Ways & Means	119	66*	67	53*	186	119	3	2*	0	0*	3	2*	189	121*
Assembly Totals	1042	603*	448	391*	1490	994*	98	69*	32	20*	130	89*	1620	1083*

Summary
Compilation of SET Measures Considered by
Assembly Standing Committees
of the
57th Session of the Nevada Legislature (1973)
(* indicates reported out)

COMMITTEES	BILLS REFERRED						RESOLUTIONS REFERRED						GRAND TOTAL Committee Totals	
	Assembly		Senate		Total		Assembly		Senate		Total			
Agriculture	17	9*	1	0*	18	9*	0	0*	0	0*	0	0*	18	9*
Commerce	17	10*	7	6*	24	16*	1	1*	0	0*	1	1*	25	17*
Education	2	1*	2	2*	4	3*	0	0*	0	0*	0	0*	4	3*
Elections	1	0*	0	0*	1	0*	0	0*	0	0*	0	0*	1	0
Environment & Pub. Resources	17	7*	10	10*	27	17*	0	0*	3	2*	3	2*	30	19*
Govt. Affairs	19	9*	18	15*	37	24*	3	2*	1	0*	4	2*	41	26*
Health & Welfare	19	12*	13	12*	32	24*	0	0*	1	1*	1	1*	33	25*
Judiciary	14	6*	5	5*	19	11*	0	0*	0	0*	0	0*	19	11*
Labor & Management	1	0*	1	1*	2	1*	0	0*	0	0*	0	0*	2	1*
Legis. Functions	0	0*	1	1*	1	1*	4	3*	2	0*	6	3*	7	4*
Taxation	0	0*	0	0*	0	0*	0	0*	0	0*	0	0*	0	0*
Transportation	5	4*	8	6*	13	10*	1	1*	0	0*	1	1*	14	11*
Ways & Means	8	5*	7	7*	15	12*	1	0*	0	0*	1	0*	16	12*
Assembly Totals	120	63*	73	65*	193	128*	10	7*	7	3*	17	10*	210	138*

Summary
Compilation of Measures Considered by
Senate Standing Committees
of the
58th Session of the Nevada Legislature(1975)
(* indicates reported out)

COMMITTEES	BILLS REFERRED						RESOLUTIONS REFERRED						GRAND TOTAL Committee Totals	
	Senate		Assembly		Total		Senate		Assembly		Total			
Commerce & Labor	54	23*	62	59*	116	82*	1	1*	2	2*	3	3*	119	85*
Education	13	9*	8	7*	21	16*	1	0*	1	1*	2	1*	23	17*
Environment & Pub. Resources	27	14*	32	29*	59	43*	14	11*	6	5*	20	16*	79	59*
Finance	118	76*	79	74*	197	150*	3	3*	2	2*	5	5*	202	155*
Govt. Affairs	170	120*	141	120*	311	240*	5	4*	9	8*	14	12*	325	252*
Health,Welfare & St.Institutions	62	43*	27	23*	89	66*	0	0*	5	5*	5	5*	94	71*
Judiciary	127	95*	86	68*	213	163*	16	10*	15	13*	31	23*	244	186*
Legis. Functions	9	6*	17	15*	26	21*	35	18*	33	19*	68	37*	94	58*
Taxation	11	5*	22	19*	33	24*	4	2*	3	3*	7	5*	40	29*
Transportation	49	44*	25	24*	74	68*	2	2*	0	0*	2	2*	76	70*
Senate Totals	640	435*	499	438*	1139	873*	81	51*	76	58*	157	109*	1296	982*

Summary
Compilation of SET Measures Considered by
Senate Standing Committees
of the
58th Session of the Nevada Legislature (1975)
(* indicates reported out)

COMMITTEES	BILLS REFERRED						RESOLUTIONS REFERRED						GRAND TOTAL Committee Totals	
	Senate		Assembly		Total		Senate		Assembly		Total			
Commerce & Labor	7	1*	14	14*	21	15*	0	0*	1	1*	1	1*	22	16*
Education	0	0*	3	3*	3	3*	0	0*	0	0*	0	0*	3	3*
Environment & Pub. Resources	20	10*	21	18*	41	28*	12	9*	4	4*	16	13*	57	41*
Finance	12	10*	20	18*	32	28*	0	0*	0	0*	0	0*	32	28*
Govt. Affairs	18	13*	24	23*	42	35*	2	1*	1	1*	3	2*	45	37*
Health, Welfare & St. Institutions	22	16*	14	12*	36	28*	0	0*	1	0*	1	0*	37	28*
Judiciary	6	4*	6	5*	12	9*	2	2*	0	0*	2	2*	14	11*
Legis. Functions	0	0*	0	0*	0	0*	5	4*	8	5*	13	9*	13	9*
Taxation	1	1*	4	4*	5	5*	0	0*	0	0*	0	0*	5	5*
Transportation	18	14*	7	7*	25	22*	1	1*	0	0*	1	1*	26	23*
Senate Totals	104	69*	113	104*	217	173*	22	17*	15	11*	37	28*	254	201*

SUMMARY
Compilation of Measures Considered by
Assembly Standing Committees
of the
58th Session of the Nevada Legislature (1975)
(* indicates reported out)

COMMITTEES	BILLS REFERRED						RESOLUTIONS REFERRED						GRAND TOTAL Committee Totals	
	Assembly		Senate		Total		Assembly		Senate		Total			
Agriculture	23	15*	6	5*	29	20*	1	1*	4	4*	5	5*	34	25*
Commerce	127	70*	30	23*	157	93*	5	4*	2	2*	7	6*	164	99*
Education	24	12*	10	9*	34	21*	3	1*	0	0*	3	1*	37	22*
Elections	47	28*	4	4*	51	32*	7	5*	1	1*	8	6*	59	38*
Environment & Pub. Resources	22	16*	12	10*	34	26*	6	6*	7	7*	13	13*	47	39*
Govt. Affairs	153	115*	113	105*	266	220*	7	5*	6	4*	13	9*	279	229*
Health & Welfare	44	31*	31	28*	75	59*	3	3*	1	1*	4	4*	79	63*
Judiciary	148	80*	88	73*	236	153*	20	16*	7	7*	27	23*	263	176*
Labor & Management	44	30*	0	0*	44	30*	0	0*	0	0*	0	0*	44	30*
Legis. Functions	20	15*	2	2*	22	17*	67	39*	14	11*	81	50*	103	67*
Taxation	41	23*	8	7*	49	30*	9	4*	2	1*	11	5*	60	35*
Transportation	51	28*	37	27*	88	55*	0	0*	1	1*	1	1*	89	56*
Ways & Means	116	76*	77	72*	193	148*	0	0*	3	2*	3	2*	190	150*
Assembly Totals	860	539*	418	365*	1278	904*	128	84*	48	41*	176	125*	1454	1029*

SUMMARY
Compilation of SET Measures Considered by
Assembly Standing Committees
of the
58th Session of the Nevada Legislature (1975)
(* indicates reported out)

COMMITTEES	BILLS REFERRED						RESOLUTIONS REFERRED						GRAND TOTAL	
	Assembly		Senate		Total		Assembly		Senate		Total		Committee Totals	
Agriculture	12	10*	5	4*	17	14*	1	1*	3	3*	4	4*	21	18*
Commerce	34	16*	4	3*	38	19*	2	2*	0	0*	2	2*	39	21*
Education	7	2*	0	0*	7	2*	0	0*	0	0*	0	0*	7	2*
Elections	1	1*	0	0*	1	1*	0	0*	0	0*	0	0*	1	1*
Environment & Pub. Resources	15	9*	7	6*	22	15*	4	4*	7	7*	11	11*	33	26*
Govt. Affairs	30	19*	13	11*	43	30*	0	0*	2	1*	2	1*	45	31*
Health & Welfare	23	16*	13	12*	36	28*	0	0*	0	0*	0	0*	36	28*
Judiciary	11	6*	4	4*	15	10*	0	0*	1	0*	1	0*	16	10*
Labor & Management	7	7*	0	0*	7	7*	0	0*	0	0*	0	0*	7	7*
Legis. Functions	1	1*	0	0*	1	1*	14	8*	3	1*	17	9*	18	10*
Taxation	6	3*	0	0*	6	3*	1	1*	0	0*	1	1*	9	4*
Transportation	19	8*	12	6*	31	14*	0	0*	0	0*	0	0*	31	14*
Ways & Means	22	17*	11	10*	33	27*	0	0*	0	0*	0	0*	33	27*
Assembly Totals	188	115*	69	56*	257	171*	22	16*	16	12*	38	28*	296	199*

Summary
Compilation of Measures Considered by
Senate Standing Committees
of the
59th Session of the Nevada Legislature (1977)
(* indicates reported out)

COMMITTEES	BILLS REFERRED						RESOLUTIONS REFERRED						GRAND TOTAL	
	Senate		Assembly		Total		Senate		Assembly		Total		Committee Totals	
Commerce & Labor	107	57*	65	47*	172	104*	2	2*	2	2*	4	4*	176	108*
Finance	75	55*	66	59*	141	114*	6	6*	5	4*	11	10*	152	124*
Govt. Affairs	109	71*	101	87*	210	158*	8	7*	6	2*	14	9*	224	167*
Human Resources & Facilities	45	22*	45	36*	90	58*	2	0*	4	3*	6	3*	96	61*
Judiciary	132	96*	98	86*	230	182*	12	8*	9	7*	21	15*	251	197*
Legis. Functions	11	8*	11	9*	22	17*	28	18*	29	16*	57	34*	79	51*
Natural Resources	22	15*	17	15*	39	30*	8	5*	14	12*	22	17*	54	47*
Taxation	21	8*	29	22*	50	30*	2	1*	15	14*	17	15*	57	45*
Transportation	25	14*	28	24*	53	38*	2	2*	2	2*	4	4*	57	42*
Senate Totals	547	346*	460	385*	1007	731*	70	59*	86	52*	156	111*	1163	842*

Summary
Compilation of ST Measures Considered by
Senate Standing Committees
of the
59th Session of the Nevada Legislature (1977)
(* indicates reported out)

COMMITTEES	BILLS REFERRED						RESOLUTIONS REFERRED						GRAND TOTAL	
	Senate		Assembly		Total		Senate		Assembly		Total		Committee Totals	
Commerce & Labor	24	9*	14	7*	38	16*	1	1*	1	1*	2	2*	40	18*
Finance	12	10*	7	6*	19	16*	0	0*	0	0*	0	0*	19	16*
Government Affairs	14	11*	11	7*	25	18*	2	1*	0	0*	2	1*	27	19*
Human Resources & Facilities	18	8*	12	10*	30	18*	0	0*	2	1*	2	1*	32	19*
Judiciary	12	5*	8	6*	20	11*	1	1*	0	0*	1	1*	21	12*
Legis. Functions	0	0*	0	0*	0	0*	4	2*	7	2*	11	4*	11	4*
Natural Resources	17	12*	11	8*	28	20*	6	5*	11	8*	17	13*	45	33*
Taxation	1	0*	5	3*	6	3*	1	0*	2	2*	3	2*	9	5*
Transportation	4	3*	5	1*	9	4*	0	0*	0	0*	0	0*	9	4*
Senate Totals	102	58*	73	48*	178	106*	15	10*	23	14*	38	24*	213	130*

Summary
Compilation of Measures Considered by
Assembly Standing Committees
of the
59th Session of the Nevada Legislature (1977)
(* indicates reported out)

COMMITTEES	BILLS REFERRED						RESOLUTIONS REFERRED						GRAND TOTAL	
	Assembly		Senate		Total		Assembly		Senate		Total		Committee Totals	
Agriculture	16	11*	1	1*	17	12*	4	3*	1	1*	5	4*	22	16*
Commerce	95	54*	46	32*	141	86*	7	3*	2	1*	9	4*	150	90*
Education	35	24*	6	6*	41	30*	2	2*	-	-	2	2*	43	32*
Elections	25	13*	8	3*	33	16*	5	2*	2	2*	7	4*	40	20*
Environment & Pub. Resources	16	5*	5	4*	21	9*	10	10*	5	5*	15	15*	36	24*
Govt. Affairs	145	94*	64	54*	209	148*	15	9*	4	3*	19	12*	228	160*
Health & Welfare	41	30*	4	4*	45	34*	3	2*	3	1*	6	3*	51	37*
Judiciary	170	100*	89	72*	269	172*	12	8*	4	3*	16	11*	285	183*
Labor & Management	33	18*	5	4*	38	22*	0	0*	0	0*	0	0*	38	22*
Legis. Functions	9	5*	6	4*	15	9*	56	31*	16	13*	72	44*	87	53*
Taxation	50	35*	9	8*	59	43*	7	6*	1	0*	8	6*	67	49*
Transportation	40	24*	12	12*	52	36*	3	2*	2	2*	5	4*	57	40*
Ways & Means	116	73*	58	56*	164	129*	3	2*	8	8*	11	10*	175	139*
Assembly Totals	791	486*	313	260*	1104	746*	127	80	48	39*	175	119*	1289	865*

SUMMARY
Compilation of SET Measures Considered by
Assembly Standing Committees
of the
59th Session of the Nevada Legislature (1977)
(* indicates reported out)

COMMITTEES	BILLS REFERRED						RESOLUTIONS REFERRED						GRAND TOTAL Committee Totals	
	Assembly		Senate		Total		Assembly		Senate		Total			
Agriculture	13	9*	0	0*	13	9*	3	2*	0	0*	3	2*	16	11*
Commerce	20	13*	14	12*	34	25*	2	2*	1	0*	3	2*	37	27*
Education	14	10*	0	0*	14	10*	0	0*	0	0*	0	0*	14	10*
Elections	0	0*	0	0*	0	0*	0	0*	0	0*	0	0*	0	0*
Environment & Pub. Resources	13	4*	5	4*	18	8*	9	9*	4	4*	13	13*	31	21*
Govt. Affairs	20	13*	18	13*	38	26*	2	0*	1	1*	3	1*	41	27*
Health & Welfare	22	15*	3	2*	25	17*	1	1*	0	0*	1	1*	26	18*
Judiciary	12	7*	8	7*	20	14*	0	0*	0	0*	0	0*	20	14*
Labor & Management	3	1*	1	2*	4	2*	0	0*	0	0*	0	0*	4	2*
Legis. Functions	0	0*	0	0*	0	0*	9	7*	3	0*	12	7*	12	7*
Taxation	5	3*	1	2*	6	4*	3	3*	0	0*	3	3*	9	7*
Transportation	12	8*	1	0*	13	8*	1	1*	0	0*	1	1*	14	9*
Ways & Means	17	8*	11	0*	28	8*	0	0*	1	0*	1	0*	29	8*
Assembly Totals	151	91*	62	40*	213	131*	30	25*	10	5*	40	30*	253	161*

PROPORTION OF LEGISLATIVE MEASURES
THAT ARE SET RELATED CONSIDERED BY
ASSEMBLY STANDING COMMITTEES
OF THE
56TH SESSION OF THE NEVADA LEGISLATURE (1971)
(* indicates reported out)

COMMITTEES	BILLS REFERRED						RESOLUTIONS REFERRED						GRAND TOTAL	
	Assembly		Senate		Total		Assembly		Senate		Total		Committee Totals	
Agriculture	.44	.41*	.25	.14*	.39	.33*	.33	.0*	.0	.0*	.33	.0*	.388	.333*
Commerce	.043	.058*	.15	.13*	.067	.08*	.67	.67*	.0	.0*	.5	.67*	.081	.103*
Education	.077	.06*	.09	.09*	.081	.07*	.0	.0*	.0	.0*	.0	.0*	.077	.051*
Elections	.0	.0*	.0	.0*	.0	.0*	.0	.0*	.0	.0*	.0	.0*	.00	.00*
Environment & Pub. Resources	.667	.33*	.83	.82*	.72	.6*	1.0	1.0*	.5	.4*	.625	.5*	.705	.5769*
Fish & Game	.267	.44*	.0	.0*	.22	.33*	.0	.0*	.0	.0*	.0	.0*	.211	.308*
Govt. Affairs	.086	.06*	.025	.028*	.065	.148*	.0	.0*	.33	.33*	.0	.105*	.068	.054*
Health & Welfare	.276	.242*	.368	.411*	.299	.3*	.0	.0*	.0	.0*	.0	.0*	.280	.278*
Judiciary	.024	.009*	.008	.0*	.018	.005*	.0	.0*	.0	.0*	.0	.0*	.017	.005*
Labor & Management	.091	.0*	.0	.0*	.052	.0*	.0	.0*	.0	.0*	.0	.0*	.052	.000*
Leg. Functions	.0	.0*	.0	.0*	.0	.0*	.043	.0*	.2	.0*	.071	.0*	.061	.000*
Taxation	.077	.076*	.0	.0*	.048	.031*	.0	.0*	.0	.0*	.0	.0*	.039	.029*
Transportation	.131	.103*	.045	.052*	.108	.083*	.0	.0*	.0	.0*	.0	.0*	.104	.080*
Ways & Means	.120	.092*	.043	.0*	.090	.046*	.0	.0*	.0	.0*	.0	.0*	.085	.045*
Totals	.219	.213*	.189	.181*	.201	.189*	.172	.190*	.333	.293*	.216	.224*	.203	.193*

PROPORTION OF LEGISLATIVE MEASURES
THAT ARE SET RELATED CONSIDERED BY
SENATE STANDING COMMITTEES
OF THE
56TH SESSION OF THE NEVADA LEGISLATURE (1971)
(* indicates reported out)

COMMITTEES	BILLS REFERRED						RESOLUTIONS REFERRED						GRAND TOTAL Committee Totals	
	Senate		Assembly		Total		Senate		Assembly		Total			
Commerce	.11	.222*	.12	.136*	.116	.175*	.0	.0*	1.0	1.0*	.5	.5*	.129	.190*
Ecology	.875	.909*	1.0	1.0*	.882	.909*	.8	.75*	.0	.0*	.8	.75*	.864	1.00*
Education	.095	.063*	.090	.111*	.093	.08*	.0	.0*	.0	.0*	.0	.0*	.088	.077*
Fed.,State & Local Govts.	.058	.042*	.088	.092*	.072	.068*	.222	.181*	.0	.0*	.093	.083*	.076	.070*
Finance	.077	.058*	.088	.1*	.081	.073*	.0	.0*	.14	.0*	.1	.0*	.082	.070*
Health & Welfare	.192	.222*	.375	.333*	.28	.285*	.0	.0*	.0	.0*	.0	.0*	.289	.279*
Judiciary	.034	.012*	.008	.01*	.023	.011*	.0	.0*	.0	.0*	.0	.0*	.023	.011*
Labor	.031	.0*	.153	.22*	.067	.074*	.0	.0*	.0	.0*	.0	.0*	.067	.074*
Legis.Functions	.0	.0*	.0	.0*	.0	.0*	.125	.167*	.0	.0*	.25	.33*	.118	.167*
Pub. Resources	.371	.318*	.4	.35*	.38	.33*	.36	.4*	.0	.0*	.307	.33*	.370	.333*
St. Institutions	.25	.0*	.0	.0*	.25	.0*	.0	.0*	.0	.0*	.0	.0*	.200	.000*
Taxation	.0	.0*	.058	.071*	.02	.03*	.33	.0*	.0	.0*	.222	.0*	.051	.028*
Transportation	.097	.0*	.069	.039*	.086	.022*	.0	.0*	.0	.0*	.0	.0*	.083	.021*
	.097	.081*	.104	.105*	.099	.091*	.221	.192*	.065	.071*	.158	.130*	.105	.097*

PROPORTION OF LEGISLATIVE MEASURES
THAT ARE SET RELATED CONSIDERED BY
ASSEMBLY STANDING COMMITTEES
OF THE
57TH SESSION OF THE NEVADA LEGISLATURE (1973)
(* indicates reported out)

COMMITTEES	BILLS REFERRED						RESOLUTIONS REFERRED						GRAND TOTAL	
	Assembly		Senate		Total		Assembly		Senate		Total		Committee Totals	
Agriculture	.629	.529*	1.0	.0*	.642	.5*	.0	.0*	.0	.0*	.0	.0*	.643	.500*
Commerce	.154	.178*	.218	.231*	.169	.195*	.333	.5*	.0	.0*	.33	.5*	.172	.202*
Education	.043	.055*	.095	.1*		.059*	.079	.0*	.0	.0*	.0	.0*	.055	.069*
Elections	.020	.0*	.0	.0*	.018	.0*	.0	.0*	.0	.0*	.0	.0*	.018	.000*
Environment & Pub. Resources	.395	.333*	.769	.769*	.482	.5*	.0	.0*	1.0	1.0*	.5	.4*	.484	.487*
Govt. Affairs	.077	.068*	.214	.211*	.112	.102*	.25	.222*	.33	.0*	.267	.167*	.1191	.113*
Health & Welfare	.327	.3*	.5	.5*	.381	.375*	.0	.0*	.5	.5*	.2	.2*	.371	.362*
Judiciary	.071	.055*	.042	.046*	.061	.051*	.0	.0*	.0	.0*	.0	.0*	.057	.048*
Labor & Management	.034	.0*	.043	.056*	.038	.033*	.0	.0*	.0	.0*	.0	.0*	.038	.033*
Legis.Functions	.0	.0*	.125	.142*	.053	.067*	.097	.115*	.117	.0*	.103	.086*	.091	.080*
Taxation	.0	.0*	.0	.0*	.0	.0*	.0	.0*	.0	.0*	.0	.0*	.000	.000*
Transportation	.073	.075*	.205	.167	.121	.112*	1.0	1.0*	1.0	1.0*	1.0	1.0*	.129	.122*
Ways & Means	.067	.076*	.104	.132*	.081	.100*	.333	.0*	.0	.0*	.333	.0*	.085	.099*
Totals	.115	.104*	.163	.166*	.129	.129*	.102	.101*	.219	.11*	.131	.112*	.130	.112

PROPORTION OF LEGISLATIVE MEASURES
THAT ARE SET RELATED CONSIDERED BY
ASSEMBLY STANDING COMMITTEES
OF THE
58TH SESSION OF THE NEVADA LEGISLATURE (1975)
(* indicates reported out)

COMMITTEES	BILLS REFERRED						RESOLUTIONS REFERRED						GRAND TOTALS	
	Assembly		Senate		Total		Assembly		Senate		Total		Committee Totals	
Agriculture	.522	.667*	.833	.80*	.586	.700*	1.0	1.0*	.75	.75*	.8	.8	.618	.720*
Commerce	.267	.228*	.133	.130*	.242	.204*	.4	.5*	.0	.0*	.285	.333*	.238	.212*
Education	.292	.167*	.0	.0*	.206	.095*	.0	.0*	.0	.0*	.0	.0*	.189	.091*
Elections	.021	.036*	.0	.0*	.019	.031*	.0	.0*	.0	.0*	.0	.0*	.017	.026*
Environment & Pub. Resources	.681	.563*	.583	.6*	.647	.577*	.667	.667*	1.0	1.0*	.846	.846*	.702	.667*
Govt. Affairs	.196	.165*	.115	.104*	.162	.136*	.0	.0*	.333	.25*	.154	.111*	.161	.135*
Health & Welfare	.522	.516*	.419	.428*	.48	.474*	.0	.0*	.0	.0*	.0	.0*	.456	.444*
Judiciary	.074	.075*	.045	.055*	.064	.065*	.0	.0*	.143	.0*	.037	.0*	.061	.057*
Labor & Management	.159	.233*	.0	.0*	.159	.233*	.0	.0*	.0	.0*	.0	.0*	.159	.233*
Legis.Functions	.05	.067*	.0	.0*	.045	.058*	.209	.205*	.214	.091*	.210	.18*	.175	.492*
Taxation	.146	.130*	.0	.0*	.122	.1*	.111	.25*	.0	.0*	.091	.20*	.150	.114*
Transportation	.373	.285*	.324	.222*	.352	.252*	.0	.0*	.0	.0*	.0	.0*	.348	.25*
Ways & Means	.189	.223*	.142	.138*	.170	.182*	.0	.0*	.0	.0*	.0	.0*	.174	.180*
Totals	.219	.213*	.189	.181*	.201	.189*	.172	.190*	.333	.293*	.216	.224*	.203	.193*

PROPORTION OF LEGISLATIVE MEASURES
THAT ARE SET RELATED CONSIDERED BY
ASSEMBLY STANDING COMMITTEES
OF THE
59TH SESSION OF THE NEVADA LEGISLATURE (1977)
(* indicates reported out)

COMMITTEES	BILLS REFERRED						RESOLUTIONS REFERRED						GRAND TOTAL	
	Assembly		Senate		Total		Assembly		Senate		Total		Committee Totals	
Agriculture	.813	.818*	.0	.0*	.765	.75*	.75	.667*	.0	.0*	.6	.5*	.727	.688*
Commerce	.210	.240*	.304	.375*	.241	.291*	.286	.667*	.15	.0*	.33	.5*	.247	.300*
Education	.4	.417*	.0	.0*	.341	.333*	.0	.0*	.0	.0*	.0	.0*	.326	.313*
Elections	.0	.0*	.0	.0*	.0	.0*	.0	.0*	.0	.0*	.0	.0*	.00	.00*
Environment & Pub. Resources	.813	.8*	1.0	1.0*	.857	.889*	.900	.90*	.8	.80*	.867	.867*	.861	.724*
Govt. Affairs	.137	.138*	.281	.241*	.181	.175*	.133	.0*	.25	.33*	.158	.083*	.179	.169*
Health & Welfare	.536	.5*	.75	.5*	.555	.5*	.333	.5*	.0	.0*	.667	.333*	.509	.486*
Judiciary	.071	.07*	.089	.097*	.074	.081*	.0	.0*	.0	.0*	.0	.0*	.070	.077*
Labor & Management	.091	.055*	.2	.25*	.105	.091*	.0	.0*	.0	.0*	.0	.0*	.105	.091*
Legis.Functions	.0	.0*	.0	.0*	.0	.0*	.105	.091*	.0	.0*	.0	.0*	.138	.132*
Taxation	.10	.086*	.111	.125*	.102	.075*	.429	.5*	.0	.0*	.375	.5*	.134	.142*
Transportation	.3	.333*	.083	.0*	.25	.22*	.333	.5*	.0	.0*	.2	.25*	.246	.225*
Ways & Means	.146	.109*	.189	.0*	.170	.062*	.0	.0*	.125	.0*	.091	.0*	.166	.058*
	.191	.107*	.198	.154*	.193	.176*	.236	.312*	.208	.128*	.229	.252*	.196	.186*

PROPORTION OF LEGISLATIVE MEASURES
THAT ARE SET RELATED CONSIDERED BY
SENATE STANDING COMMITTEES
OF THE
57TH SESSION OF THE NEVADA LEGISLATURE (1973)
(* indicates reported out)

COMMITTEES	BILLS REFERRED						RESOLUTIONS REFERRED						GRAND TOTAL	
	Senate		Assembly		Total		Senate		Assembly		Total		Committee Totals	
Commerce & Labor	.079	.113*	.154	.138*	.106	.121*	.0	.0*	.0	.0*	.0	.0*	.105	.120*
Ecology & Public Resources	.375	.319*	.382	.375*	.379	.351*	1.0	1.0*	.0	.0*	.6	.0*	.394	.322*
Education	.067	.08*	.17	.2*	.106	.125*	.0	.0*	.0	.0*	.0	.0*	.091	.111*
Federal, State & Local Govts.	.136	.152*	.059	.068*	.093	.101*	.333	.5*	.222	.167*	.267	.3*	.103	.110*
Finance	.077	.089*	.074	.092*	.076	.091*	.5	1.0*	.0	.0*	.167	.33*	.079	.096*
Health, Welfare & State Institutions	.263	.317*	.078	.029*	.189	.186*	.333	.0*	.25	.5*	.28	.25*	.196	.189*
Judiciary	.053	.056*	.08	.072*	.063	.063*	.0	.0*	.0	.0*	.0	.0*	058	.058*
Legis. Functions	.1	.11*	.0	.0*	.056	.067*	.173	.158*	.12	.0*	.145	.107*	.121	.093*
Taxation	.074	.0*	.055	.071*	.066	.041*	.0	.0*	.0	.0*	.0	.0*	.053	.031*
Transportation	.132	.153*	.045	.025*	.092	.089*	.0	.0*	.0	.0*	.0	.0*	.092	.088*
	.114	.127*	.097	.096*	.107	.112*	.180	.214*	.095	.054*	.137	.101*	.110	.111*

PROPORTION OF LEGISLATIVE MEASURES
THAT ARE SET RELATED CONSIDERED BY
SENATE STANDING COMMITTEES
OF THE
58TH SESSION OF THE NEVADA LEGISLATURE (1975)
(* indicates reported out)

COMMITTEES	BILLS REFERRED						RESOLUTIONS REFERRED						GRAND TOTAL	
	Senate		Assembly		Total		Senate		Assembly		Total		Committee Totals	
Commerce & Labor	.130	.043*	.225	.237*	.181	.183*	.0	.0*	.5	.5*	.333	.333*	.185	.188*
Education	.0	.0*	.375	.429*	.142	.188*	.0	.0*	.0	.0*	.0	.0*	.130	.176*
Environment & Pub. Resources	.741	.714*	.656	.621*	.695	.651*	.857	.651*	.667	.8*	.8	.813*	.722	.694*
Finance	.102	.132*	.253	.243*	.162	.187*	.0	.0*	.0	.0*	.0	.0*	.158	.180*
Govt. Affairs	.106	.108*	.170	.192*	.135	.146*	.4	.25*	.111	.125*	.214	.167*	.138	.147*
Health, Welfare & St. Institutions	.354	.372*	.518	.522*	.404	.424*	.0	.0*	.2	.0*	.2	.0*	.394	.394*
Judiciary	.047	.042*	.069	.073*	.056	.055*	.125	.2*	.0	.0*	.065	.086*	.057	.059*
Legis. Functions	.0	.0*	.0	.0*	.0	.0*	.142	.222*	.242	.263*	.192	.243*	.138	.155*
Taxation	.091	.2*	.181	.211*	.152	.208*	.0	.0*	.0	.0*	.0	.0*	.125	.172*
Transportation	.367	.318*	.28	.292*	.338	.324*	.5	.5*	.0	.0*	.5	.5*	.342	.329*
	.163	.159*	.226	.237*	.191	.198*	.272	.333*	.197	.190*	.236	.257*	.196	.205*

PROPORTION OF LEGISLATIVE MEASURES
THAT ARE SET RELATED CONSIDERED BY
SENATE STANDING COMMITTEES
OF THE
59TH SESSION OF THE NEVADA LEGISLATURE (1977)
(* indicates reported out)

COMMITTEES	BILLS REFERRED						RESOLUTIONS REFERRED						GRAND TOTAL	
	Senate		Assembly		Total		Senate		Assembly		Total		Committee Totals	
Commerce & Labor	.224	.158*	.215	.148*	.221	.153*	.5	.5*	.5	.5*	.5	.5*	.228	.167*
Finance	.16	.181*	.106	.101*	.134	.140*	.0	.0*	.0	.0*	.0	.0*	.125	.129*
Govt. Affairs	.128	.154*	.108	.080*	.119	.113*	.25	.142*	.0	.0*	.142	.111*	.121	.113*
Human Resources & Facilities	.4	.36*	.267	.278*	.333	.310*	.0	.0*	.5	.333*	.333	.333*	.333	.311*
Judiciary	.091	.052*	.081	.069*	.087	.060*	.083	.125*	.0	.0*	.048	.067*	.084	.061*
Legis. Functions	.0	.0*	.0	.0*	.0	.0*	.142	.111*	.241	.125*	.192	.117*	.139	.078*
Natural Resources	.772	.8*	.647	.533*	.718	.667*	.75	1.0*	.785	.667*	.772	.765*	.833	.702*
Taxation	.048	.0*	.172	.136*	.12	.1*	.5	.0*	.133	.142*	.176	.133*	.158	.111*
Transportation	.16	.214*	.178	.041*	.169	.105*	.0	.0*	.0	.0*	.0	.0*	.158	.095*
	.186	.168*	.159	.125*	.174	.145*	.214	.169*	.267	.269*	.244	.216*	.183	.154*

Proportion of SET Legislative
Workload by Senate Session

	Senate Bills:				Assembly Bills:			
Senate:	1971	1973	1975	1977	1971	1973	1975	1977
COMMERCE [1]	.11	.079	.130	.224	.120	.154	.225	.215
LABOR [1]	.031	...	...	...	.133	...	...	...
ECOLOGY[2]	.875	.375	.741	.722	1.000	.382	.656	.647
PUBLIC RESOURCES[2]	.371	...	...	...	.371	...	...	...
FEDERAL, STATE AND LOCAL GOVERNMENT[5]	.058	.136	.106	.128	.088	.059	.170	.108
FINANCE	.077	.077	.102	.160	.088	.074	.253	.106
EDUCATION[3]	.095	.067	.000	....	.090	.170	.375	...
HEALTH AND WELFARE[4]	.192	.263	.354	.400	.375	.078	.518	.267
STATE INSTITUTIONS[4]	.250	...	...	...	.000	...	...	...
JUDICIARY	.034	.053	.047	.091	.008	.080	.069	.081
LEGISLATIVE FUNCTIONS	.000	.100	.000	.000	.000	.000	.000	.000
TAXATION	.000	.074	.091	.048	.058	.055	.181	.172
TRANSPORTATION	.097	.132	.367	.160	.069	.045	.280	.178

[1]Merged to become committee on Commerce and Labor in 1973
[2]Merged to become committee on Ecology and Public Resources in 1973;Environment and Public Resources in 1975; Natural Resources in 1977.
[3]Merged to become Human Resources and Facilities in 1977
[4]Merged to become Health, Welfare and State Institutions in 1973; Human Resources and Facilities in 1977
[5]Became Government Affairs in 1975

Proportion of SET Legislative Workload by Assembly Session

Assembly	Assembly Bills: 1971	1973	1975	1977	Senate Bills: 1971	1973	1975	1977
AGRICULTURE	.44	.629	.522	.813	.25	1.000	.833	.000
COMMERCE	.043	.154	.267	.210	.15	.218	.133	.304
EDUCATION	.077	.043	.292	.400	.09	.095	.000	.000
ELECTIONS	.00	.020	.021	.000	.00	.000	.000	.000
ENVIRONMENT AND PUBLIC RESOURCES	.667	.395	.681	.813	.83	.769	.583	1.000
FISH AND GAME[1]	.267	...	...	...	.000			
GOVERNMENT AFFAIRS	.086	.077	.196	.137	.025	.214	.115	.281
HEALTH AND WELFARE	.276	.327	.522	.536	.368	.500	.419	.758
JUDICIARY	.024	.071	.074	.071	.008	.042	.045	.089
LABOR AND MANAGEMENT	.091	.034	.159	.091	.000	.043	.000	.200
LEGISLATIVE FUNCTIONS	.000	.000	.050	.000	.000	.125	.000	.000
TAXATION	.077	.000	.146	.100	.00	.000	.000	.111
TRANSPORTATION	.131	.073	.373	.300	.045	.205	.324	.083
WAYS AND MEANS	.120	.067	.189	.146	.043	.104	.142	.189

[1]Ceased to exist in 1973

Appendix D

Good Classification schemes are hard to find. They are even more difficult to construct. A search of the literature on the technological needs of state governments revealed few schemes which appeared to comprehend the breadth of state involvement in technical matters. The Committee on Domestic Technology Transfer has developed in conjunction with the Federal Council for Science and Technology a scheme that I felt could be adapted to the needs of state government. Their categories of science, engineering and technology are: [1]

Agriculture
Business and Commerce
Community Development
Construction
Consumer Protection
Di saster Prevention and Relief
Education
Employment, Labor and Manpower
Energy
Environment
Health
Housing
Income Security and Social Services
Information
Law, Justice and Legal Services
Science and Technology
Transportation
Miscellaneous

These categories were considered in terms of the definition of science, engineering and technology provide in section and in terms of the overall functions and responsibilities of state government. A new list together with examples of the subject subtended in each general category was produced. The Classification was as follows:

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[1] Committee on Domestic Technology Transfer, Federal Council for Science and Technology, Federal Transfer Directory of Programs, Resources, Contact Points, GPO, June, 1975

Classification Scheme Used For SSET-Related Matters

Major Classification	Sub-Headings Included
Agriculture	Ranching Dairy Grain Crop Rural Affairs
Business and Commerce	Trade Practices Methods Utilities Motor Carriers Professions (except medical)
Community Development	Information Systems Public Technology Libraries Municipal Planning
Construction and Housing	Building and Building Codes Housing Insulation Factory Built Housing Mobile Homes
Consumer Protection	Trade Practices (vis-a-vis cons.) Product Liability Adulteration (food, commodities) Weights and Measures Polygraphs
Disaster Prevention and Relief	Drought Aid Earthquake Prediction Floods
Education	Vocational Preschool Elementary and Secondary Higher Professional
Employment and Labor	Insurance Prediction
Energy	Petroleum) Fossil Gas) Fossil Coal) Fossil Geothermal Solar Wind Nuclear

Environment	Pollution (Air (Water (Noise (Land Litter Land Use Waste Disposal
Health	Health and Medical Care Mental Health Disease Human Bodies and Organs Professional Regulation Drugs/Narcotics
Natural Resources	Conservation (Flora (Fauna (Water (Minerals (Land Management Dams and Reservoirs Irrigation Fish
Social Services	Population, Population Control Human Resources (Youth (Aged (Handicapped Law Enforcement Day Care
Product Development	Cable TV Communications Explosives Commodities
Safety	Industrial Public (Fire, toxic, hazardous) Vehicle
Transportation	Aviation Auto Bus Railroads Highways and Roads Bridges

Science and Technology	Research and Development Basic Sciences Advanced Applications Experimental Projects Forecasting EDP

When applied to the legislation classified as SET-related, the distribution of legislation shown in Table A was discovered.

Classification of SET-Related Bills For
Each House by Session (Definite SET Bills Only)

	1971		1973		1975		1977	
	Senate	Assembly	Senate	Assembly	Senate	Assembly	Senate	Assembly
Agriculture	0	1	1	4	1	3	0	0
Business and Commerce	0	0	0	1	0	1	1	0
Community Development	0	0	0	0	1	0	1	0
Construction and Housing	0	1	1	1	1	0	0	1
Consumer Protection	0	0	2	4	1	0	1	1
Disaster Prevention	0	0	0	0	0	0	0	0
Education	0	0	0	0	0	2	0	0
Employment and Labor	0	0	1	0	1	2	1	0
Energy	0	1	1	1	3	3	3	5
Environment	12	11	4	11	7	10	6	5
Health	2	11	5	10	4	3	14	5
Natural Resources	5	6	14	3	7	10	8	10
Social Services	0	0	4	1	0	0	0	3
Product Development	1	1	1	1	1	2	0	2
Safety	0	4	0	5	7	2	0	0
Transportation	0	0	1	2	2	2	0	1
Science and Technology	0	0	1	2	2	0	1	0

Classification of SET-Related Bills for
Each House by Session (Total SET Bills)

	1971		1973		1975		1977	
	Senate	Assembly	Senate	Assembly	Senate	Assembly	Senate	Assembly
Agriculture	1	3	2	9	2	10	1	7
Business and Commerce	0	4	4	5	3	13	3	5
Community Development	0	0	5	1	5	5	3	4
Construction and Housing	2	4	3	9	1	5	2	5
Consumer Protection	5	5	4	6	10	6	6	4
Disaster Prevention	1	1	2	0	0	1	0	0
Education	2	3	1	0	1	7	2	9
Employment and Labor	1	1	2	1	1	8	4	1
Energy	1	2	2	2	4	4	7	14
Environment	17	19	9	15	14	18	10	9
Health	13	21	15	31	20	20	19	23
Natural Resources	13	15	16	34	17	28	20	22
Social Services	0	2	3	5	1	14	2	16
Product Development	2	2	3	4	5	3	1	8
Safety	2	11	2	9	7	7	2	2
Transportation	0	0	7	3	11	13	5	8
Science and Technology	3	2	3	5	5	10	3	4

Classification of SET-Related Measures For
Each House by Session (Definite SET Measures Only)

	1971		1973		1975		1977	
	Senate	Assembly	Senate	Assembly	Senate	Assembly	Senate	Assembly
Agriculture	0	0	3	1	4	1	0	0
Business and Commerce	0	0	0	1	0	1	1	0
Community Development	0	0	2	0	1	1	1	0
Construction and Housing	0	0	1	1	1	0	0	1
Consumer Protection	0	0	2	4	1	0	1	1
Disaster Prevention	0	0	0	0	0	0	0	0
Education	0	0	0	0	0	2	0	0
Employment and Labor	0	0	1	0	1	0	1	0
Energy	0	1	1	1	5	5	5	7
Environment	13	11	5	12	9	11	6	6
Health	2	11	7	11	4	3	15	5
Natural Resources	6	6	15	3	10	11	9	19
Social Services	0	0	4	1	0	0	0	3
Product Development	1	1	1	1	1	2	0	2
Safety	0	4	0	5	7	1	0	0
Transportation	0	0	1	3	2	3	0	1
Science and Technology	0	1	4	2	1	1	2	0

Classification of SET-Related Measures For each House by Session (All SET Measures)

	1971		1973		1975		1977		Research
	Senate	Assembly	Senate	Assembly	Senate	Assembly	Senate	Assembly	Requests
Agriculture	1	3	2	10	2	11	1	7	1
Business and Commerce	0	4	4	6	3	15	4	5	2
Community Development	0	0	5	1	5	6	3	5	0
Construction and Housing	2	4	3	9	1	6	4	5	1
Consumer Protection	5	5	4	6	10	6	6	5	0
Disaster Prevention	1	1	2	0	0	1	0	0	1
Education	2	3	1	0	1	7	3	9	2
Employment and Labor	1	1	2	1	1	8	4	1	0
Energy	1	2	2	2	6	6	10	20	12
Environment	24	20	10	16	22	20	11	11	12
Health	13	22	26	33	21	24	31	24	10
Natural Resources	18	17	18	16	25	32	25	35	16
Social Services	0	3	3	5	3	15	3	18	2
Product Development	3	2	3	5	5	3	2	9	7
Safety	2	11	2	9	7	7	2	2	1
Transportation	0	0	8	4	11	15	5	10	4
Science and Technology	3	3	5	5	5	11	3	5	5

Appendix E

GEOGRAPHIC DISTRIBUTION OF SCIENTISTS AND ENGINEERS 1974

State	Total	Scientists	Engineers
United States Total	1,973,200	901,000	1,071,800
Alabama	23,200	7,100	16,000
Alaska	3,300	1,700	1,600
Arizona	18,100	8,000	10,100
Arkansas	7,900	4,500	3,300
California	243,000	94,900	148,000
Colorado	31,200	13,700	17,500
Connecticut	43,200	17,300	25,000
Delaware	18,900	13,300	5,500
Florida	43,500	18,500	25,000
Georgia	31,700	16,600	15,200
Hawaii	7,200	3,400	3,800
Idaho	7,000	4,300	2,700
Illinois	107,200	52,500	54,700
Indiana	36,100	14,700	21,400
Iowa	19,200	10,700	8,500
Kansas	13,800	6,500	7,300
Kentucky	16,700	9,400	7,300
Louisiana	25,600	10,000	15,600
Maine	4,400	2,200	2,200
Maryland	54,300	29,200	25,200
Massachusetts	85,600	38,500	47,000
Michigan	92,500	41,800	50,600
Minnesota	38,600	7,300	21,400
Mississippi	9,800	4,400	5,400
Missouri	42,900	21,900	21,000
Montana	4,600	2,700	1,900
Nebraska	8,900	4,700	4,300
Nevada	2,700	1,500	1,200
New Hampshire	8,200	4,300	4,000
New Jersey	91,200	41,800	49,400
New Mexico	12,800	6,100	6,700
New York	188,900	97,200	91,700
North Carolina	29,300	15,900	13,400
North Dakota	5,600	3,400	2,200
Ohio	106,900	42,100	64,800
Oklahoma	19,900	9,100	10,800
Oregon	17,300	10,100	7,200
Pennsylvania	109,200	42,700	66,500
Rhode Island	8,000	4,100	4,000
South Carolina	17,800	8,200	9,600
South Dakota	2,900	1,700	1,300
Tennessee	30,000	12,600	17,400
Texas	102,300	42,700	59,500
Utah	10,000	3,800	6,200
Vermont	3,900	1,600	2,300
Virginia	47,100	23,200	23,800
Washington	40,600	14,500	26,200
West Virginia	12,700	6,400	6,300
Wisconsin	31,200	16,100	15,200
Wyoming	4,400	2,800	1,600
District of Columbia	31,800	19,800	12,000

Source: NSF, U.S. Scientists and Engineers, 1974, NSF 76-329, Sept. 1976

Appendix F

An evaluation schedule was used to systematically consider each of the alternatives. The schedule together with one example of its use follow.

1. Name of the Option:

2. Objectives:

   a. What will it provide?

   b. For whom will it provide?

   c. How will it help the Legislature?

   d. Upon what sources will it draw?

3. Implementation Features:

   a. Experience

      1 Has this been tried elsewhere? With what success?

      2 Has Nevada tried anything similar? With what success?

   b. Organizational

      1 Does option entail constituting a new entity or is it an add-on?

      2 Will it require additional personnel?

      3 Will it require more space?

      4 Will it require additional coordination tasks?

4. What are the major advantages of this approach?

5. What are the major disadvantages of this approach?

6. What actions are necessary to initiate this option?

7. Is this option best included with other alternatives?

8. What is necessary for this option to be succesful?
   (and is this requirement(s) realistic?)

5 Who will direct or coordinate its activities?

6 What resources will it draw upon and how will it affect these?

7 What incentives are being provided for its use and success?

8 How will it affect services already in place?

9 How will it handle information?

10 How quickly can it respond to needs?

11 What difficulties are already apparent?

c. Financial

1 What are the start-up costs in terms of equipment, personnel and support?

2. What are the maintenance costs?

3 Are there growth costs to be calculated?

4 Will it divert resources and from where?

5. Will it promote more effective utilization of existing resources?

6 What are thepctential funding sources?

7 What are the risks involved?

CONTEXTUAL

d. ~~Experience~~

1 What is the relation of this effort to the total information gathering effort of the legislature?

2. Does this mechanism duplicate efforts by the executive branch?

3 Is this duplication worthwhile?

4 What impact will such a mechanism have on citizen participation?

5 How will such a mechanism affect the time available to citizen legislators?

6. How does such a mechanism square with the features of bienniel sessions?

7 How could such a mechanism be misued?

Considering the Alternatives
(As an Example)

1. Options for Informing the Individual Legislators: General Information

Options

a. Seminars/workshops involving small numbers of legislators to be held at several different time throughout the interim and involving members of the scientific and technical community.

b. Conferences sponsored by the legislature in which large numbers of legislators would recive thematic, topical presentations by members of the scientific and technical community. Conferences could punctuate the the interim every six months.

c. Professional Society Cooperation could be enlisted to increase the interaction between the legislature and the professional societies throughout Nevada. This cooperation could take several forms including: speeches and discussions with local chapters, attendence by selected legislators of national meetings, studies of legislative interest performed by members after legislative request, submission of points within pending legislation for consideration, submission of selected pending legislation lists to local chapters to help elict ST testimony at committee hearings, and symposia involving professional societies and legislators in days-long conferences.

d. University run conferences and/or workshops in which selected members of the academic community engage in dialogue-type meeting with legislators, and their staff.

d. Tutorials in which individual legislators are able to subscribe to correspondence or individual instruction in matters of some complexity or unfamiliarity.

e. Field trips conducted for members of ST committees within the legislator which provide individual members with a first-hand perspective on the problems under consideration together with several views on the nature and extent of the situation.

2. *options for informing individual legislators: Legislative information*

Options

a. *Task Forces provide a means of examing controversial or pressing issues while involving individuals with many different views coming from many different segments of the state.*

b. *Interim committees provide a means of considering a topical issue or area of legislative concern in some depth. It participants consist primarily of legislators coming from both houses. In special instances, citizens can be included on the committee.*

Objectives

a. *Task forces, sometimes called advisory groups, differ in their purpose according to their commission in the legislative cycle. Those commissioned for activity during the session and composed of representatives from the ST community, public interest groups and industry would serve to review the scientific and technological ramifications of each bill pending before the legislature and to advise the legislators on these matters. Task forces commissioned during the interim would tackle pressing state-wide concerns involving ST issues.*

Interim committees provide a means of bringing ST information on matters of legislative interst before small groups of legislators with the purpose of framing legislative action or remedy.

b. *Legislators are the primary beneficiaries of both approaches. ST community personnel are brought in close contact with the legislature. This involvement could well have a salutary effect on legislative actions bearing on ST matters.*

c. *A task force operating during the session with an eye toward flagging those bills with significant ST content would assist legislators in brininging timely and accurate information to bear on matters of legislative concern. It would convene and possibly structure testimony on bills so as to provide technically accurate, systematic but differing interpretations of situation requiring legislative evaluation.*

Interim committees and interim task forces create the opportunity for sampling a broad current of feeling and insight into topical issues. They allow for a legislative pause to consider issues involving controversy, complexity or persistent public concern. Both may create constitutencies of opinion around issues or develop positions for legislative debate. For individual members, they can provide extensive, often first-hand, knowedge of a subject area.

d. *Both options have the possibly of sampling broadly from the ST community's expertise. The session Task Force committee would serve on a part-time volunteer basis.*

Objectives

a. *Each of these options is intended to provide deep background information to individual legislators. They differ in the manner in which the material is presented and the scope of their examination. They also offer different opportunities for individual participation and demand differing amounts of initiative and attention.*

1 Seminars/workshops: face-to-face interaction with ST community, dialogue possible, topical concerns examined

2 University Conferences: Topical concerns examined, some dialogue possible, more legislators exposed to same information, connection with University community facilitated

3 Proffesional Society Cooperation: Connection with ST community facilitated, face-to-face interation possible, dialogue possible in some modes, topical concerns examined.

4 Conferences sponsored by Legislature: (same as 2)

5 Tutorials: individual instruction in areas of personal interest, little dialogue possible except in instruction mode, topical concerns examined, little contact with ST community

6 Field Trips: face-to-face interation with some ST individuals, personal confrontation with problems, topical concerns examined, dialogue possible to extent.

b. *Each of these options focues most squarely on serving the individual legislator. Staff and citizen participation is possible in the larger settings such as conferences. Incidently, it will serve the ST community in their understanding of the legislature. This is especially true of the university community.*

c. *The benefits of each of these options is indirect. To the degree each is not aimed toward specific legislation the worth of each can only be judged after the fact by the legislators themselves.*

d. *The ST community generally will have to be involved. But this community is severely fragmented both by geography and institutional association. This makes the university community and professional organizations the most convenient and catholic of the ST sources. In addition, the UN system in their extended Prgrams and Continuing Education program has the capability to draw together diverse interests in a coordinated fashion for possible legislative use.*

Implementation Features

a. *Experience*

1. *With the exception of tutorials, each of the options has been tried with varying degrees of success in several states. Tututorials, of course, are standard fare in most university settings, but have not been made available through legislative action to its members.*

2 *Members of the Nevada legislature have participated in workshops, conferences and field trips for several years. Typically such events have been sponsored by regional or national organizations in which the legislature has an interest. Occasionally, members have attended university run conferences or participated in field trips as members of legislative committees. The record of such participation has been favorable.*

b. *Organizational*

1 *None of these options need entail new institutional entities. But most appear to require new institutional arrangements. Coordination and development problems plague each of these options.*

2 *Again, new personnel need not be required, but their presence would be dictated by the institutional arrangement implementing each of the options. If the legislature itself coordinated and/or developed each or any of these options, it is possible that additional personnel would be needed. This is especially true of the conference option. However, facilities exist within the university system to handle many of the aspects of the options. The LCB could in such cases act as liaison with such entities as the Extended Prgrams and and Continuing Education Division of the University of Nevada at Reno.*

3 *It is unlikely that any new space would be required of these options.*

4 *Coordination tasks for each of these options are heavy. While many such tasks could be displaced to existing entities, some time on the part of legislators and their staff would be required.*

5 *Direction of each or any of the options should reside with the legislature or some body under its direction. Since noneof options (with the exception of the tutorials) is self-starting and available over the length of the legislative cycle, choices will have to*

be made over the topicall issues to be covered in any seminar, conference or field trip. It is possible that existing and appropriate sub-committees could act in their own behalf for convening seminar, workshops and other small meetings. But conferences involving a substantial proportion of the members would appear to demand the participation of a more diverse, representation segment of the legislature. This might mean the participation of the leadership or some sub-committee, apporinted for the interim, which attends to such choices. Beyond policy direction, the routine matters of coordination and development could be profitably be left to those entities in state government, for example UN system, equiped for such matters.

6 Physical facilities exist throughout the state. None of the options appear to offer substantial difficulties. Among those groups servicing the options, the ST personnel in the state universities would be the most seriously affected. In part this is because policy related matters are only poorly awarded in retention and tenure matters. More importantly, university participation may require release time or could subject university activities to a scrutiny not especially welcome throughout the university system.

7 Few structural incentives are avaiable to insure the use or success of these options. In large measure, they depend on the interest of involved legislators and the quality of the information disseminated by the options.

8 If many of the coordination tasks are farmed to entities outside the Legislature and its service agency, in-place services should experience few impacts. At the margin however, LCB staff will be affected by liaison and brokerage tasks.

9. Information is handled in a slightly different fashion by each of the options. In part these differences are detailed in Objectives (a). Most emphasize the dissemination of pre-digested information in a face-to-face manner where the opportunity for dialogue exists.

10. While several of the options, especially field trips and seminars, can be organized in a relatively short time, none of the alternatives is particularly well suited to meeting the information needs of legislators quickly. Nor do these options appear best suited to the rythmn of session activity.

11. Several difficulties attend this list. Coordination and Development tasks head the problem areas. Determination of of the topics for discussion and arrangements of speakers and participants are time consuming processes. In addition the off-session nature of these alternatives interferes with member activity and meet no immediate information needs.

c. Financial

1 The start-up costs of these options depend in large measure on the form their implementation might take. The least expensive option appears to be the Tutorial. The University of Nevada System already has several course on-line dealing with ST matters which could be subsribed to by legislators. But this alternative requires the greatest initiative on the part of the individual legislator and involves a committment stretching over a lengthly period of time. More condensed information systems appear to be more costly. At a minimum, come policy direction on the part of some segment of the legislature would be required as to the nature of the topics considered and the form of information dissemination. If we suppose a sub-committee with 5 members meets twice a year on this matter, then approximately $1400 a year would be required just to convene this coordinating body. This excludes the costs attendent to the service itself.

Conditions	Costs (minimum)
5-member committee 2 meetings/year	$1400

2 The maintenance costs again vary widely depending on the implementation conditions. As an estimate, consider the possibility of offering 4 seminar/workshops per year in which the total legislative involvement approaches sixty members. Including administrative costs, the total bill would approach $10,000.

Conditions	Costs (minimum)
4 workshops/year 15 members/workshop Transportation, Lodging, Salary, per diem costs Honoraria for Speakers Administration costs	$10,000

More ambitious projects, conferences encompassing citizen participation would involve proprtionatley greater costs. While user fees (registration fees) might be used to offset such expenses, some legislative monies would have to be allocated in the early stages of such a program.

3 Growth costs have to be predicated on estimates of the usefulness of the various options. As long as no formal committment is made to a new institutional form, it should be quite easy for the legislature to retain tight control over such costs. However, it should be recognized that shifting administrative costs to an entity within the university system might have ramifications in other portions of the budget.

4 To the degree the support agency of the legislaure is charged with coordination and development tasks, time and monies will be diverted from the activities they are already engaged in. If such administrative chores are given to entities within the university system, their capacity will be diminished unless an appropriate charging algorithm is developed.

5. Early research shows little slack in the capacity of the legislature's support agency to deal with additional tasks. The prime benefits on any of the options comes in the utilization of existing state resources within the university system and in the improved ability of legislators to grapple with complex issues.

6 While both the federal government and private foundations are capable and willing to fund such enterprises, state use of such opportunities shifts the nature of start-up costs and impacts on LCB peronnel time. Grants have to be written, monitored and reported on. The search for such grants would likely involve the activities of LCB personnel or require LCB liaison with some grant-seeking entity beyond the legislature such as the university system. In other cases, registration fees, and legislative funding are the most prominent sources.

d. Contextual

1 Scientific and technical issues constitute about one-fifth of the legislation on which the legislature must act. Each of these options would enhance the ability of legislators to make informed opinions on complex issues involving ST. However, if administrative tasks were housed within the legislative support agency this could adversely affect its ability to handle the increasing number of requests for other sorts of information. It should be noted however that each of these options need not be restricted to ST topics. Each is amenable to any number of topics. To this extent, such alternatives need not entail diversion or deflection of current efforts.

2 These alternatives do not duplicate the efforts of the executive branch?

3 NA

4 There appears to be little reason why these alternatives would effect citizen participation in any way. They might affect the meaning of existing citizen participation. Specifically, the character of ST input or the attribution of spcial significance to this input on the part of legislators might diminish their regard for the opinions of ordinary citizens. Contrawise, the laternatives might well sensitize legislators to the concerns of citizens by providing a context in which they can be given meaning.

5. Each of the alternatives makes just one more demand on time available to citizen legislators. However, the phase of the legislative cycle in which such alternatives would occur should ameliorate such considerations. Tutorials, in particular, are geared to the individual facets of a member's schedule.

6 Each of the alternatives can be tailored to fit the rythmn of the biennial session.

7. Because each of the alternatives deals in information, each is subject to misuse over the structure and content of the information presented. Balanced, non-partisan presentations require monitoring and sensitivity which place heavy burdens on the development and coordination of each of the options.

Advantages

a. Each can be tailored to fit the rythmn of the legislative cycle.

b. Most provide for a flexible examination of topical concerns.

c. Most require little study on the part of legislators.

d. Most introduce legislators to members of the ST community and their perspectives.

e. Each can allow for a more systematic, balanced presentation than members might acquire elsewhere.

f. Each is relatively inexpensive and requires few additional personnel.

Disadvantages

a. With the exception of tutorials, each entails coordination activities over which legislative control must be exercized.

b. The benefits are neither direct nor tangible.

c. Topical consideration might acquire a partisan or personal edge.

d. Each represents one more intrusion into a legislator's free time.

e. None of the alternatives can be enacted without some expenditure. (Unless members subscribed to tutorials at their own expense.) A Trial program over the biennium could run $16,000.

Are these Options (or some portion) best included with other alternatives?

a. *Most of these options could result from activites aimed at increasing the capacity of the Legislative Counsel Bureau or developing interfacing mechanisms. In particular, interns, an expanded research division, a science adviser, university system liaison or university cooperation might provide some of the results expected from this set of options.*

b. *Even as the product of another set of alternatives activites such as those included in this set of options is likely to cost money. It is possible that occasional conferences could be provided to the legislators by piggy-backing their participation on the funding provided by other user groups such as industry. In such instances however, the opportunities for dialogue and discussion are diminished.*

Implementation Features

a. *Experience*

1. *Each of the alternatives has been tried in several states. The session task force experience is most vivid in Hawaii where in 1973 the legislature established a Science Policy Advisory Group by Statute. There members of the ST community served on a part-time basis. Their expenses were paid, and they had benefit of a full-time staff while covering different subject areas using a subcommittee mechanism. This group became dormant in 1974 after the president of the Senate, it prime supporter, was defeated in his bid of governor. Its contribution to the legislative process in Hawaii was short-lived.*

   Interim taskforces are a familiar aspect of state government throughout the country. Typically, such groups are appointed by governors for study of a particular issue. Their worth varies considerably with the nature of the topic, the participants, the context of their conduct, and a myriad of other factors too different to summarize. Interim legislative committees suffer the same aspect. Often, the primary value of such endeavors is in the education of legislators and citizens as to the complexity and nature of a issue area.

2 *Nevada has had an active schedule of interim committees for several years. Many such as the committee on Electric and Gas Utilities and the Public Service Commission have concerned themselves with complex ST matters. Similarly, interim task forces convened by the governor such as his committee on Efficiency and economy have been utilized.*

b. *Organizational*

1 *Interim committees are currently a prominent part of Nevada's legislative activity. Legislative Task forces especially ones designed to serve the legislature during session would require new institutional arrangements and could well require staff acquisition.*

2 *Interim committees are staffed by the LCB. These staff has served regardless of the subject matter under consideration and their performance has generally been thought adequate to the task. Such committees might benefit from staff with ST background where scientific and technical issues were under consideration.*

   Task Force assistance with pending legislation would undoubtably require some clerical staff and might well require professional staffing.

3 *Task force participation in legislative affairs would require additional space.*

4. *Interim committee should provide no new coordination tasks. Task forcing would require extesive coordination and recruitmnet tasks. This is especially the case were the members to serve on a part-time volunteer basis.*

5. *While any number of tacts are possible, coordination tasks would initially fall to members of the LCB.*

6. *Interim committees rely upon LCB staff and Legislative building facilities which, at present, appear more than adequate. A Task force arrangement would require the involvement of citizen members of the ST community together with support provided by clerical staff of the LCB. During session their monitoring activities would place a strain on the space facilities of the legislative building.*

7 *The experience in Hawaii and eleewhere suggests a strong committment on the part of the leadership is necessary in the initial stages if Task forcing is to be given the time necessary to institutionalize itself. Interim committees appear to have established themselves as a useful and productive form of legislative inquiry.*

8 *Interim committees should have no effect. Task forcing would place additional demands on the LCB, require additional coordination tasks within LCB on pending legislation, and make additional demands on legislator time.*

9 *Interim committees are a severely reactive form of inquiry, but compensate by being conducive to in-depth examination. Task Forces would help marshall St resources around pending legislation. Once established they could respond quickly to legislation within the purvue of their expertise.*

10 *Task Forces represent a major committment of money and time on the part of the legislture. They demand much of their citizen participants. Without strong and continuing institutional and legislative support there is little reason to see why they would succeed.*

Interim committees exist in place and appear relatively successful. The major problems associated with such committees comes in the diversity of opinion they survey, the completeness of their investigation and the conditions which prompt their formulation.

Appendix G

The Resource and Information Directory System is intended to assist members of the Research Division of the Legislative Counsel Bureau in locating and acquiring SET information on a large number of topics. The system draws together resources and information sources in 15 functional areas.[1] The sources were obtained from a wide variety of people and places. Several national directories were of special use:

1. Jacques Cattell Press (eds.), Industrial Research Laboratories of the United States, 15th ed. Tempe, Arizona: Jacques Cattell Press, 1977.

2. Margaret Labash Young, et al., (eds.) Directory of Special Libraries and Information Centers (4th ed.), Detroit, Michigan: Gale Research Co., 1977.

3. U.S. General Accounting Office, Federal Information Sources and Systems: A Directory for Congress' 1976, Congressional Sourcebook Series, OPA-78-23, Washington, D.C., 1976.

Several sources within Nevada were of value. In particular, the Nevada State Library offered useful advice and invaluable assistance. Joan Kirschner, Robert Gray and Susan Southwick gave their own personally collected sources and established many useful leads throughout the state. Finally, the Executive SSET Project and its inventory of University of Nevada System faculty members augmented the number of individuals placed in the system.

The 15 functional areas and the topical subheadings placed within each are listed in the following pages. A complete document listing the sources is available from the Research Division of the Legislative Counsel Bureau. Minus the Executive Project's entries, the number of entries within each functional category are:

Agriculture	45
Building and Construction	21
Business and Commerce	81
Community Development	11
Energy	49

[1] The functional classification is adapted from the scheme used in Federal Council for Science and Technology, Directory of Federal Technology Transfer, Committee on Domestic Technology Transfer, Washington, D.C., June, 1975.

Environment	50
Labor	2
Health	107
Natural Resources	102
Product Development	26
Safety	11
Social Services	27
Transportation	28
Science and Technology (miscellaneous)*	199

* This includes all special libraries in the state and region.

LIBRARIES (I)

SUBHEADING	Code (01-49)
Agriculture	01
Building and Construction	03
Business and Commerce	05
Community Development	07
Energy	09
Environment	11
Health	13
Labor	15
Natural Resources	17
Product Development	19
Safety	21
Science and Technology	23
Social Services	25
Transportation	27

SCIENCE/TECHNOLOGY (ST) (T)

SUBHEADING	Code (650-749)
Archaeology	650
Biochemical Engineers	651
Biochemistry	652
Climatology	653
Cloud Physics	654
Chemistry	655
Communications, Electronics	656
Computers	656
Computer Census	657
Computer Statistics	658
Cryogenics	659
Educational Testing	660
Electrical Engineers	662
Electronic Engineers	663
Electronics	664
Engineer Consultant	665
Engineering	666
Explosives	668
General	669
General Clearinghouse	670
General Information System	672
General Research Firms	673
Genetics	671
Information	674
Information Product Development, General	676
Information Storage	677
Instrument Manufacture	678
Laboratory	679
Legislative Staff	680
Liquid Gas	682
Mathematics	683
Media, Telephone	684
Medical, Health	686

SCIENCE/TECHNOLOGY (ST) (T) (continued)

BUSINESS AND COMMERCE (C)

SUBHEADING	Code (150-199)
Agriculture	150
Banking	151
Cash Registers	152
Chemicals	153
Consumer Affairs	154
Cooling Equipment	156
Decisionmaking	155
Drilling	157
Energy	158
Electronics	159
Fiberglass	160
Fire Equipment	161
Fluid Handling	162
Forecasting	163
Fuel Transportating	164
Finance	165
Gases	166
Gaskets	167
General	168
Grains	169
Heavy Equipment	170
Instruments	172
Irrigation	173
Machinery	174
Meat	176
Media	177
Medical	178
Metals	179
Metal Finishing	180
Metal Products	182
Mining	183
Mining Equipment	184

BUSINESS AND COMMERCE (C) (continued)

COMMUNITY DEVELOPMENT (D)

SUBHEADING	Code (200-229)
Business	200
General	202
Planning	204
Statistics	206
Historic Preservation	208
Architecture	209
Economic Growth	210

BUILDING AND CONSTRUCTION (B)

SUBHEADING	Code (100-149)
Architecture	100
Architectural Engineering	102
Community Development	104
Contracting	106
Design	108
General	110
Housing	111
Insulation	112
Practical	114
Standards	116
Materials	117

AGRICULTURE (A)

SUBHEADING	Code (50-99)
Agronomy	56
Animal Physiology	50
Botany	51
Cattle	52
Crop Estimates	53
Economic Entomology	54
Fertilizer	55
Food	58
General	59
Grain/Plants	60
Grazing Lands	61
Horses	62
Irrigation	63
Insects	67
Livestock	68
Parasitology	69
Pesticide	70
Plant Pathology	71
Plant Physiology	72
Soil	76
Soil Fertility	77
Soil Scientist	78
State Dairy	85
Water	79
Weed Science	80
Zoology	81
Dairy Related	82
Veterinary Medicine	83
Agricultural Commodities & Economics	84

HEALTH (H)

SUBHEADING	Code (350-449)
Abortion	350
Accidents	351
Acupuncture	352
Alcohol and Drugs	353
Alcoholism	354
Anesthesia	356
Biology	355
Biomedical Safety	357
Blind	358
Blood	359
Cancer	360
Cardiovascular Physiology	361
Chiropractic Profession	362
Community Medicine	371
Counseling	363
Cytology	365
Cytogenetics	364
Dead Bodies	366
Dental	367
Drugs	368
Drug Abuse	369
Embryology	370
Emphysema	372
Epilepsy	373
Eyes	374
Food (Sugar)	376
General	377
Hearing Aid	378
Heart	379
Hospitals	380
Handicapped	381
Laboratories	382
Library of Public Health	383

HEALTH (H) (continued)

LABOR (L)

SUBHEADING	Code (450-469)
Employment	450
Occupational Safety	452
Labor/Management	453
Labor Economics	454
Labor Law	455

ENVIRONMENT (E)

SUBHEADING	Code (230-299)
Air Pollution	230
Aquatic Ecology	232
Auto Emissions	234
Consultant	236
Desert	238
Ecology	240
Emission	242
Environmental Science	244
Forest Ecology	246
General	248
Health	250
Health, Environmental Physiology	252
Mammalian Ecology	254
Marine Ecology	256
Noise	258
Nuclear	260
Pesticides	262
Planning	264
Plant Ecology	266
Pollution	268
Pollution Control Standards	270
Recycling	272
Solid Waste	274
Technology	276
Toxic Substances	278
Verebrate Zoology	280
Waste Disposal	281
Water Pollution	282
Water Resources	284
Weather	286
Wildlife	288

ENERGY (F)

SUBHEADING	Code (300-349)
Atomic Physics	300
Conservation	302
Electric	304
Exploration	305
General	306
Geothermal	307
Health	308
Heat Transfer Problems	309
LPG	310
Natural Gas	312
Nuclear	314
Nuclear Health	316
Nuclear Safety	318
Oil	320
Oil and Gas	322
Petroleum	324
Propulsion	326
Public Utilities	328
Resources	330
Safety	332
Solar	334
Transmission Research	336
Utilities	338
Wind	339

TRANSPORTATION (V)

SUBHEADING	Code (800-849)
Airlines	800
Airports	802
Automobiles	804
Design Safety	306
Disaster, Carriers	808
General	810
Highways	812
Motorboat	814
Motorboats Safety	816
Motor Carriers	818
Motor Carrier Accidents	820
Pipeline Carrier	822
Railroads	824
Research	826
Safety	828
Vehicle Safety	830

SAFETY (S)

SUBHEADING	Code (600-649)
Automobile	600
Disaster Prevention	602
Earthquakes	604
Fire	606
General	608
Water	610

PRODUCT DEVELOPMENT (P)

SUBHEADING	Code (550-599)
Asbestos	550
Asphalt	552
Beverages	554
Ceramics	555
Communications	556
Computer	558
Electronics	559
Energy	560
General	562
Industrial Plastic	564
Liability	566
Microwaves/Optics	568
Paper	570
Plastic Molds	572
Pollution Equipment	574
Power Transmission	576
Rubber	578
Safety, Fire	580
Safety, Security	582
Synthetic Chemistry	584

SOCIAL SERVICES (Q)

SUBHEADING	Code (750-799)
Aging	750
Communications	752
Community Development	754
Consumer Economics	756
Cultural	758
Drug Abuse	760
Education	762
Family Life	763
General	764
Law Enforcement	766
Law Enforcement Planning/Criminology	768
Parks/Recreation	770
Population Control	772
Retarded	774
Social Organization & Occupations	775
Statistics	776
Tax	778
Welfare & Social Work	779
Youth	780

NATURAL RESOURCES (N)

SUBHEADING	Code (470-549)
Business	470
Consultants	472
Dams	474
Desert Ecology	476
Development	478
Diamonds	480
Disaster, Earthquakes	482
Economic Geology	484
Environment	486
Forests	488
Forestry	490
General	492
Geology	494
Geochemistry	495
Geophysics	496
Herbs	498
Hydrogeology	500
Hydrology	502
Land	504
Metals	506
Mines	508
Minerals	510
Mining	512
Mining Engineer	514
Parks	516
Petroleum	518
Petroleum Engineering	520
Petrology	522
Range Agriculture	524
Renewable Natural Resources	525
Range Management	526
Safety, Mines	528
Sedimentary Petrology	530
Vegetation	532
Water	534
Water Meters	536
Wildlife (Fish, Game)	538