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Nebraska Program for Technology Transfer: An Operational Framework

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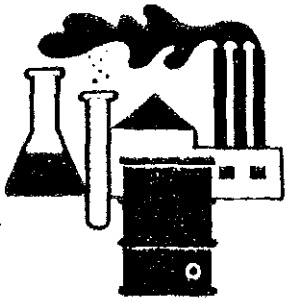
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NEBRASKA PROGRAM FOR TECHNOLOGY TRANSFER TO GOVERNMENTAL UNITS:
AN OPERATIONAL FRAMEWORK

By

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November 30, 1980

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NEBRASKA PROGRAM FOR TECHNOLOGY TRANSFER TO GOVERNMENTAL UNITS:
AN OPERATIONAL FRAMEWORK

Background

All over the country interest has been growing in developing methods to assist local governments to utilize the products of science and technology more rapidly and effectively. This has led to the development of various arrangements for providing both information dissemination and basic research.

Efforts in Nebraska to establish this type of program have been slow in developing, but in the spring of 1980, preliminary research was undertaken to determine the interest in and potential for such a program. Findings from that research serve to target on specific problem areas.

An advisory committee was established to provide guidance to the project. This committee's service in determining appropriate target areas and administrative and operational methods has been extremely useful.

Purpose

The Nebraska Innovation Program is designed to facilitate the use of appropriate technology by local governments. Sometimes the transfer of innovative ideas between the scientific community and local jurisdictions does not occur expeditiously. Reasons for the delay are manifold: lack of interest, disbelief of claims, organizational difficulties in adopting new changes, and lack of appropriate training to utilize or implement the new programs are just some of them. The Nebraska Program is designed in two separate parts. First, the program is intended to serve as an interpreter and disseminator of technology. If promising technological advances are being made in a priority area, the innovation program will work with a scientific advisor to interpret and disseminate the information to governmental leaders. At the same time, the innovation program will attempt to respond to requests on the part of local jurisdictions. This role involves researching the availability of technology related to specific programs.

The second aspect of the program is to assist local jurisdictions in developing applications for research and demonstration activities. By working with the scientific community, local governments should be able to increase their capacities to structure research and demonstration projects.

Activities to be Undertaken

During its first phase of operation, the innovation program will attempt to increase the availability of scientific information to local policy

makers by the publication of newsletters or reports. Specific topics and their potential uses will be described. These publications will present the most salient data and provide a contact for further assistance.

Another activity will be the retention and use of scientific advisors to assist local jurisdictions. If some jurisdictions require additional information and assistance about a specific topic, the scientific advisors will be called upon to provide it. The scientific advisors will also be able to assist the local jurisdictions in the preparation of applications for demonstration funding and to assist them in monitoring the results to facilitate program evaluation and information transfer.

Program Implementation

In order better to structure and focus its activities, the Nebraska Program will concentrate its efforts on three general areas: a) environmental concerns, b) energy issues, and c) personnel management. These priority areas were established using data gathered from a survey of government leaders. The results are presented in the Appendix.

Assistance to local governments will consist of two general phases: the transfer phase and the research phase. The transfer phase consists of a variety of activities aimed at the dissemination of information related to the problem areas. One method will be to establish a clearinghouse to provide information to local governments on request. A second method will be the publication and distribution of reports related to specific topics. These reports will give potential users information to assist them in better managing or solving certain problems. At the same time the reports will provide an outlet for new information which sometimes does not reach local governments because an appropriate transfer mechanism does not exist.

A third method which will be used to transfer knowledge will be the use of scientific advisors. These advisors will be available for one-on-one or small group efforts to resolve specific technical problems.

The use of scientific advisors will also allow the development of workshops related to specific topics.

Finally, as the innovation program becomes established, an effort will be made to provide student interns to certain local jurisdictions.

Many of the smaller jurisdictions have only limited access to scientific advice. Problems are left unattended because of insufficient knowledge concerning how to proceed and/or because the anticipated or actual costs are

prohibitive. Such a situation could provide an opportunity for students to apply their knowledge to a real problem and for the jurisdiction to obtain a better understanding of its particular problem and the decision options available.

The research phase is a second aspect of this activity. Research will consist of working with jurisdictions and assisting them in researching various activities and/or in soliciting financial resources to undertake experimental efforts.

Figure 1 depicts a decision-making path which requests to the Nebraska Innovation Program would probably take.

Work Program for 1981

The Work Program for the 1981 program year will consist of the following elements:

- a) to provide three reports for general distribution--probably one in each problem area.
- b) to provide technical assistance to 10 jurisdictions in evaluating problem areas and adapting appropriate technology.
- c) to serve as a clearinghouse which responds to 50 inquiries for technical information.
- d) to begin the completion of available technical advisors and work to determine the criteria for utilizing these advisors.
- e) to assist at least one jurisdiction in applying for innovative research funding.
- f) to develop ties to the national and regional innovation network and to become involved with appropriate networks.
- g) to meet with the advisory council at least twice during the program year and review with them program options and solicit from them advice related to the program.
- h) to develop and submit a 1982 program plan.
- i) to collect data and references related to the priority areas.
- j) to communicate with and utilize the expertise of the Colorado Innovation Center.

Staffing and Operation Needs

The innovation program, in order to complete its work program, will require the following personnel: a) the coordinator of housing and community service who will direct the project; b) the data base coordinator who will

be available to respond to telephone inquiries related to the activity;
 c) three technical advisors who will be needed to complete the newsletters and to provide technical assistance to the communities, and d) editorial and secretarial support personnel. Travel funds for the staff and for the advisory committee will also be necessary.

Budget for 1981 Program Year

Budget
Items

1. Project Coordinator	\$ 2,500
2. Data Base Coordinator 5 hours per week for 50 weeks	1,500
3. Three Technical Advisors @ \$2,500	7,500
4. Editor's time for pamphlets	300
5. Secretarial time	200
6. Printing cost	200
7. Postage	100
8. Supplies (reference materials and networking)	500
9. Staff travel	2,500
10. Advisory Committee travel	<u>1,000</u>
Total Direct Costs	\$ 16,300
Indirect cost (25% x TDC)	<u>\$ 4,075</u>
Total Project Cost	\$ 20,375

APPENDIX

SUMMARY OF THE NCTALG QUESTIONNAIRE

The Nebraska Center for Technical Assistance to Local Governments questionnaire was sent to 301 Nebraska cities, counties, and Councils of Government.¹ Each questionnaire was accompanied by an introduction to the 'Innovation center' idea, an explanation of the questionnaire, and a return envelope. The following table indicates the distribution and return.

	<u>Sent</u>	<u>Returned</u>
Cities of the First Class	28	18
Cities of the Second Class	105	36
Villages	50	13
Counties	93	10
Councils of Government	23	7
Metropolitan	<u>2</u>	<u>1</u>
Total	301	85

From the results of the NCTALG questionnaire the foremost concern is to determine if (1) there is a need for such an organization in Nebraska, and (2) if established, would Nebraska's local governments make use of the services to be provided. From the 28 percent returned, 82 percent of the local governments said they could benefit from scientific and technical information and 5 percent replied that they possibly could. 81 percent of the locals said they would make use of an innovation center in Nebraska and 13 percent said they possibly would.

<u>Could your community benefit from scientific and technical information?</u>			
	<u>yes</u>	<u>no</u>	<u>possibly</u>
First Class Cities:	100%	0%	0%
Second Class Cities:	73%	18%	9%
Villages:	83%	8%	8%
Counties:	57%	43%	0%
COG'S:	100%	0%	0%
<u>Combined totals:</u>	<u>/82%/</u>	<u>/13%/</u>	<u>/5%/</u>

¹Omaha, Lincoln, 28 first class cities, 105 second class cities, 50 villages (randomly selected), 93 counties, and 23 Councils of Government.

Would your community make use of a Nebraska Innovation center?

	<u>yes</u>	<u>no</u>	<u>possibly</u>
First Class Cities:	94%	0%	6%
Second Class Cities:	75%	6%	19%
Villages:	67%	11%	22%
Counties:	67%	33%	0%
COG's:	100%	0%	0%
<u>Combined Totals:</u>	<u>[81%]</u>	<u>[17%]</u>	<u>[13%]</u>

Since an established need for an innovation center in Nebraska is clear through the results of this survey, the next priority is to define what community problems constitute the most immediate need. The questionnaire showed that two problems were the most recurring among Nebraska communities: (1) Energy and (2) Government Management.² However, Public Safety, Public Works, and Environmental Services were also prevalent concerns within the communities. It is also important to note the seriousness of the particular problem and whether or not the community is presently receiving any assistance with it. For example, among the first class city respondents 59% said Public Works was a serious problem, and 67% considered Energy a very serious problem. For both of these problems, 73 and 88 percent respectively said that they needed help in these areas and only 33 and 39 percent were presently receiving help from outside agencies.

In addition to the problems listed in the survey, the questionnaire also allowed room for additional comments. Finance and transportation problems were mentioned among some of the problems not directly listed. These comments are included in attachment "B".

To summarize, the results of the NCTALG questionnaire show that there is a very significant need among Nebraska communities for additional scientific and technological information in order to help solve local problems. This information for problem-solving was also favored to be based in an innovation center. Energy and Government Management problems, among others, were found to be the most posing problems within the communities. Lastly, many of the problems listed by communities were areas where they were not receiving assistance in problem-solving, and needed help.

²See attachment "A".

THE QUESTIONNAIRE RESULTS

Tabulation of Problems/Help needed/Community Need from Communities:

<u>First Class Cities--</u>	<u>(Is this a Problem?)</u>	<u>(Does Community need help?)</u>	<u>(Presently receiving help?)</u>
PUBLIC SAFETY:	89%	54%	17%
PUBLIC WORKS:	100% (59% serious)	73%	34%
PARKS & RECREATION:	77% (47% serious)	56%	0%
EDUCATION:	65%	54%	21%
ENERGY:	100% (33% very serious; 22% serious)	77%	16%
GOV'T MNGT:	100% (67% serious)	88%	39%
ENVIR. SERVICES:	78%	77%	22%
HUMAN SERVICES:	78%	41%	17%

<u>Second Class Cities--</u>	<u>(Is this a Problem?)</u>	<u>(Does Community need help?)</u>	<u>(Presently receiving help?)</u>
PUBLIC SAFETY:	78%	24%	3%
PUBLIC WORKS:	63%	49%	26%
PARKS & REC:	66%	33%	15%
EDUCATION:	55% (33% serious)	28%	7%
ENERGY:	74% (26% serious)	42%	6%
GOV'T MNGT:	54%	32%	12%
ENVIR. SERVICES:	74%	42%	12%
HUMAN SERVICES:	58%	43%	29%

<u>Villages--</u>	<u>(Is this a problem?)</u>	<u>(Does Community need help?)</u>	<u>(Presently receiving help?)</u>
PUBLIC SAFETY:	75%	8%	25%
PUBLIC WORKS:	70%	0%	7%
PARKS & REC:	50%	8%	25%
EDUCATION:	50%	8%	8%

NIC QUESTIONNAIRE RESULTS

Tabulation of Problems (continued):

<u>Tapes (cont.)--</u>	<u>(Is this a Problem?)</u>	<u>(Does Community need help?)</u>	<u>(Presently receiving help?)</u>
ENERGY:	84% (62% serious)	62%	17%
GOV'T MNGT:	50%	17%	0%
ENVIR. SERVICES:	70%	23%	23%
HUMAN SERVICES:	75%	58%	33%

<u>Counties--</u>	<u>(Is this a Problem?)</u>	<u>(Does Community need help?)</u>	<u>(Presently receiving help?)</u>
PUBLIC SAFETY:	77%	33%	22%
PUBLIC WORKS:	77%	33%	44%
PARKS & REC:	45% (22% very serious)	25%	38%
EDUCATION:	25%	25%	38%
ENERGY:	100% (33% serious; 22% very serious)	88%	12%
GOV'T MNGT:	54%	12%	0%
ENVIR. SERVICES:	89%	56%	11%
HUMAN SERVICES:	77%	44%	44%

PLEASE CIRCLE THE NUMBER OF THE APPROPRIATE ANSWER:

	(1) Is this a current problem in your community?				(2) Does your community need additional scientific or technological information to solve the problem?		(3) Is your community receiving assistance from an outside agency in solving the problem?	
	Very Serious	Serious	Not Serious	Not a Problem	Yes	No	Yes	No
PUBLIC SAFETY (e.g., policing procedures, crime prevention)	1	2	3	4	1	2	1	2
PUBLIC WORKS (sewer and street maintenance, refuse collection)	1	2	3	4	1	2	1	2
PARKS & RECREATION (park maintenance and development, equipment)	1	2	3	4	1	2	1	2
EDUCATION (special education needs, vocational training)	1	2	3	4	1	2	1	2
ENERGY (conservation, costs, new systems)	1	2	3	4	1	2	1	2
GOVERNMENT MANAGEMENT (contracting, labor negotiations, finance, insurance risk management, personnel)	1	2	3	4	1	2	1	2
ENVIRONMENTAL SERVICES (solid wastes, landfills, soil erosion)	1	2	3	4	1	2	1	2
HUMAN SERVICES (needs of the elderly, youth, and other special groups)	1	2	3	4	1	2	1	2
OTHER _____	1	2	3	4	1	2	1	2

4. Please check the officials that are part of your community government:

- | | | | | |
|---|---|--|--|--|
| <input type="checkbox"/> City Manager | <input type="checkbox"/> City Engineer | <input type="checkbox"/> Fire Chief | <input type="checkbox"/> Light Commissioner | <input type="checkbox"/> Community Development Director |
| <input type="checkbox"/> Mayor | <input type="checkbox"/> City Attorney | <input type="checkbox"/> Water Commissioner | <input type="checkbox"/> Recreation Director | <input type="checkbox"/> Housing Authority Director |
| <input type="checkbox"/> City Clerk | <input type="checkbox"/> Utilities Superintendent | <input type="checkbox"/> Sewer Commissioner | <input type="checkbox"/> Park Superintendent | <input type="checkbox"/> Sewage Plant Operator |
| <input type="checkbox"/> City Administrator | <input type="checkbox"/> Purchasing Officer | <input type="checkbox"/> Street Commissioner | <input type="checkbox"/> Park Board Chairman | <input type="checkbox"/> Airport Authority |
| <input type="checkbox"/> City Treasurer | <input type="checkbox"/> Chief of Police | <input type="checkbox"/> Planning Commissioner | <input type="checkbox"/> Finance Officer | <input type="checkbox"/> Electric Utilities Superintendent |

5. Do you believe that your community could benefit from additional scientific and technical information?

- (1) Yes (2) No

6. Could you suggest any additional goals or objectives for the Nebraska Innovation Center?

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

7. If established, would you make use of the Nebraska Innovation Center?

- (1) Yes (2) No

8. If more information is needed in the future, whom should we contact?

Name: _____

Address: _____

Phone Number: _____

ADDITIONAL COMMENTS FROM THE PUBLIC COORDINATORFIRST CLASS CITIES--Problems in the community:

Kearney--Transportation/a serious problem/community requires assistance/
community is not receiving assistance from outside agency

Nebraska City--"financial aid would certainly be the most important
thing in problem-solving"

Papillion--"development and planning applications for small/medium sized
governmental units"

Suggestions for the Nebraska Innovation Center:

Beatrice--"Coordination of public improvement laws between classes of
cities and within the same class"
"Develop state-wide insurance pooling among subdivisions"

Fremont--"Provide as a clearinghouse for information useful to municipalities"
"Become involved in experimentation of new methods and procedures"

Kearney--"Provide reliable, comparable data on all topics from area
communities"

SECOND CLASS CITIES--Problems in the community:

Bassett--Financing

Suggestions for the Nebraska Innovation Center:

Albion--"Training programs for new mayors and council members"
"Improved ways of disposing sludge and at lower costs"
"Youth programs"

Bloomfield--street repair on Highway 12

Neligh--"How to handle staff reductions"
"How to better communicate between elected officials"
"Better ways of handling sludge treatment at plant"
"Better alternatives for financing projects"
"Better ways of preparing budgeting methods"

Oakland--"Anything that is new and cost-saving with better results would
help all small towns"

Nelson--"Finance--working within lid"

INTRODUCTION TO THE NEBRASKA INNOVATION CENTER

Chuckholes, rising energy costs, soil erosion, increased crime rates, odorous landfills-- the problems faced by our cities and townships are many. And it seems the city and state expenses for solutions to these pressing problems are even more extensive. Adding to the frustration of dealing with these problems is the fact that many of these community woes are recurring.

In 1969, the Urban Observatory Program was formed. Funded by HUD and HEW and administered by the National League of Cities, this program was activated in ten cities in the United States: Albuquerque, Atlanta, Baltimore, Boston, Cleveland, Denver, Kansas City (in both Kansas and Missouri), Milwaukee, Nashville, and San Diego.

The Urban Observatory Program . . . represents the indispensable cornerstone in building a network of local government-university partnerships. . . It has begun to build in these cities an effective communication belt for bringing local research capabilities to search for solutions to local community problems. Clearly, then, if government is to meet the most pressing needs of the 70's, there must be a flexible and responsive research partnership among all levels of government and education.

— Moskow, Michael H. (HUD News)

Funded by the National Science Foundation, the Denver Urban Observatory enacted yet another facet of this important program--the Colorado Innovation Center (CIC). The Center was designed specifically to offer technological assistance to local governments in improving their service delivery in spite of rising costs, shrinking revenues, and rising demands for expanded services. In an article on "New Directions in the Federal Funding of Urban Programs," it was pointed out that:

The chief disappointment in the Observatory Program has been the limited impact it has had on cities outside those that have been direct participants.

In an attempt to deal with this unfortunate situation, the Colorado Innovation Center is subcontracting part of the grant it received from the National Science Foundation to interested Midwestern States. As there has been an expressed interest in a Nebraska Innovation Center by several Nebraska communities, Nebraska has applied for a grant from CIC.

The advantages in becoming a part of an Innovation Center are numerous. Local agencies of government having common problems recognize the need for taking a cooperative approach to providing solutions to their problems. The benefits of such cooperative approaches are obvious and include economies of scale, division of labor opportunities, mobilization of more and better scientific and technological resources, and more meaningful and effective problem solving. The following is a list of some of the advantages that communities involved with the Colorado Innovation Center have benefited from:

- direct cost saving and cost-avoidance benefits (To date, 180 problems have been identified in the Denver area since the program was initiated; estimates collected so far indicate that benefits derived from having such a program amount to at least \$1,300,000. In lieu of these results, the Colorado State Legislature has allocated \$7,500,000 to Denver.)
- improved construction of roads that require less maintenance and last years longer
- energy-efficient street lighting
- "ideal" model for police cars
- odor control in landfills
- energy conservation
- soil stabilization, erosion control

In summary, the Nebraska Innovation Center will be a reservoir of comparable, reliable data of general application available to local communities. Another function will be to build a relationship between local public officials and local universities thereby making available to local communities assistance in solving problems through accessibility to advances in science and technology developed by private industry and public institutions. The Nebraska Innovation Center is an innovative approach to common community problems designed to alleviate red tape and complications sometimes involved in trying to implement possible solutions to problems. Finally, to reiterate, probably the most beneficial aspect of introducing an Innovation Center to Nebraska would be the resulting cost-savings and cost-avoidance benefits to participating communities.

The members of the Working Committee for the Nebraska Innovation Center look forward to working with you in making our Nebraska communities better places to live. The members of the committee are:

**Jack Ruff, Acting Director
Center for Applied Urban Research
Committee Chairperson**

**David Chambers, Executive Vice-President
The League of Nebraska Municipalities**

**Jack Mills, Executive Director
Nebraska County Officials Association**

**Dennis Gann, City Administrator
City of South Sioux City**

**Frank Koehler, City Manager
City of Scottsbluff**

**Jack Sutton, City Administrator
City of Fremont**

**Mike Albert, County Commissioner
Douglas County**

**Dave Scott, Chairperson
Department of Public Administration
University of Nebraska at Omaha**

SUGGESTED READINGS

Colorado Innovation Center

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Comfort, Richard O.

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"Alternative Methods for Financing Public Services: The Cases of Education and Welfare." Kansas City, Missouri: Mid-American Observatory, August, 1973.

Jacobson, Elden

"Higher Education and Urban Affairs." Washington, D.C.: Washington Center for Metropolitan Studies, April, 1969.

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"Information Needs in Milwaukee: Agencies and Groups." Milwaukee, Wisconsin: Milwaukee Urban Observatory, 1974.

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Ondell, Robert

"The Quality of Life in Eight American Cities: Selected Indicators of Urban Conditions and Trends." Washington, D.C.: National League of Cities, March, 1975.

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FIGURE 1

A DECISION-MAKING PATH FOR THE NEBRASKA INNOVATION PROGRAM

