The Governor's Transportation Task Force:

Recommendations For Increasing Efficiency

ROUGH DRAFT

November 27, 1995

Table : Task Force Recommendations

(Savings and Costs Estimates in $1,000)

RECOMMENDATION	Annual Savings	One-Time Savings	Annual Cost	One-Time Cost	Page Number
Technology Subcommittee					14
Technology Champion	Unknown	$ -	$ 100	$ -	15
Streamline Paperwork	$ 7,000	$ -	$ 2,000	$ -	16
Deploy Automation Technologies	$ 1,000	$ -	$ 750	$ -	17
Local Government Technology	$ 500	$ -	$ 400	$ -	19
Joint Intergovernmental Contracts	$ 140	$ -	$ -	$ -	19
Re-engineer Information Management	$ 2,500	$ -	Unknown	$ -	21
ICN Training and Meetings	$ 500	$ -	$ -	$ 75	23
"On-line" Services for Contractors	$ 750	$ -	$ 100	$ -	24
GIS/GPS Development	Unknown	$ -	Unknown	$ -	25
Share Weather Information	Unknown	$ -	Unknown	$ -	27
Regional Database Development	Unknown	$ -	Unknown	$ -	28
Highway Information Network	Unknown	$ -	$ 250	$ -	29
Credit Fines to RUTF	$ 2,500	$ -	$ -	$ -	30
Contractor Sales Tax Exemption	$ 650	$ -	$ -	$ -	31
Metric Standards Adoption	Unknown	$ -	Unknown	$ -	32
Common Construction Specifications	Unknown	$ -	Unknown	$ -	33
Encourage More Team Projects	Unknown	$ -	Unknown	$ -	34

RECOMMENDATION	Annual Savings	One-Time Savings	Annual Cost	One-Time Cost	Page Number
Intergovernmental Sharing Subcommittee					35
Transportation Sharing Committee	Unknown	$ -	$ -	$ 3	40
Pilot Sharing Projects	$ 1,500	$ -	$ 300	$ -	41
Transportation District Development	$ 14,000	$ -	$ -	$ 50	41
Sharing Technical Assistance	Unknown	$ -	$ 30	$ -	42
IDOT Equipment Leasing	Unknown	$ -	$ -	$ -	43
Outsourcing Subcommittee					45
Light Duty Fleet Leasing	$ 520	$ 25,000	$ -	$ 20	47
Vehicle Maintenance Outsourcing	$ 500	$ -	$ -	$ 25	49
Heavy Equipment Fleet Leasing	$ 650	$ 25,000	$ -	$ 25	51
Task Force Recommendations					
Consolidate IDOT Maintenance Garages	$ 1,000	$ 15,000	$ -	Unknown	56
Employ "Super Two" Design	Unknown	$ -	Unknown	$ -	57
Adopt Thicker Pavement Design	Unknown	$ -	Unknown	$ -	58
Program Preventative Maintenance	Unknown	$ -	Unknown	$ -	58
Revise Quadrennial Needs Study	Unknown	$ -	Unknown	$ -	
Infrastructure Funds for IDOT	Unknown	$ -	Unknown	$ -	59
Alternative System Responsibility Study	Unknown	$ -	Unknown	$ -	60
Pilot System Alternatives	Unknown	$ -	Unknown	$ -	61
Optional Tying of Projects	$ -	$ -	$ -	$ -	62

INTRODUCTION

GOVERNOR'S CHARGE

"In this day and age of heightened fiscal awareness, this task force will play a very important role in maximizing the resources directed toward road construction and maintenance. ...We must find better methods in which to maximize the benefits of each dollar spent from the Road Use Tax Fund in pursuit of adequate, safe, and efficient transportation."

- Governor Terry Branstad, June 21, 1995.

Problem Statement

The spirit behind the creation of the task force is one of good government. It rests upon the basic premise that taxpayers demand the best service possible for their tax dollars. Combine this demand for efficiency with Iowa's aging roadway system, and a projected increase in the state's vehicle miles traveled, the need to examine cost savings becomes apparent. Beyond the rational for good and efficient government, however, is a major concern for potential future reductions in Federal highway funds. Iowa is likely entering a period of needing an expanded transportation system with at best a static capacity for maintenance and construction.

As directed by the governor, efficiency was the key target of this task force. David Forkenbrock, in his book Transportation and Iowa's Economic Future, reinforces the need to reevaluate projects undertaken by IDOT in terms of efficiency. He suggests that "resources should be devoted to transportation facilities only if the transportation cost savings would exceed the costs of construction,

operation, and maintenance." "If they do," Forkenbrock says, "the facility is efficient and will contribute to the long-term economic future of the state."

The Task Force began operation on a limited time frame. In some instances, accurate and objective data could not be collected in a timely fashion to make the type of definitive analyses Forkenbrock suggests. It was successful, however, in identifying a number of potential areas for greater efficiency. The Task Force has also identified areas and issues where there appears to be savings potential, but where only objective and detailed study could indicate any exact efficiencies.

Process

On June 21, 1995, Governor Branstad announced that a Blue Ribbon Transportation Task Force would begin to look for ways to reduce the operating costs of the Department of Transportation, saving more money for construction of roads and creating greater efficiency. The first meeting occurred July 28 when the Governor presented information on the purpose and the hopes for the committee. Presentations by Dr. David Forkenbrock, Dennis Tice, Dan Franklin, and Lee Smithson focused the committee on its task.

The August meeting announced the appointment of a consultant to work as a facilitator for the meetings and to assist in the compilation of the report. Dr. Timothy Borich, Extension Specialist and Adjunct Associate Professor in the Department of Community and Regional Planning at Iowa State University was chosen as the

consultant. He was assisted in facilitation by David Plazak, Senior Vice President of Resource Planning Associates and Executive Director of the Iowa Rural Economic Development Council.

The structure of the Task Force's work that was to follow over the next 3 months were outlined by Dr. Borich. He suggested that the Task Force create recommendations that fall into one of five categories.

1. **State Administration** - recommendations for specific changes on how things are presently done made to: the governor, commission, director.
2. **State Policy** - recommendations to amend state code(s) in order to allow specific changes (i.e. sharing outsourcing) to occur made to: governor, legislature.
3. **Federal Agencies** - some changes desirable may in fact be our of the state's jurisdiction. Those recommendations may need to be made at the federal level to: US DOT administration, congressional delegation, governor.
4. **Further Study** - some issues might be identified as having the possibility for changes, but the changes may require more intensive study than the time frame allotted to this task force.
5. **No Action Recommended** - this was a viable option that was left open to the Task Force. Change for the sake of change is not legitimate. The possibility of not finding a reasonable alternative was left to the discretion of the Task Force.

It was decided that most direct comparisons of Iowa's highway construction and maintenance efficiency to other states would be problematic. The committee found that efficiencies could best be found

through a study within the state rather than through comparisons with other states. With this in mind, the Task Force utilized state officials and resources within the state of Iowa: lawyers, legislators, engineers, private construction representatives, state university researchers and instructors, city, county, state officials and more. Some of these representatives were appointed to the Task Force and some were asked to speak at the various meetings.

The structure of the full committee meetings included who addressed issues of interest to all subcommittees. Also included in full Task Force meetings were reports of subcommittees' findings and the results of their individual meetings. Common problems and issues were shared with the whole committee. It was realized that there would be some overlapping of issues among the subcommittees. It was hoped that these overlaps would be helpful in developing common recommendations from the Task Force as a whole. The schedule was as follows:

June 21:	Announcement of Task Force by the Governor
July 28:	Initial Task Force Meeting
August 31:	Task Force Committee meeting announcing subcommittee structure
September 8:	Technology Subcommittee
September 13:	Sharing Subcommittee
September 25:	Technology Subcommittee
September 28:	Subcommittee meetings and joint meeting of Task Force
October 11:	Technology Subcommittee

October 13:	Sharing Subcommittee
October 26:	Subcommittee meetings and Task Force Meeting
November 9:	Technology Subcommittee
November 15:	Subcommittee reports submitted
November 30:	Subcommittee meetings and Task Force Meeting
December 15:	Final Report Completed

Subcommittees

The subcommittees' purposes and the persons who would head each committee was outlined by the Task Force's chair, Suzan Stewart:

* The *Liability Subcommittee* was charged with discussing liability of sharing equipment. This committee looked at the legal barriers that might exist that discourage 28E agreements.

* The *Technology Subcommittee* was responsible for looking into new technology that could improve the way we do things and increase the efficiency of the Department of Transportation & others?

* The *Outsourcing Subcommittee* was responsible for contract purchasing of equipment or services. This would include leasing options or financing options and cooperative bidding.

* The *Intergovernmental Sharing Subcommittee* was charged with looking into the use and sharing of equipment, facilities, and personnel and services among entities of the state of Iowa.

The subcommittees met on a regular basis. They were utilized as the primary method to gather information from a variety of knowledgeable sources of Iowa's highway system. The members and chairpersons of each subcommittee were as follows:

Executive Committee
Suzan Stewart, Chair
Hap Voltz
Colin Jensen
Jim Kersten
Rep. Delores Mertz
Dwayne McAnnich
Tim Moerman

Technology Subcommitee Subcommittee
Mike Blouin, Chair
Colin Jensen
Lois Kotz

Liability and Legal Issues

Susan Pellett, Chair
Sen. Don Gettings
Rep. Delores Mertz

Outsourcing Subcommitee Subcommittee
Jim Kersten, Chair
Sen. Dick Drake
Kyle Krause
Dwayne McAninch
Lorreta Van Wyk
Kris Young

Intergovernmental Sharing

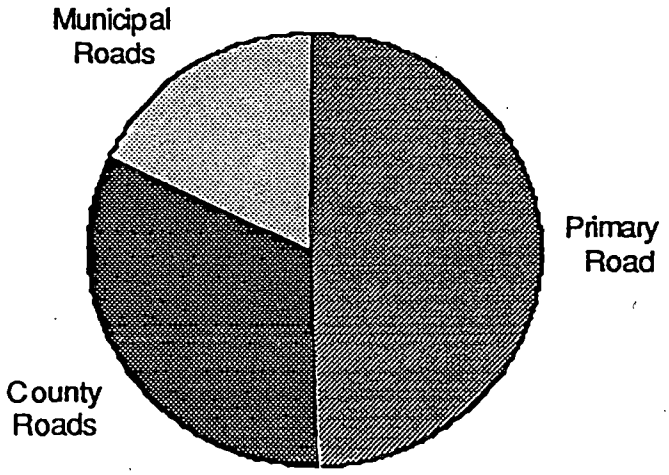
Tim Moerman, Chair
Jill Davisson
Harold Jensen
Rep. Jerry Welter
Mark White

The Status of Iowa's Highway System

Administering Iowa's Roadway System

The Blue Ribbon Task Force was asked to improve the efficient utlization of Iowa's Road Use Tax Fund at all levels. The Road Use Tax Fund (RUTF) represents the State of Iowa's major funding source for highway maintenance and construction. The RUTF is administered by the State of Iowa, through its Department of Transportation, and the state's 99 counties and 950 municipalities. As indicated in figure1, a little over half of the fund is distributed to local governments to support local roads and streets with the remainder designated to the primary system maintained by the state.

Figure 1. 1990 Road Use Tax Fund Allocations

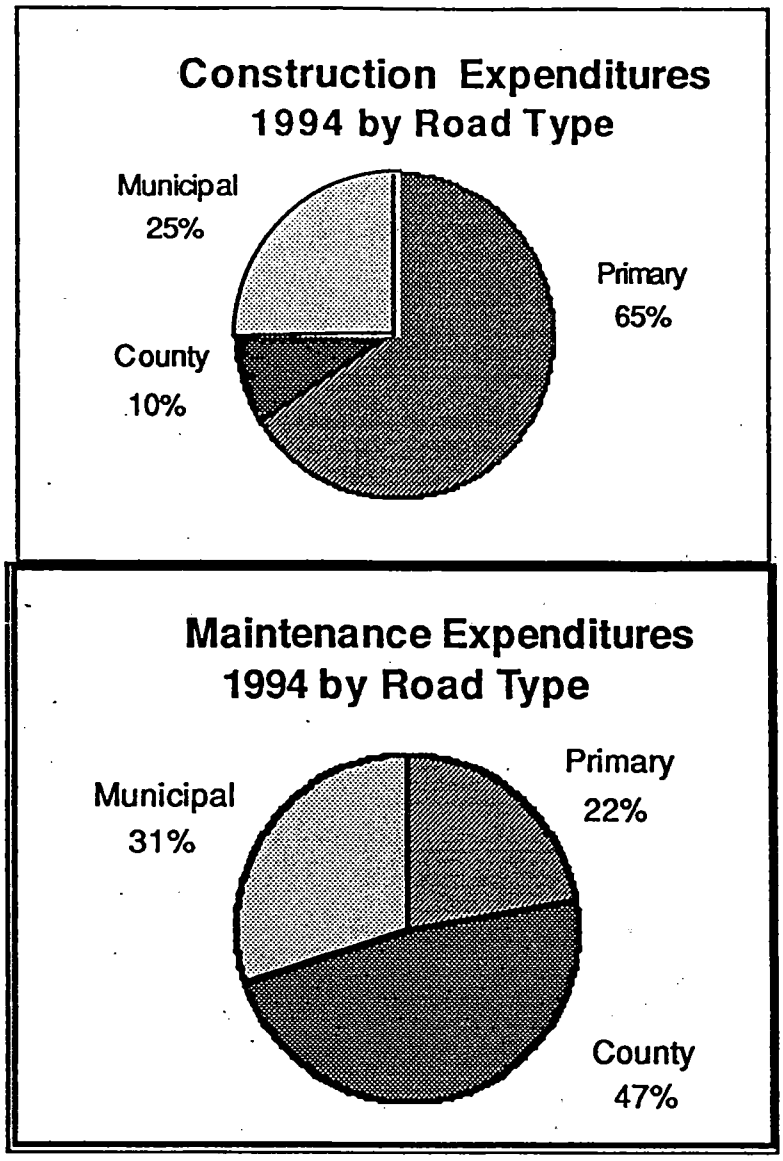


Source: Iowa in Motion, p. B.19

In effect, Iowa's highway and road system is constructed, maintained and administered by over 1,050 separate units of government. In terms of population, Iowa has a government involved with the state's highway system for approximately every 2,700 persons. Even though the Transportation Task Force fully recognizes Iowa's affinity for local control and local government, the need to examine the potential for greater efficiency through the coordination or consolidation of equipment and services is apparent. The obvious question becomes: Can Iowa create efficiency in expending its highway dollars through joint administration or service provision among its governments?

A major concern expressed in the creation of the Task Force related to the amount of expenditures going toward highway maintenance and administration. The question was posed: Could efficiencies be found in maintenance and administration that could generate dollars for construction? This question was tempered by the knowledge that major decreases in highway maintenance can be counter-productive and lead to actually higher rates of expenditures over time.

The Task Force did find a wide discrepancy among the levels of government as to the rates of RUTF expenditures on maintenance and administration. The difference between spending for construction and for maintenance is substantial among the three different road types. The following graphs (IDOT estimates, 1995) display how this difference manifests itself, especially between primary and county roads.



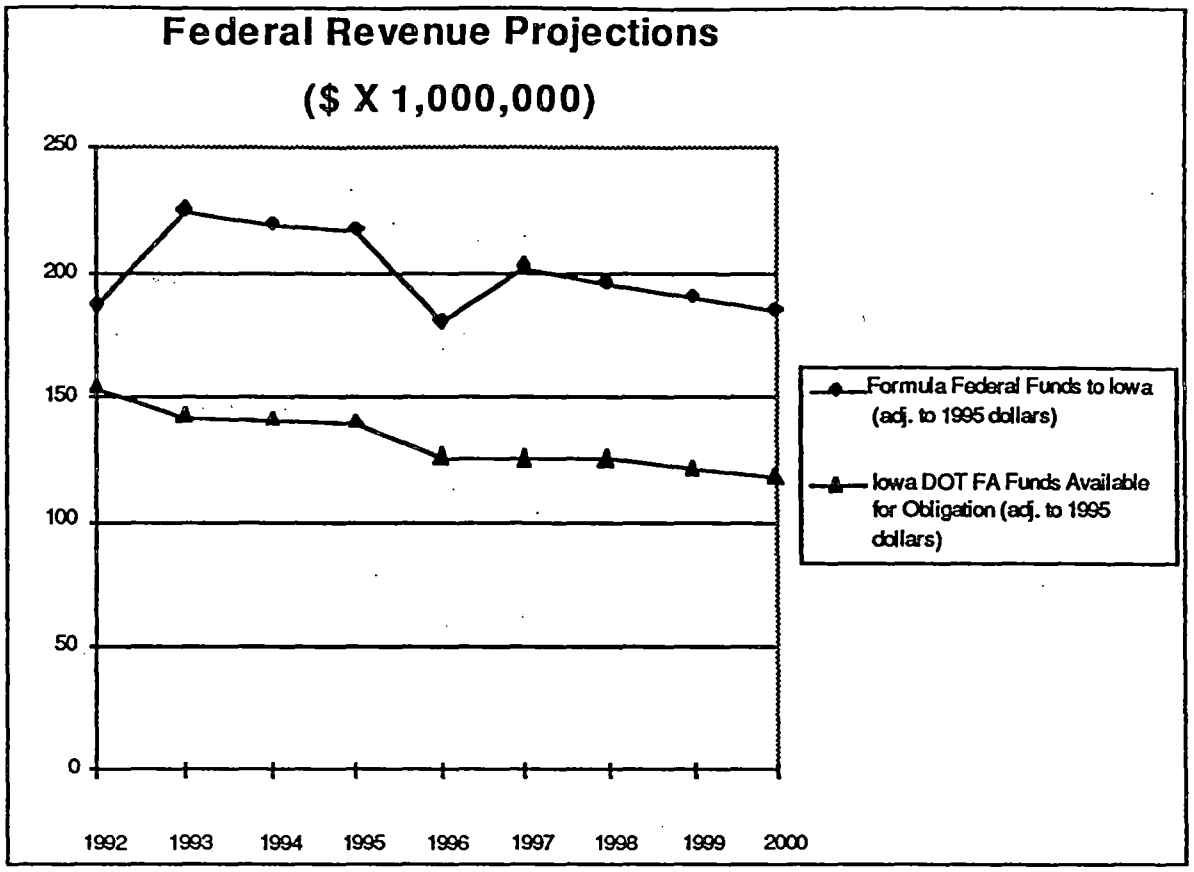
Much of this discrepancy, however, can be attributed to the type of roads maintained. Local roads, especially those maintained by counties, tend to be gravel. Construction costs associated with this system in place tend to be minimal, while maintenance costs tend to be high. The type of road and the condition of roads are often limiting factors on the ability of local governments to construct, or reconstruct highway systems.

The net result, however, is that most RUTF maintenance dollars are spent at the local level. Major savings in the RUTF through greater highway maintenance efficiency will need to involve the cooperation of local governments.

FUNDING

As of 1992, Iowa relied upon the federal government for 15.5%, or $204.1 million, of its total highway funding. The Road Use Tax Fund covered 53.4%, or $701.5 million, of that year's funding. Projections made by the Iowa Dept. of Transportation (in constant dollars) show that $27.2 billion dollars will be needed twenty years from now to keep the roadway system above appropriate design standards. Total revenues by this time may cover only two thirds of the forecast need.

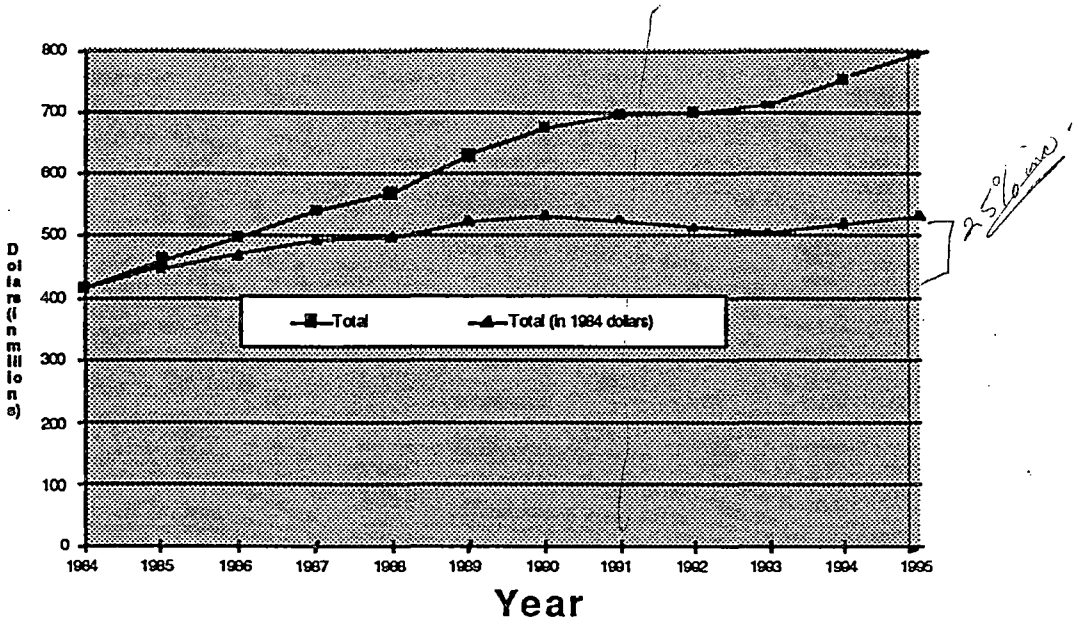
Projections of Federal funding over the next few years are at best hazardous. The Task Force asked IDOT for projections of Federal funds over the next five years. The best case scenario calls for a flat level of funding. With an application of three percent inflation rate, however, a flat level of funding creates a significant shortfall over time. Figure ? illustrates that this projection continues the declining trend of Federal funds available to Iowa in real dollars.



Source: Iowa Department of Transportation, 1995

Revenues from state sources have also tended to remain flat over the last five years when inflation is accounted for. In constant dollars, the state has seen little growth in transportation revenue sources since 1990. As figure ? indicates, total state revenue has tended to remain fairly flat within this decade.

Total Revenues (including fuel tax, registrations, use tax, underground tank fees, licensing fees, interest, and other)



Within the state of Iowa, the promotion of alternative fuels may deplete gas tax revenues. Currently, $5 million of state taxes and $40 million in federal road use taxes are lost annually due to the increased use of ethanol. Other losses to Iowa's highway funds occur from diversions to non-road surface related expenditures. Over the last eight to ten years the state legislature has added over a dozen entities to the list of diversions. Recently, however, the State Highway Patrol was removed from this list. Those remaining include the Department of Inspections and Appeals, Rural Revitalization, Automated Finger Imprint Systems, and others. The diversions total over $84 million. (Iowa in Motion: Part I, p. B.33)

The best case scenario will likely see funding for Iowa's highways to remain at its present level from all sources of funds. With a real

possibility of major Federal reductions, and the likely projection of litlle or no growth in state funding sources, the need for the greatest possible effeciency becomes apparent.

The following findings of the subcommittees and the Task Force provide a foundation through which added efficiencies could help sustain Iowa's highway system in a period of limited resources. These recommendations are not made in the spirit of an indictment of past administrative procedures or management systems. Within the context of Governor's Brandstad's charge, they are made in an effort to maximize Iowa's existing resources so that Iowans can continue to enjoy an excellent highway system into the future.

Technology Subcommittee

The Technology Subcommittee adopted the following question as a mission statement to guide its work:

"How can we use appropriate technology to reduce costs, improve efficiency, and increase investment from the Road Use Tax Fund?"

In examining appropriate technologies, the subcommittee took a broad view, looking at work processes as well as technologies that could make work processes more efficient. All cost areas, including operations, administration, design, maintenance, and construction were considered. Ideas were sought through a series of focus group interviews; these groups included road contractors, Iowa DOT front line staff, Iowa DOT engineers and managers, and local government officials. The consistency of ideas gathered from these sources was remarkable.

The subcommittee's recommendations--presented below--are divided into three parts. These are: 1) technology deployment and automation issues, 2) revenue collection issues, and 3) standards issues. Most of the recommendations fall in the first category. It is the belief of the subcommittee that an aggressive plan of technology deployment must be followed to bring Iowa's highway transportation providers into the "information age". The goal should be to have the best information possible to make decisions "anytime, anywhere". We believe that the technology suggested in this report will enable the Iowa DOT and local

governments to act more as if they were a single enterprise, to build more partnerships, and share resources more.

Recommendations

TECHNOLOGY DEPLOYMENT AND AUTOMATION ISSUES

Establish A Technology Champion

It is recommend that a service be established to champion the adoption of new technologies both within Iowa DOT and the broader transportation enterprise in Iowa. There is now no single point, person, or team that can act as a "technology champion" for transportation in Iowa. There are a considerable number of technologies, ranging from inter-networking to global positioning systems to intelligent vehicle highway systems to smart cards that could represent major cost savers and/or service improvements.

A technology champion could help introduce these new ideas to the DOT and local jurisdictions and promote the development of "technology laboratories" to try out new concepts and report the results. Several other states, including Minnesota and Wisconsin, have adopted and implemented the idea of a "technology champion".

Annual savings cannot be determined at this time, but this recommendation could play a major role in implementing other recommendations contained in this report.

Annual savings: Unknown
Annual cost: $100,000

Streamline Paperwork Processes And Then Automate Them

It is recommend that the DOT begin streamlining paperwork processes that are imposed on both contractors and local governments. Once these processes have been streamlined, the remaining processes should be automated to the extent possible.

Both contractors and DOT field staff are literally being buried in paperwork. Most of this paperwork seems to have been generated in response to well-intended mandates from the Federal government. Such mandates include those for fair labor standards, paying prevailing wages (Davis-Bacon), occupational safety, and environmental protection. While promoting laudable goals, the administration of these mandates has generated a mountain of forms that DOT officials could never hope to monitor. Contractors report they often hire full-time or part-time employees simply to prepare and file all the forms. Often, identical or very similar forms must be filed with every project a contractor does in a year.

The re-engineering of such a process is imperative; a system is needed that eliminates tasks that do not add value. It should be possible to administer required regulations and obtain the same benefits to workers or the environment with far less paperwork. For instance, a contractor could certify its compliance with regulations once a year instead of once for every project he or she does. Once processes have been simplified, they could be done electronically rather than on paper. Many could also be done on the job site given the use of mobile computing technologies.

We estimate an eventual two percent reduction in state highway construction costs (up to $7 million per year) could be achieved

through paperwork reduction and automated collection of required information. Costs would be saved both by contractors (who could then offer lower bids) and by the Iowa DOT. This would require an offsetting investment in process re-engineering and then in automation technology for several years.

Annual savings: $7,000,000
Annual cost: $2,000,000

Deploy Current Automation Technologies More Quickly Within DOT

It is recommend that the Department of Transportation deploy off-the-shelf automation technologies more aggressively. Such automation technologies include:

- *Phone or voice mail,* which allow selected telephones to be answered electronically.
- *Electronic mail* (particularly if connected to the Internet), which allows electronic correspondence to be substituted for more costly phone calls, faxes and letters.
- *Fax-back or fax-on-demand systems,* which allow customers to obtain valuable information automatically via their telephone and fax machine.
- *Personal computers and local area networks,* which allow individual workers to perform more tasks on their desktop rather than rely totally on a centralized computer system.
- *Mobile computing and communications devices* such as personal digital assistants (PDAs) and cellular phones, which allow field staff to operate more efficiently.

The Department of Transportation historically utilized a centralized approach to data processing and communications. It is apparent that many internal users are not satisfied with their ability to access, use and communicate information. More aggressive investment in decentralized information and communications technologies would better fit the management style of the times which emphasizes decision making at the front lines and rapid customer service.

Off-the-shelf automation technologies are aimed at increasing the productivity of individual staff persons and have very rapid pay back periods if implemented wisely. For example, it has been estimated that phone mail systems can save up to 40 percent of all calling costs. Another rule of thumb is that a fax costs one tenth as much to prepare and send as a postal letter and an e-mail costs one tenth as much as a fax. Besides saving money, such automation technologies can also help improve customer service immediately because considerable response time can be saved.

We estimate a savings or productivity increase of at least 1 percent could be achieved from DOT personal services costs for staff not involved in on-highway maintenance through accelerated deployment of automation technologies. This would translate into roughly a $1 million reduction in costs and/or productivity increases in the long-run. Offsetting investments would be needed to accomplish this. These investments would also enable other of our recommendations.

Annual savings: $1,000,000
Annual costs: $750,000

Support Technology Adoption By Local Governments

It is recommend that the DOT and the Iowa Transportation Center jointly develop an initiative aimed at increasing the use of available information technology by city and county transportation agencies and staff.

Local governments in Iowa are often very small and tend to be unsophisticated about using technology. Local governments in Iowa are, for the most part, lagging behind their business counterparts in the diffusion of new technology. In the era of the Internet, many local governments have just begun to adopt personal computers and fax machines in their road and street departments. We estimate that local governments could also realize savings and/or productivity increases of 1 percent on their general administration and engineering budgets through the adoption of available computer and office automation technologies. Even with technical assistance, we forecast the progress in technology adoption by local governments to diffuse slowly. Without technical assistance, poor rates of technology will continue to add to the cost of servicing the state's transportation system.

Annual savings: $500,000
Annual costs: $400,000

Encourage Local Governments To Buy Technology Off DOT Or DGS Contracts

It is recommend that the DOT and Iowa Department of General Services (DGS) make available to counties and cities the opportunity to procure office and other simple technologies (computers, software, GPS

units, radios, modems, etc...) off its open contracts. The DOT or DGS may want to go so far as starting a "Technology Store" to help local governments better understand, buy, and use off-the-shelf technologies. Local governments are less experienced than the State in buying technology. They are very small volume buyers, which tends to increase the prices they pay. The Iowa DOT and the DGS have much experience in buying technology and are large volume purchasers. Having local governments buy off the DOT contract is common for other types of purchases, such as gravel and fuel.

San Francisco City and County, California opened a computer store in 1994. The State of California has established a multiple awards schedule, negotiating terms and conditions with vendors such that local governments can buy technology items off a state contract. To the extent possible, California uses contacts already negotiated by the Federal General Services Administration (GSA). There has not been enough experience with these plans to estimate a savings, however it is clear that they can save money in that local governments do not have to prepare specifications and bid documents and obtain significantly lower costs .

Although exact savings cannot be determined at this time, experience shows that buying off open state or federal contracts can save significant amounts over "street" prices. Normally, prices on open contracts on information technology products let by DGS are 25-

35 percent lower than prices at retailers or in mass market catalogues. If local governments bought $2 million in office automation equipment over a five year period, at least $700,000 would be saved.

Annual savings: $140,000
Annual costs: minimal

Re-Engineer The DOT's Management Information Systems

It is recommend that an independent assessment be made of the efficiency and quality of service provided by the Iowa DOT's centralized data processing center. This assessment should consider all available alternatives that would improve the efficiency and quality of service provided. Ideally, it should be done in conjunction with an assessment of the other two State of Iowa data centers.

Both contractors and the Iowa DOT field staff express concern that the DOT has "huge amounts of data, but little information". This appears to be due to DOT's history of maintaining a centralized, mainframe-based computing architecture with insufficient resources to meet many management and data-analysis needs. The centralized data processing approach may have been effective in the past, but will become much less effective in the next century as management and decision-making continue to become more decentralized.

Key problems are that mainframe applications use legacy coding like COBOL that is very expensive to maintain and that legacy databases are often proprietary (not open) and usually non-relational. Users want to be able to have applications that are simple to use (graphical) and can relate information from many databases. They also want to have a great deal more control at their desktops than

mainframe computing usually allows. Databases used by Iowa DOT also tend to have static segmentation, which often leads to original data being aggregated and averaged. New applications take a long time to develop in this centralized data processing environment.

An information base that can be accessed quickly and easily is necessary to support good management today. According to DOT computer users and outsiders, the DOT does not have the ability to effectively use the massive amounts of data it collects. Users cannot access the data they need, inquiries that should take minutes take weeks, and much information that should be stored electronically is instead stored in hard copy form or in a way that it cannot be easily accessed by others. This is like having a warehouse of goods where some of the shipments go in, but never come out again.

The DOT's technology purchases are financed from an equipment revolving fund made up of depreciation-based payments from its divisions. The revolving fund finances new purchases of all types of equipment--everything from trucks to personal computers. The fund is adjusted for inflation through an additional appropriation from the legislature. This fund is based on sound business practices (things that break or wear out or become obsolete get replaced), but it leaves little room for the type of major investment we are recommending here. Some sort of major injection of funding would be needed to re-engineer the Iowa DOT's MIS. This might be accomplished through several options, including a special appropriation for a new system, consolidation with other state data centers, insourcing work from the other two state data centers to DOT, leasing a totally new computer system, or outsourcing the DOT operation.

After dot. that there would not be savings

The 1993 Fisher Commission Report indicates that cost savings of 20-25% may be possible through such options as data center consolidation, insourcing, or outsourcing since the State of Iowa now runs three separate major centers (not including the Regent's University's administrative data centers). This could translate into roughly $2-$2.5 million in potential RUTF savings, depending on the solution chosen. The actual savings cannot be estimated until an independent assessment is performed. An offsetting investment will be required.

Annual savings: $2,500,000
Annual costs: Unknown

Maximize Use Of The Iowa Communications Network For Training And Meetings

It is recommend that the DOT and local governments use the Iowa Communications Network (ICN) to hold training sessions and meetings. The DOT should strongly consider installing video-conferencing rooms at its headquarters in Ames and at its six regional transportation centers throughout the state.

The Iowa Communications Network is an interactive, fiber-optics network that allows eligible users to conduct video-conferencing and video training sessions at selected locations in all of Iowa's 99 counties. The ICN can be used by eligible users like the DOT to conduct government-related meetings and training for its own staff and for local governments and contractors.

Video conferencing and video meetings save travel expenses like mileage, fuel, meals, and lodging. They can also save considerable staff time for both the DOT and local governments. We estimate the DOT

and local governments could save at least $500,000 per year by aggressively using video-conferencing instead of "live" meetings and training. This assumes that the DOT can avoid 3 to 5 percent of its current $10.5 million per year in-state travel and vehicle operations budget and that the counties and cities could do likewise.

The Iowa National Guard will be bringing on line 50 new ICN classrooms in the next few years that will be used mainly on nights and weekends. The DOT and local governments should make aggressive use of these first. The first few years of these savings could be invested in ICN classrooms at the DOT Central Office and at the six regional transportation centers located around the state, if such classrooms can be justified.

Annual savings: $500,000
One-time cost: $75,000

Put Purchasing And Information For Highway Contractors "On-Line"

The Iowa DOT should place information for road contractors "on-line" so that contractors can access it electronically. This should include county and city projects let through the DOT. Ultimately, on-line bidding should be established as well. It should also put other types of purchasing, for instance for materials and personal services, on-line.

There are several ways of putting contractor information on-line. These include internal electronic bulletin board systems (BBS), Internet servers, or vendor operated information systems. The DOT should examine all three options carefully and may want to adopt more than one. Many private companies and the federal government are

moving toward a process of full electronic commerce, in which vendors will have to totally do business electronically if they wish to do business at all.

Electronic access will provide two benefits. First, documents will be provided in a cheaper electronic format, saving paper, printing, postage, and staff costs. Second, there will be a greater level of savings due to increased competition for purchases of materials and highway projects.

The State of Oregon's Vendor Information Program (VIP), which was begun in 1992 is estimated to have saved that state $100,000 per year in paper, printing, and postage costs; $650,000 per year in reduced staff and other personnel costs; and over $10 million per year in lower prices paid due to increased competition by vendors. VIP is used for general purchasing by that state. It is accessible both as a dial-up BBS and as a Telnet site on the Internet. We think the Iowa DOT could conservatively save paper, postage, and staff costs of at least $750,000 eventually.

Annual savings: $750,000
Annual costs: $100,000

Plan For And Encourage The Coordinated Development Of GIS/GPS Statewide

We are

It is recommend that the Iowa DOT take the lead in the development of a coordinated geographic information system (GIS) and global positioning system (GPS) network for transportation in Iowa. This should be done cooperatively with counties and cities and with other organizations interested in GIS/GPS. The DOT has

recently developed a GIS/GPS plan, which serve as the start of this process.

Geographic information systems are a powerful technology tool which combine maps with databases. They have numerous applications in highway operations, planning, and design. Both the DOT and local governments could make great use of GIS tools, were they widely available. Global positioning systems are a related technology which allows for precise locations of equipment, infrastructure, or other objects to be found instantly. They also have many transportation applications, especially in system management and planning. These tools are so powerful because their uses extend into many fields, such as public safety, business marketing, logistics, and even agriculture.

GIS and GPS technologies are very powerful, but can represent large investments as well. There are great economies of scale to be had by combining the purchases and development of these technologies among as many organizations as possible. Iowa has recently established the Iowa Geographic Information Council, (IGIC) which could help facilitate cooperative GIS/GPS development. IGIC members include federal, state, and local government agencies. Some GPS applications (like differential GPS base stations) could be coordinated with surrounding states and Federal agencies. In any case, we feel that the Iowa DOT is in a position to play a role as a leader and catalyst on adoption of GIS/GPS statewide in Iowa.

Annual savings: Unknown
Annual cost: Unknown

Share Real-Time Weather Information Through Joint Contracting

It is recommend that the DOT negotiate contracts with private vendors and otherwise make real-time weather and icing data available to counties and cities in Iowa on a cost reimbursement basis. Real-time weather and icing information is extraordinarily valuable to highway maintenance organizations (as well as to motorists). This is because more appropriate winter maintenance decisions can be made. If winter maintenance crews can be dispatched only when needed, thousands of dollars of costs can be avoided and service can be improved.

Currently, there are five sources of weather information available in Iowa, including private vendors. Most contracts, however, are negotiated by the DOT or local road agencies on an individual basis where the contracts specify that data received cannot be shared. DOT recently entered such a contract ($80,000 per year) with Data Transmission Network Corp. of Omaha (DTN) to supply electronic weather information to its garages.

Joint contracting would be less expensive overall than individual contracts and there would be some standardization of available weather and icing information across Iowa. Savings will depend on the service(s) and locations chosen. Any joint contracting and choice of weather information services should be done on a cooperative basis involving the DOT, cities, and counties. Because such large amounts of money are spent on highway maintenance in Iowa every year (over $500 million), even a fractional savings on winter maintenance costs due to better weather information cost save

hundreds of thousands of dollars. A group of DOT staff and local officials is working on this issue at present and we support their efforts.

Annual savings: Unknown
Annual costs: Unknown

Encourage The Development Of Regional Databases For Transportation Programming

It is recommend that the Iowa DOT help the regional planning affiliations (RPAs) develop and use a set of simplified management systems to help guide programming at the regional and local level. Ideally, this would include management systems for pavements, bridges, and safety.

Some transportation decisions are programmed at the regional level through the RPAs, but they often lack the tools they need to program in an informed manner. The Iowa DOT is developing several management systems in response to the federal Intermodal Surface Transportation Efficiency Act (ISTEA). "Light" versions of several of these management systems could be very helpful to the RPAs. Cost savings cannot be estimated at this time, however resources would ultimately be used more effectively.

Annual costs: Unknown
Annual savings: Unknown

Develop A Statewide Highway Information Communications Network

It is recommend that the DOT take the lead in connecting all its locations, all the counties, and all the cities with a data communications network that will allow them to communicate via electronic mail and share information quickly. The idea is to develop a complete transportation enterprise network that is flexible enough to be used for all sorts of data communications.

This sort of communications network is feasible now through the use of the Internet protocol. All sorts of computers and computer networks can be inter-networked for exchange of e-mail and data files. By using an open network system like Internet (TCP/IP), private contractors could also be included in such a network for partnering.

With data communications systems already in place with the County Treasurers, the DOT already has a good start on a statewide network. Some e-mail capabilities already exist for County Engineers as well through the Iowa Transportation Center's BBS. This skeleton ought to be expanded incrementally to include other key partners, including the Metropolitan Planning Organizations, Regional Planning Affiliations, and cities. Savings are difficult to estimate, however electronic mail can be sent for a fraction of the cost of a letter or a fax

Such a network would also tend to encourage electronic filing of forms and documents and intergovernmental sharing. For instance, counties and cities could easily loan or lease out equipment among themselves or easily build joint projects for seal coating.

Annual savings:unknown
Annual cost: $250,000
(500 nodes using dial-up connections)

Possible Sources Of Funding For Technology Investments

Technology-driven savings usually imply an up-front investment that is recovered later on. We have identified about $4 million in additional annual investments that will need to be made in order to realize these savings. Depending on the results of the Information Technology Assessment mentioned in our recommendation on management information systems, this figure could go higher. This investment could come from several sources, including:

- A *special appropriation* to the DOT's capital equipment revolving fund.
- *Proceeds from the sales* of DOT assets that are outsourced, such as vehicles or computing equipment.

COLLECTIONS ISSUES

Credit Overweight Truck And Truck Safety Fines To The RUTF

It is recommend that fines for overweight trucks and truck safety violations be credited to the Road Use Tax Fund rather than the General Fund. These funds could be used for investments in construction and "smart highway" (IVHS) technology that helps detect, apprehend, and fine more overweight or unsafe trucks.

Approximately $2.5 million per year in these fines now goes to the State General Fund. The cost of enforcing weight and safety laws and regulations is covered by the RUTF. These fines can be directly linked to extra costs incurred by the Department of Transportation and local governments. For instance, overweight truck fines are designed to

compensate for the extra pavement wear incurred by trucks that exceed the allowable legal limits.

Annual revenues: $2.5 million
Annual cost: None to RUTF

Exempt Contractor Materials Used In Public Projects From The Iowa Sales Tax

It is recommend that contractors be granted an exemption on sales and use tax for purchase of materials that are to be used in highway projects paid for by federal, state, or local government highway funds.

Approximately $14 million in state sales taxes are levied each year on contractors' purchases of materials for use in public highway projects. Since no sales taxes are due on activities of government, these taxes are collected from but then ultimately refunded to the contractors. There is no gain in revenue to the government, but contractors and RUTF must carry the tax payments until they are refunded and state government must spend money processing the refunds. Several states have simply granted an exemption to contractors for this purpose. Nebraska has chosen to do so and reports no unusual administrative problems.

The charging of sales and use tax on highway project materials creates an unnecessary cash flow burden for highway contractors and an unnecessary processing cost for state government. While an exemption would not directly increase revenues to the RUTF, it would reduce the overhead cost for construction contractors; this could be reflected in lower bids. Nebraska offers such an exemption now and reports that it functions well.

Granting an exemption would save the RUTF and contractors about $500,000 in opportunity costs and another $150,000 in filing and processing costs per year. In the end, the same amount of sales taxes would be collected by the State for the General Fund.

Annual savings: $650,000
Annual costs: Minimal

STANDARDS ISSUES

Fully Adopt Metric Road Design Standards

Iowa should fully adopt metric measurements for highway and road design. This includes the Iowa DOT and cities and counties. The US Department of Transportation is requiring state DOTs to adopt metric measurement standards for all highway projects that use federal highway funds. Metrification is in keeping with the move toward a global economy. The metric measurement system is used in most nations of the world.

Full adoption of metric standards will help avoid costly design mistakes on the part of the Iowa DOT, local governments, and contractors. Keeping a "mixed" system (metric on federal projects and English on non-federal) will likely lead to more mistakes on the part of designers and builders of projects. It will also lead to additional costs on the part of contractors, who may have to maintain two sets of

certain equipment (such as PCC paving pans). Some suppliers (such as reinforcing rod manufacturers) who are not moving toward metric standards may have to be encouraged to do so.

Annual savings: unknown
Annual costs: unknown

Adopt Common Standards For Construction Specifications And Construction Equipment

It is strongly recommend the Iowa DOT and local governments adopt as many common standards as possible for construction projects and for construction and maintenance equipment. This should be accomplished through mutual agreement by the DOT, cities, and counties. Currently, the DOT and local governments may use different specifications for items that could be specified similarly, such as trucks, construction equipment, and concrete pavements.

In some cases, there are good reasons for this, including different operating conditions or requirements. In other cases, the differences in standards are not justified and simply increase costs by preventing joint bidding and purchasing or leasing and increasing costs to contractors.

Although it is not possible to estimate the saving form this recommendation at this time, it could save considerable resources in the long run. Standardization will also make intergovernmental sharing arrangements and equipment leasing much simpler.

Annual savings: unknown
Annual costs: unknown

Encourage More Team Projects

The Technology Subcommittee commends the Iowa DOT for its innovation regarding team projects. It should continue and expand the concept of teams for major transportation corridor improvements.

The Iowa DOT has conducted experiments with team projects in the IA 58 corridor near Waterloo ("Team 58") and now in the Iowa Great Lakes region. Teams are formed which involve the Iowa DOT, contractors, and effected local government jurisdictions. Teaming-up is an excellent approach to constructing large corridor-type projects and the Iowa DOT should be commended for it. Teaming leads to better quality projects produced for the same money spent. Fewer mistakes are made in projects.

Annual savings: unknown
Annual costs: unknown

INTERGOVERNMENTAL SHARING SUBCOMMITTEE

The Intergovernmental Sharing subcommittee of Governor's Blue Ribbon Transportation Task Force met with representatives of ISAC, IDOT, the League of Municipalities, the Iowa Transportation Center, and the University of Iowa's Institute for Public Affairs. The subcommittee was charged with investigating the potential for saving RUTF through the sharing of equipment, personnel and bid letting among the state and local governments. The subcommittee focused upon three major themes based upon the original charge of the Task Force:

- identifying "approaches to shared system responsibilities or pooled resources and expanded cooperative efforts."
- improving the ratio of "administration and operation" costs to "road and bridge construction."
- And maximizing "the benefits of each dollar spent from the Road Use Tax Fund."

Testimony before the subcommittee indicated that the potential estimated of sharing of equipment would be in the range of 3% to 5% of the RUTF. Thus, the estimated total potential savings through an optimum level of efficiency through sharing would be at most $35,000,000 annually in the RUTF. With approximately $38,000,000 worth of road equipment purchased each year by all three levels of government in Iowa, a 5% level of savings would amount to less than $2,000,000 annually. Furthermore, these figures do not estimate the

costs associated in gaining such efficient use of equipment and personnel in Iowa's total transportation system.

As this system is operated by three levels of government, some duplication is likely to occur. A study conducted by the ISU Department of Community and Regional Planning indicates one in ten street related service is already shared with another city or county with only one in five of these agreements filed with the state under the 28E code. Almost half are simply informal arrangements.

The subcommittee also learned found **no legal barriers** that would pre-empt increased sharing of personnel or equipment between the state and local governments or among local governments. The 28E code already allows for the formation of ongoing arrangements to share equipment and specify the responsibility of tort liability. This code could be utilized to articulate agreements on highway and maintenance specifications, road reclassifications, and the creation of integrated highway administration, maintenance and construction among all three levels of government.

There are limits as to the use of equipment purchased by IDOT through the primary RUTF. These limits may already be overcome through leasing arrangements with local governments. It would appear, however, that leasing is rare as IDOT has no record of the extent these leasing agreements take place. **If no legal barriers exist, then why is there not more sharing among local governments and the state?**

PROBLEMS ASSOCIATED WITH A SHARING STRATEGY

A number of factors were identified by the subcommittee and by persons speaking before the subcommittee. The need for education, modeling, incentives, and local initiative were among the reasons found to inhibit more intergovernmental sharing in Iowa. Application of savings from sharing to road construction may also be problematic as there is no assurance that money saved will be spent by local governments for that purpose. The following were identified as barriers toward developing further intergovernmental sharing as a means to create further road construction.

Lack of Precedent/Knowledge:

The subcommittee found no concerted effort in the state to document and diffuse transportation sharing arrangements; no clearinghouse for sharing agreements or related legal documents that might be adapted by others. The Iowa Department of Economic Development, the Iowa Transportation Center, the University of Iowa Institute of Public Affairs and the Iowa State University Extension Service all have made nominal efforts to document or promote intergovernmental services sharing. What has failed to materialize is a method through which local governments can draw upon the examples of others.

Variability

A major concern expressed by those giving information to the subcommittee revolved around the potential problems with mandated sharing. The needs from location to location vary across the state depending upon topography, road conditions, equipment stock, and the skill level of personnel. Among small municipalities, some tasks are completed by volunteers or part-time labor at no or little cost. Mandated sharing might actually increase the cost to tax payers under some of these circumstances.

This variability across the state means that a cookie cutter approach to sharing will not likely work. Different places have different equipment and personnel needs. The greatest efficiency is likely to be found by having smaller units of government to creatively work with each other and the state. Thus, efficiency could be better created around local circumstances.

Apprehension Toward Sharing

With over 1,050 municipal and county governments in Iowa, there remains a strong culture of local government and local control. If economic advantages of clear, there exists a strong bias against creating new levels of government. Furthermore, even if local positions could be eliminated and savings realized, they often represent the jobs of friends and family. The will to be efficient at the cost of local jobs is often not strong. Some speakers indicated the existence of a lack of trust among the levels of government in Iowa.

There also exists apprehension in partnering with the state. Past battles over the RUTF makes local government leery of any relationship that may create more power for the state. A number of

persons before the committee stated the need for trust in developing shared relationships, but trust appears to be in short supply.

Lack of Incentives

Why should local governments share or the state share equipment or personnel? The Iowa State University study indicated that when transportation related intergovernmental sharing does take place, usually cost savings or better service are cited as reasons. The relative infrequency of these arrangements would tend to infer that cost savings alone does not appear to be an overriding incentive.

A number of persons indicated that during times of crisis intergovernmental sharing among local governments and between the state and local governments is much more apparent. It would appear that with this noted exception, there does not exist the will to be efficient through sharing. In general, local or organizational control of equipment and personnel takes a priority.

Utilization of Savings

The subcommittee's charge was to look for methods of sharing that would allow the shifting of funds from road maintenance and administration to highway construction. By a large margin, the greatest amount of road maintenance expenditures from the RUTF is spent at municipal and county level. There is no guarantee that funds saved through sharing would be spent on construction by local units of government.

RECOMMENDATIONS

The subcommittee based its recommendations upon the assumption that sharing is most productive when it is done on a voluntary basis and adapted to local situations. It was also felt that opportunities for sharing go beyond equipment. The sharing of personnel, data, technology, and bid letting should also be considered. It is the conclusion of the subcommittee, however, that the increases in intergovernmental sharing will be minimal unless a more concerted effort is made. **Leadership will be required at all levels of government to create the levels of efficiency needed to provide a measurable impact on road construction.** Towards that end, the following are recommended:

Transportation Sharing Committee

A committee formed by the Governor would oversee transportation pilot projects, documentation of existing arrangements, and an education program for local officials. This committee would also be charged with designing a blueprint for the development of transportation districts through the application of the Iowa 28E Code. This report would be due to the Governor's office by December 15, 1996. Members of this committee would include representatives of ACE, ISAC, the League, and IDOT. Staffing would be provided through

the Iowa Transportation Center and the University of Iowa Institute of Public Affairs (see below.)

One-time Appropriation: $3,000
Annual Savings: Unknown

Pilot Sharing Projects

Four demonstration projects should be initiated each year involving local government and potentially IDOT, Duration of financing would be two years with a maximum total grant of $80,000. The demonstration of a sharing arrangement or joint administration that could be replicated across Iowa. It is suggested that an annual RFP process be used. Applicants would need to demonstrate a savings ratio at least 1 to 5 for the amount of funds requested. A preliminary plan for utilization of the funds for construction would also be required.

Annual Appropriation: $300,000
Annual Savings: $1,500,000

Transportation District Development

The Transportation Sharing Committee would be charged with writing a plan for the development of jointly developed Transportation Districts under the 28E Code. The committee should examine the feasibility and desirability of creating a system where more people, contracts, information, facilities, expertise, and equipment could be jointly administered by districts negotiated and created through all three levels of government. The Committee should study and report upon:

1) the efficiency of districts maintaining streets in municipalities of under 500 population,

2) the ability of districts to allow for more professional staff and more specialization at the local level,

3) the potential for Level C and D roads to reclassified as district highways,

4) the potential for larger or joint project bidding with districts,

5) the potential for lower cost and fewer equipment maintenance facilities,

6) how savings through district creation could be documented and reapplied to construction,

7) how districts would be governed and relate to the RPA planning process,

8) what incentives would be needed to create voluntary formation including, but not limited to, reallocation of the RUTF.

The creation of joint transportation districts is an alternative that could fundamentally change the way much of Iowa administers its road system. If only one-fourth of the state could combine into sets of two or three counties with IDOT and local municipalities as partners, a savings of 5% of the RUTF would generate annually $14,000.000 for road construction by the turn of the century. The subcommittee recommends that a total of $50,000 be set aside for the Iowa Institute of Public Affairs and the Iowa Transportation Center to staff the committee and prepare the report.

One-time Appropriation: $50,000
Annual Savings: $14,000,000

Sharing Technical Assistance

The Sharing Subcommittee recommends that an appropriation be made to the Iowa Transportation Center and the University of Iowa's Institute of Public Affairs to 1) assist in the documentation of

transportation sharing agreements, 2) staff the activities Transportation Sharing Committee, and 3) provide technical assistance directly to local governments and IDOT to facilitate pilot projects or transportation district development. The subcommittee believes that this appropriation would provide a net savings to the RUTF, but these savings are not possible to project at this time.

Annual Appropriation: $30,000
Annual Savings: Unknown

IDOT Equipment Leasing

The subcommittee recommends that IDOT provide better information to local governments as to the availability of their equipment. While equipment purchased through the primary fund can be leased by IDOT to local governments, there is insufficient documentation to demonstrate to extent these types of arrangements have been made. A number of local officials also claimed that the present procedures for leasing equipment inhibited rather that promoted these types of arrangements.

Appropriation: $0
Annual Savings: Unknown

OUTSOURCING SUBCOMMITTEE

Government agencies often try to do things themselves or own things when it would be better to contract for services or lease things. They have just gotten used to "doing things the way we have always done them". Outsourcing or privatization can be defined as alternative method of service delivery in which the private sector is contracted to perform services previously performed directly by government. The Outsourcing Subcommittee focused on finding activities performed by the Iowa Department of Transportation or cities and counties in Iowa that might better be performed by the private sector.

There are usually two rationales for outsourcing: to save money and/or other resources (like time) or to divide work more efficiently among the public and private sectors so that each party can do what it does best. In an era of tight resources for the public sector, outsourcing and privatization are increasingly being viewed as alternatives to traditional models of direct government service provision, creating a government that "steers rather than rows". However, outsourcing is not a panacea and needs to be evaluated carefully and independently to ensure that it really is more efficient.

Outsourcing is certainly not a new concept for the Iowa Department of Transportation or for local government road jurisdictions in Iowa. Literally hundreds of millions of road construction projects are contracted out in Iowa every year,

both by the Iowa DOT and local governments. Very few road construction projects are done by DOT or county and city staff. In addition, the DOT and local governments routinely outsource such other functions as road design, mowing, specialized research and planning, Interstate Rest Area maintenance, and some heavy road maintenance.

During its deliberation, the Outsourcing Sub-Committee concentrated on identifying the best potential untapped outsourcing opportunities within the government transportation sector in Iowa. It did so by: 1) conducting a telephone survey of other states, and cities and counties in Iowa; 2) reviewing outsourcing studies conducted in other states; and, 3) interviewing a number of leading companies that are involved in outsourcing activities now performed directly by transportation agencies in Iowa. This approach yielded some very clear conclusions.

TOP TWO OUTSOURCING OPPORTUNITIES

Experts on outsourcing speak in terms of a "risk pyramid" for outsourcing. Some things should never be outsourced. These include the "strategic direction" of the organization, and it unique, core competencies. Other services that organizations perform tend to involve very low risks in outsourcing. The Outsourcing Subcommittee has tried to identify those candidates that are toward the low end of the outsourcing "risk pyramid" for transportation. (The term "risk pyramid was coined by the Yankee Group, an outsourcing consulting firm).

The Subcommittee feels strongly that by far the two best outsourcing opportunities that exist in the government transportation sector in Iowa are in the area of fleet management. There are really two fleets operated by the Iowa DOT (and similarly by local governments). The first is a large fleet of automobiles and light duty trucks and vans. The second is a smaller, but very valuable fleet of heavier maintenance equipment, including motor graders, large maintenance trucks, snow plows, and the like.

Since the Iowa DOT is but one of the major government fleet owners in Iowa, we would strongly recommend that any assessments of fleet leasing or outsourcing be done in conjunction with those other agencies. These might include larger local governments, the Iowa Department of General Services, or the Regents Universities.

Recommendations

Light Duty Fleet Leasing

We recommend that an independent assessment be conducted of the possibility of the Iowa DOT leasing rather than owning its light duty vehicle fleet. The Iowa DOT owns and operates a very large light vehicle fleet to meet the transportation needs of its employees. As of late 1995, the Iowa DOT had a light duty vehicle fleet consisting of approximately ~~2600~~ 1759 automobiles, vans, and light trucks--about one vehicle for every one and one half employees. This fleet had an initial

purchase cost of some $56 million and a current value of $20-$30 million.

An increasing number of major companies and governments are choosing to outsource their light duty vehicle fleets though leasing. The reason for this is that large fleet management companies can offer them lower costs of vehicle acquisition and operation than if they owned and operated the fleet themselves. The benefits of leasing rather than buying are likely lower for a government agency like Iowa DOT than they would be for a private lessee, however, in that they do not have to pay taxes on new vehicles. A major benefit often offered by private leasing companies is a complete reporting system that allows the fleet to be managed more efficiently. Records of fleet usage are usually much improved, there is less vehicle "down time" and fewer vehicles are needed to accomplish the same mission.

If the Iowa DOT turns over its fleet once every five years and is able to realize a five percent savings per vehicle acquired through leasing or is able operate its vehicle fleet five percent more efficiently after leasing, the annual savings would amount to $520,000 in ownership costs alone.

In addition, if the Iowa DOT were to be able to sell its existing fleet to a fleet leasing vendor for re-marketing, it might be able to realize a $20-$30 million one-time infusion of funds that could be spent on highway construction or on technology investments of the sort identified by the Technology Sub-Committee. This might be a risky strategy, but would be worth evaluating because of the large size of the fleet and the capital assets it could free up. We recommend that any assessment of Iowa DOT's fleet be conducted in conjunction with other

major fleets owned by state government (e.g. the Department of General Services and Regent's Universities).

One-Time Appropriation: $20,000
Annual Savings: $520,000
One-Time Savings: $25,000,000

Vehicle Maintenance Outsourcing

It is recommend that an independent assessment be conducted of the possibility of the Iowa DOT outsourcing the maintenance of its vehicle fleet. This recommendation should be followed even if a decision is made not to lease but rather to continue owning the light duty vehicle fleet.

Outsourcing of vehicle maintenance is an area that many companies and governments have found outsourcing the maintenance of their vehicle fleets to be an extremely beneficial strategy. This is because large private fleet managers can buy maintenance services, parts, and fuel in enormous volumes and use public suppliers to keep fleets in better repair operation a higher percentage of the time. The City of Des Moines is already doing this.

Based on the experience of the State of West Virginia, we believe that the Iowa DOT could realize an annual savings in the neighborhood of $500,000 per year by outsourcing its light duty vehicle maintenance. In addition, West Virginia's state employees have realized a significant increase in fleet reliability and a reduction in vehicle down-time through outsourcing. One reason is that the fleet

lessor that West Virginia deals with is so large that it is able to get additional warranty repair concessions from motor vehicle manufacturers.

One-time Appropriation: $25,000
Annual savings: $500,000

Heavy Equipment Fleet Leasing

It is recommend that Iowa DOT and local governments consider leasing rather than owning their heavy equipment fleets. This recommendation is made especially strongly with respect to specialized equipment that is not used in day-to-day operations.

The Iowa DOT's medium and heavy equipment fleet contains approximately 2100 pieces, with an original purchase price of over $60 million. This fleet is probably worth $20-$30 million today. The Iowa DOT leases only a handful of pieces of equipment now--fewer than ten. On the other hand, most private contractors now lease 80-90% of their equipment fleets. The Iowa DOT has not explored the possibility of leasing versus buying heavy equipment for several years. Based on conversations with lessors and contractors, it appears leasing has become much more attractive lately.

Government agencies are finding that leasing is becoming a much more attractive option for several reasons. These include: a variety of leasing options, ability to shift risk to the lessor, less need to maintain expensive inventories or heavy maintenance facilities, ability to tap specialized vehicle maintenance expertise and trained mechanics, less down time for vital equipment, clear and fixed costs for equipment, higher resale benefits at the end of fleets' life, and ability to keep a higher quality, safer, and newer fleet for the same outlay of funds.

We estimate that if the Iowa DOT were to achieve a ten percent more productive use of its heavy equipment fleet through leasing

(e.g. 10% less downtime and a proportionally smaller fleet needed), on the order of $650,000 could be realized annually. This is a very conservative estimate.

As with leasing the light duty vehicle fleet, the possibility of using the existing fleet to generate a large, one-time capital infusion exists. We estimate that to be on the order of $25 million.

One-time appropriation: $25,000
Annual savings: $650,000
One-time savings: $25 million

Making Cities And Counties Aware Of Outsourcing

The Iowa DOT can serve as an example for cities and counties in Iowa on the existence of leasing and outsourcing as options for doing businesses. Therefore, we recommend that the Iowa DOT share any experiences it gathers in leasing vehicles or outsourcing maintenance with local governments.

Recommended Outsourcing Process

In every case where outsourcing of transportation services is being explored, an independent assessment by an outside, expert party with no stake in the decision should be employed. Analyses of whether to outsource or not should not be performed by internal Iowa DOT or local government staffs (who naturally tend to favor the status quo) or by potential vendors (who are naturally biased toward privatization and their own firms). Independent consultants with fleet leasing experience should be

retained. We estimate that each independent outsourcing assessment might cost in the neighborhood of $10,000-$30,000 depending on the service being analyzed. Even if outsourcing were eventually not chosen, such an assessment could yield useful information about the efficiency of the existing services.

Once an assessment is completed and the decision is made to pursue outsourcing, a detailed request for proposals should be prepared and advertised to potential vendors. Bids should be sought based on both price and quality rather than low bid conforming to specifications.

Other Promising Outsourcing Opportunities

Once outsourcing of the vehicle and equipment fleets of the Iowa DOT has been evaluated and perhaps implemented, a further outsourcing agenda should be explored. We would recommend the following list of additional functions be explored for outsourcing potential and to see if additional savings to the RUTF could be generated. To the extent possible, these should include both DOT and local (city and county) government functions. Our recommended list is as follows:

County share?

- Clerical functions (for instance data entry) that support core business functions.
- Computer aided design and drafting technical services that support core design activities.
- Custodial services.

most is currently

- Facilities management (heating, cooling, electrical, plumbing, security, etc...).
- Information processing. (See recommendation by the Technology Sub-Committee).
- Internal telecommunications.
- Materials testing.
- Printing and publishing.
- Radio communications.
- Real estate management.
- Sign making (perhaps through Iowa Prison Industries).
- Summer help for data collection and maintenance (through temporary staffing agencies).

These are generally services that support the core functions of the Iowa DOT and local governments and tend to be lower risk outsourcing candidates.

Regarding Services That Should Not Be Outsourced

It is recommend that clear "core business" functions of the Iowa DOT generally not be considered for outsourcing. For instance, based on previous experience in Iowa and other states, we would strongly recommend against outsourcing winter maintenance operations. When this has been tried before, cost savings were not realized and response times (which are critical for motorists and businesses) were inadequate.

Other core business functions of the Iowa DOT include transportation policy, planning, project engineering and development,

routine maintenance, and motor vehicle regulation and enforcement. These functions could be augmented, but not replaced, with outside, contracted resources.

OTHER RECOMMENDATIONS BY FULL COMMITTEE

During the course of its work, the Blue Ribbon Task Force identified several issues which did not fall within the scope of its four established subcommittees: Outsourcing, Sharing, Technology, and Legal Barriers. These issues were either discussed in by full committee or delegated to ad hoc committees. Those issues identified for recommendations, or potential recommendations, are reviewed within this section. Most have to do with the way highways and related facilities are planned, designed, and built.

Recommendations

Consolidate DOT Maintenance Garages

Between 1972 and 1989, a total of 37 DOT garages were closed around the state as the DOT moved toward larger equipment, longer winter maintenance runs, and larger crews for maintenance. These closures were controversial in some localities. In 1989, a moratorium was placed on closing of DOT garages. A consultant, Wilbur Smith Associates, was hired that year to provide recommendations on the number and location of garages needed. The consultant's report indicated that:

- About half of all 138 DOT garages in the state were in need of major rehabilitation or replacement due to their size, condition or both.
- The proper number of maintenance facilities needed in the state ranges from 70 to 110, depending on the organization of maintenance forces.

- The report indicated that 110 would be most efficient for winter maintenance, but a somewhat smaller number would be efficient year-round.
- A combination of 70 full-service facilities with additional summer maintenance satellites might be ideal.

Since there are currently 138 garages, it would appear that at least 28 and perhaps more could be closed and still maintain an efficient system of garages. County and city facilities or combined state/local facilities could serve as the basis for satellites. In addition, several of the Task Force members question whether new Iowa DOT garages built to replace obsolete garages are more elaborate and expensive than needed.

One Time Appropriation: Unknown
Annual savings: $1,000,000
One-time savings: $15,000,000

Employ "Super Two" Design Standards Where Appropriate

A 1993 report on Transportation and Iowa's Economic Future prepared by the University of Iowa's Public Policy Center for the Iowa Business Council recommended that the Iowa DOT make greater use of "Super Two" design standards on the Commercial and Industrial Network/National Highway System. A "Super Two" is a very high standard two-lane, rural expressway that affords many of the advantages of a four lane highway at a fraction of the cost.

The "Super Two" is very appropriate on major regional highways where traffic volumes are not yet at level that warrant a full four lane roadway. We estimate that for every mile constructed, a "Super Two" will save $300,000 to $600,000 versus a four-lane

expressway in up-front costs alone. This is a substantial savings and will still provide a high level of service to rural highway users.

Annual savings: Unknown

Adopt Thicker Pavement Design Standards

The 1993 Iowa Business Council report also recommended that thicker pavements be used on major highways where prudent (usually on roads that experience larger-than-average heavy truck traffic usage). The Committee agrees with this recommendation. Thicker pavement leads to a longer pavement life and ultimately to lower operating costs for both the maintainer of the pavement and the vehicles operating on it. The additional cost of thicker pavement is usually a small increment of the total project cost.

Annual savings: Unknown

Program Preventative Maintenance

It is recommend the Iowa DOT and regional Planning affiliations begin to work toward programming preventative maintenance expenditures as they do construction expenditures now. Since timely, heavy maintenance of roads that are in good-fair condition can delay them from becoming poor condition roads, they should be priority candidates. On the other hand, roads and bridges that are already in poor condition can be programmed for rehabilitation or left to downgrade and be abandoned. Effective preventative maintenance should never be sacrificed for the sake of new construction.

Annual savings: Unknown

Review And Revise The Quadrennial Needs Study

The Quadrennial Needs Study is a document prepared every four years that identifies the universe of highway, street, roads, and bridge needs in Iowa. It is partly used for planning and partly to apportion the county formula in the Road Use Tax Fund. It tends to identify, however, a level of needs far beyond what the citizens of Iowa are likely to support particularly on the county road system.

The Needs Study would bring every road and bridge in Iowa up to a base engineering standard. There are many county roads and bridges in Iowa that are far below this standard and carry such low volumes of traffic that one could never economically justify improving them. We suspect that using the current Needs Study to apportion fund among the counties may unintentionally reward counties that put low levels of local tax effort into their road systems.

In any case, the Task Force agrees that the current Needs Study is could be more useful for planning and setting priorities if it could be improved and revised. It is recommended that its purpose and methodology be reviewed.

Annual savings: Unknown

Fund Future DOT Building Projects From The Infrastructure Fund

The Governor and Legislature have recently established and capitalized a new fund dedicated to making investments in Iowa's deteriorated vertical (e.g. sewer and water) and horizontal (e.g. schools and other public buildings) infrastructure. It is recommend that as the

Infrastructure Fund is built up, consideration is given to funding needed Iowa DOT building projects, such as replacement maintenance garages and headquarters building renovations, from that fund rather than the Road Use Tax Fund. That would free up RUTF dollars for their intended purpose, building and maintaining Iowa's roads and bridges.

Annual savings: Unknown

Study Alternatives For System Responsibility

Currently, the Iowa DOT is responsible for maintaining and constructing about 10,000 miles of Primary Roads in Iowa. Generally, these are heavily traveled roads, but some of the lower volume Primary Roads (Level C and D) resemble county roads. Since many counties have lower cost structures than the Iowa DOT, the Task Force feels there is merit in shrinking the system the Iowa DOT has responsibility for to include only the Interstate and National Highway System and other Level B routes. These are heavily-traveled routes on which focusing the DOT's larger maintenance equipment makes sense.

At the lower level of the system, the Task Force feels that some small cities (under 500 population) might be better off if all their road maintenance were performed by the county. In some states (for example Wisconsin) considerably more of the highway system is maintained by the counties. In others (Virginia) the state plays a much larger role than in Iowa.

It is recommend that a study of system responsibility be performed by 1997 that looks at the cost savings that might be realized by drastically changing the responsibility for highway maintenance

as suggested above. Obviously, any change might require a large adjustment to the Road Use Tax Fund formula.

Annual savings: Unknown

Pilot Test Alternatives For System Responsibility

Pending the results of the above-recommended system responsibility study, it is recommend that the Iowa DOT begin pilot-testing alternatives for maintaining its highway system through a system of contracts by counties with the DOT. These concepts of these tests are consistent with the Intergovernmental Services Sharing Subcommittee, but would not necessarily result in "sharing" agreements. Rather, these pilots could lead to a large reclassification within Iowa's highway system. For example, the Task Force envisions:

- One pilot in which counties take over maintenance responsibility for lower level (Level C and D) Primary Roads in their area. Ideally, the same counties would also take over responsibility for maintenance for city streets in very small (under 500 population) communities in their area.

- One pilot in which counties take over maintenance responsibility for the entire state highway system in their area, including Interstates and Primary Roads.

These tests would be carefully monitored and evaluated to determine the effects on cost and quality of service provided.

Annual savings: Unknown

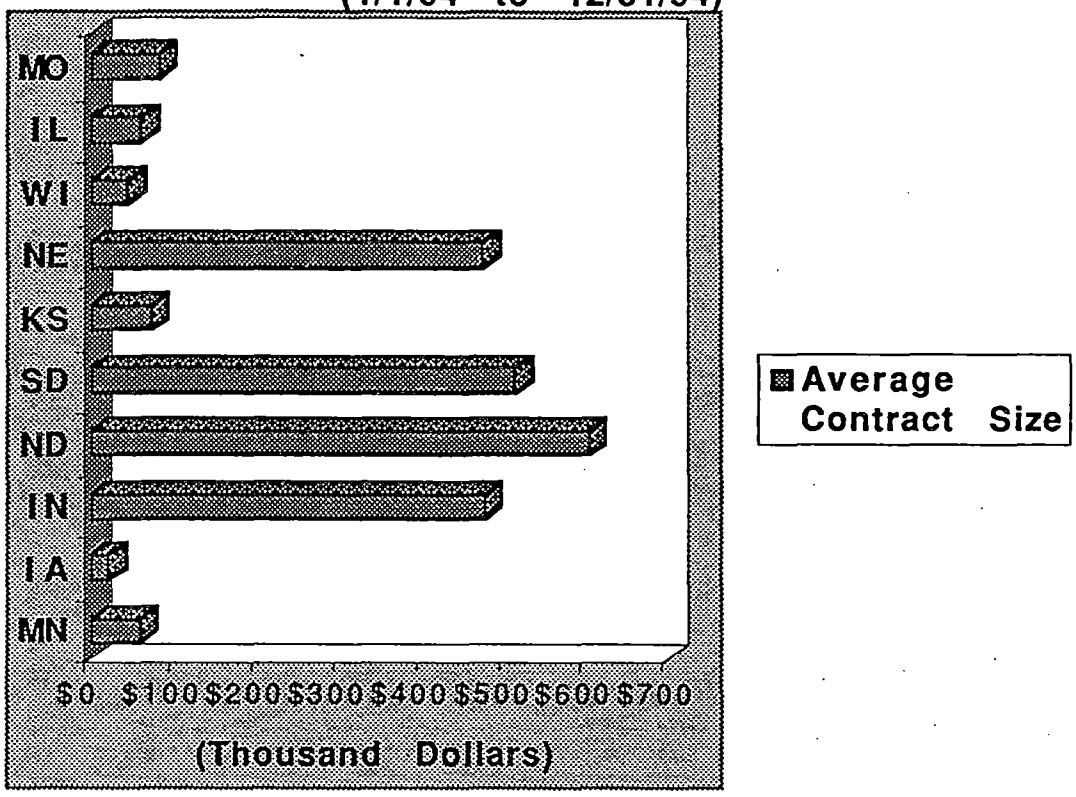
Project Phasing and the Optional Tying Of Projects

During the course of the Technology Subcommittee's meetings, the topic of project phasing and the size of Iowa's bids was mentioned. According to a number of the discussants, IDOT's bids tended to be small and potentially add additional administrative costs. It was suggested that if projects were phased better to allow for larger bids, the state would realize considerable savings in administrative expenses.

An ad-hoc subcommittee, chaired by Susan Pellett, was formed to examine the Iowa DOT's practice of bidding out many small contracts as opposed to consolidating and phasing projects. In reviewing the bidding process, the ad-hoc committee commended the IDOT staff for its excellent presentation and explanation of its bidding process. While IDOT demonstrated an inability at times to easily generate needed information for the Task Force, it was able to generate excellent data and management analysis of its bidding process.

The Iowa Department of Transportation has developed a policy to encourage competition, ensure lower bid prices, and reduce the overall costs of projects. The general idea behind this policy is to promote more bids from smaller contractors by reducing the size of the contracts. Therefore, the size of Iowa's projects tends to rank last when compared to surrounding midwestern states (See Figure ?).

Table 1: Average Construction Contract Size for Ten Midwest States (1/1/94 to 12/31/94)



The small average size of Iowa's contracts, however, does appear to achieve its goal of generating more bids and, therefore, more competition. Iowa is ranked eighteenth nationally and second among ten midwest states for the highest average number of bidders per contract on National Highway system contracts. The average number of bidders per contract size is shown on Table ?.

Table ?: Average Number of Bids: Interstate and Primary Projects Only
January 1, 1991 thru August 31, 1995

Contract Amount	*Average Number of Bids*	*Number of Contracts*
Less than $250,000	4.2	953
$250,000 to $499,999	4.3	272
$500,000 to $999,999	4.5	172
$1,000,000 to $2,999,999	4.1	207
$3,000,000 to $4,999,999	4.4	47
$5,000,000 to $9,999,999	3.6	42
$10,000,000 to $24,999,999	4.7	7

As the project size changes, the number of potential bidders changes. Larger contracts sometimes cause small contractors to drop out of the competition because of limited resources, and they might encourage out-of-state contractors to compete. Thus, the Association of General Contractors supports Iowa's policy because it is beneficial to the smaller businesses.

Price trends have indicated that there is a relationship between cost and quantity on highway construction projects. When the cost is high the quantity is small, and when the cost is low the quantity is larger. Efficiencies are maximized when larger quantities are placed and costs remain low.

The type of contract can also effect effeciency and competition in the bidding process. Peak competition on grading contracts occurs between $250,000 and $500,000, and competition falls off when projects

are larger than $5,000,000. The average number of bidders per contract for Portland Cement Concrete (PCC) pavement peaks twice; between $250,000 and $500,000, and over $10,000,000. Prices for PCC pavement decrease as the size of the contract increases. Packaging larger contracts appears to neither increase nor decrease the contract costs for the PCC pavement item.

Asphalt Cement Concrete, (ACC) pavement contracts have the lowest level of competition regardless of size. Competition for these contracts peaks between $3,000,000 and $5,000,000. In order to increase competition, small ACC contracts are sometimes packaged into larger contracts.

Structures (bridges and RCB culverts) are let as separate contracts from grading and grade and pave contracts. Bridge and RCB culvert contracts are normally between $250,000 and $500,000. New bridges (with the exception of dual bridges and bridges that will adversely affect traffic patterns) and large RCB culverts are typically let as separate contracts. Smaller bridges and RCB culverts are packaged together in contracts of $250,000 and $500,000.

In 1993, Iowa tied for third nationwide for the lowest bridge construction cost per square foot, and ranked seventh in1992. The Iowa Department of Transportation appears to let large contracts when it is necessary to improve work coordination and when special funding is available which requires a certain dollar amount.

The Iowa Department of Transportation presently lets contracts which are optionally tied to give contractors a choice about bidding

selected projects separately or combined. This allows small contractors to bid on small individual projects and large contractors to bid on large combined projects. Structures contracts are often optionally tied to allow small contractors to set a limit on the dollar amount or the number of projects they are awarded.

Based upon the information provided by the IDOT staff, the Task Force recommends no major changes in state project phasing. The Task Force does recommend, however, that **the Iowa DOT should continue its innovative practice of allowing for optional tying of bidding on construction projects.** This allows the DOT to realize the advantages of maintaining competition through the existence of many bidders and at the same time tap economies of scale that can be realized by combining closely-related projects.

Annual savings: Unknown

CONCLUSION