HANDBOOK

of

RESOURCE MATERIAL

for

THE TASK FORCE ON THE MODERNIZATION OF IOWA'S TRANSPORTATION SYSTEM

TABLE OF CONTENTS

ISSUE PAPER 1.1

The Need for a DOT in Iowa

Probably the oldest mode (method) of transportation is walking. The term mode as applied to transportation is often used to describe the vehicle (airplane, truck, public transit) or the guideway upon which the vehicle travels (highway, rail, waterway).

The history of transportation has seen periodic emphasis on one mode and then another, usually as the result of some technological advancement. The technology of domesticating animals necessitated the widening of paths through the forest. The wheel necessitated the development of smoother, less precipitous pathways. Through the years, thousands of technological advancements have influenced the development of our transportation system. Although many of these find application in many modes, as for example the internal combustion engine, transportation development has been a series of emphasis on one mode at a time. One may speak of the age of the steamship, the age of the railroad, and the age of the highway. These ages came about as a result of the combined influence of technology and perceived transportation need.

Society has responded to these periods of modal emphasis by creating government agencies to deal with these transportation modes as they develop. Railroad needs generated regulatory agencies. Highway needs generated highway agencies. Aviation needs generated aeronautic agencies. Thus, as individual modal needs were recognized, individual modal agencies were created to deal with them. Perhaps the next modal agency to be created will be concerned with freight transportation by conveyor belt or the like. Even further in the future, and into the realm of science fiction, there may some day be a need for an agency to deal with teleportation or some equally escoteric new mode.

However, excluding science fiction, it would appear that the modal agencies required or which are likely to be required exist in some form. New technologies will be created but they are likely to relate to an existing mode. High speed metro liners, tracked air cushioned vehicles, personal rapid transit systems are results of technical advancements but none would generate the need for a new modal agency.

As concentrated effort is placed on one mode and then another, an extremely significant fact is easy to overlook. This fact is the interdependence of modes. It does little good to have a fine rail system if one cannot get the crop from the farm to the rail head. One hour air time loses much efficiency when traffic takes two hours to get from an airport to downtown.

A relatively new term has entered the lexicon of transportation specialists. The term is multimodal. Multimodal reflects a conceptual alteration in the meaning of the word transportation. No longer is transportation correctly defined as highway transportation, or air transportation, or rail transportation as if they were autonomous units unto themselves unrelated to any other unit. These individual transportation modes are now more correctly understood as interrelated and interdependent subunits which comprise a multimodal transportation system. Certainly we still have highway systems and airport systems, but they can no longer be planned and developed as totally independent units, but must rather be considered as sub-systems to the total transportation system.

This transportation system concept is not merely a bit of jargon or a new fad for the amusement of transportation specialists. It is a response to a legitimate and far ranging societal condition just as the earlier responses resulted in modal agencies.

Transportation as a system or as a single mode is a social tool for attaining social goals. Normally the foremost of these goals has been economic development. Earlier in our history economic development was served through

concentration upon individual modes. Today such concentration can be a detriment. In order for transportation to serve economic development, it must be recognized as a complex interrelated system through which alternative modes are evaluated and selected to fit the transportation task at hand and which are compatible with other goals of society. A prime value of the transportation system concept is its attention to other goals such as the conservation of resources, the preservation of an acceptable environment and other non-strictly economic goals.

Today Iowa is not equipped to deal with transportation as a system. We have two modal agencies, highways and aeronautics. We have three somewhat modal agencies, the Commerce Commission for truck and rail regulation, the Department of Public Safety for motor vehicle registration, and the Reciprocity Board for truck fuel tax equalization. The state totally lacks capability in public transit, waterway transportation, and most importantly, total transportation system planning and policy development. The current state capability is both fragmented and incomplete.

Iowa's most critical transportation need is the capability to work with transportation as a total system. It is the state's most critical need because such a capability is required to satisfactorily address wide ranging and complex issues. One such issue is adequate rail service to move grain. Another is the evaluation of a state subsidy of public transit. A third could be transportation investment as an economic growth tool. The list could be expanded to some length.

The most effective and efficient means by which to attain this capability is through the establishment of a State Department of Transportation. Other issue papers will more specifically address questions concerning the DOT and

in so doing, further support the proposition that Iowa needs a DOT. This will also indicate the manner in which the DOT can bring about the proper response to our need for a multimodal statewide transportation system.

The multimodal transportation system concept must be utilized by Iowa and the capability to work under that concept must be developed. The autonomous independent mode approach to transportation served past needs well but it is inadequate for current transportation problem solving. A state DOT is the most effecitve means to obtain the capability to approach transportation as a multimodal system.

ISSUE PAPER 1.2

The Role of the State DOT

The emphasis on the concept of a transportation system and the need for a state DOT may lead some to believe that the DOT will cause massive changes in the duties of existing transportation agencies. This is not true. By absorbing the agencies the DOT will carry out the current functions of the highway commission and the aeronautics commission. It will, also, carry out the functions of the Commerce Commission insofar as the commission deals with transportation. Thus, the functions performed by existing agencies will be maintained in the change over to a DOT. Some functions performed by an existing agency will be performed by a DOT division other than the division made up from the existing agency. For example, some of the planning functions performed currently by the highway commission will be performed by the DOT planning division instead of the DOT highway division.

It should be recognized that the DOT's role will include the duties of existing agencies. The DOT will, also, be assigned duties which are new and are in addition to those absorbed from existing agencies.

The fundamental role of the DOT is to implement multimodal planning. If this role is ignored or stifled, the DOT becomes a caricature and perhaps worse than no DOT at all. A description of the planning division is provided in a later paper.

The role of the DOT is, also, to bring under rational organized consideration, at the state level, the issues and problems relating to those transportation modes for which there is no capability to do so currently at the state level. Such consideration is to be broader, for example, than that possible by the Commerce Commission in rail matters and initial in areas such as public transit and waterways.

A third role is to accomplish coordinated interaction among modes which encompasses more than mere prevention of duplication. Such coordinated interaction involves the difficult area of setting priorities among projects of all modes not just within modes. The DOT is to address such questions as should a highway be built or a railroad subsidized to meet a given service need.

Obviously, if such modal choice decisions are to be made, the DOT must undertake a role in research. Such choices cannot be made without the necessary background data and such data is not now available. Only in the highway mode can the necessary information be said to be available. The DOT will have to drastically upgrade the information base for non-highway modes.

The DOT will have the role of transportation spokesman in fields where transportation is just one factor to consider such as in land-use planning, economic development planning and the like. The DOT will also speak for Iowa on federal transportation legislation and policy.

The list of duties could be extended for many pages. However, these broad statements can be used as a summary of the DOTs role:

1. The DOT will absorb the responsibilities and continue to perform the functions now assigned to existing independent transportation agencies.
2. The DOT will have new responsibilities and functions in facets of transportation which the state is not now capable of addressing.
3. The DOT will address issues and problems which are multimodal in nature and beyond the scope of responsibility of existing agencies.

Many transportation issues and problems cannot be neatly categorized into highway, aeronautics or regulation matters. These issues and problems must be approached from the viewpoint of a transportation system. The role of the DOT is to provide this system approach capability.

ISSUE PAPER 1.3

Transportation Coordinating Committee Instead of a DOT?

The concept of coordination in government is a popular one. Coordination is a "good" word. It evokes an image of a smooth-running operation, efficiency, and the absence of waste. It gives the feeling of every element involved working to a single purpose in the most efficient manner with every element giving its best effort to the accomplishment of that purpose. Unfortunately, coordination is rarely as "good" in practice as it is in theory.

The same applies to the concept of a coordinating committee for transportation. A Transportation Coordinating Committee (TCC for short) is usually pictured along these lines. Representatives from existing transportation agencies and usually planning and development agencies are either chosen by the agencies themselves or selected by some other authority to be members of the TCC. Often a representative of one or more levels of elected officials is, also, included. This group is then charged with coordinating transportation.

The usual expectation is that this group will review the planned actions of the various independent and autonomous transportation agencies as presented by the member representative of the agency. The other members relate that activity to their own agencies' plans and if duplication or conflict is found, the efforts are coordinated such that problems are eliminated. The TCC is also often expected to develop a transportation plan and transportation policies on the basis of mutual discussion of needs, priorities, and goals as they see them. These plans and policies are then normally passed on to the Governor and Legislature as recommendations.

The conclusion reached is that the TCC accomplishes all the important purposes of a DOT with no extra staff, no shake-up of existing agency organization, and no gigantic growth in bureaucracy. A usual addition to this conclusion is statement which indicates displeasure with the federal DOT and assorted state DOTs.

The foundation of the viewpoint opposing the TCC concept is stated in the last sentence of the first paragraph. The pitfalls and misconceptions involved in the TCC concept are legion. Just a few of these are examined below.

Both a TCC and a DOT require certain tools to be able to succeed. These are responsibility, authority, and funding. If any of the three are missing, success is impossible. The TCC is given the responsibility to coordinate transportation. Yet, under the current bill in the Legislature, it is given neither authority nor funding.

The TCC is an advisory group perched on top of the still autonomous independent transportation agencies. All commissions remain, all charters in the Code remain. The TCC has no authority to require any existing agency to modify any of its actions to suit the purpose of coordination. As long as the TCC requests agencies to modify actions and the agencies find no difficulty in doing so, the TCC will appear to be successful. But, given a request by the TCC that would appear to be against the plans and actions of one of the agencies, what would happen? The offended agency could simply refuse to accept the request. The basis of refusal? They are legally charged to do certain things or they are legally prohibited from doing certain things or their commissions simply disagree with the request of the TCC. Any of these

are sufficient reasons to ignore the request of the TCC. Having absolutely no authority to require cooperation, the TCC is powerless to enforce its request.

The proposed TCC bill provides no funding for the TCC. It must depend upon existing agencies for support. Therefore, if the TCC believed it important to move in a direction perceived as disadvantageous to one of the participating agencies, the support from that agency could suddenly become scarce. Its member would perhaps still attend TCC meetings, but information from the agency would be slowed, since its staff had so much other work. Its funds would be found to be committed elsewhere and unavailable for use on TCC projects.

Because the TCC has no authority to demand cooperation and no funding of its own, it is limited to being a house-pet of the agencies involved. It will be fed (funded) as long as it behaves. It will be allowed freedom to roam (coordinate) as long as it doesn't roam too far (attempt something which a supporting agency doesn't like). The TCC is a cosmetic device designed to give the appearance of coordination while actually preserving the status quo. The TCC is a Totally Cosmetic Creation.

If, then, the TCC is unworkable as proposed, what would happen if it did have authority and funding? First of all, it would have a much better chance to succeed. Yet, there are still problems which exist.

One problem is that the independence and autonomous nature of existing agencies continues. Each participating agency retains its own identity. Instead of being a part of a whole which works for the good of the whole, there is still the tendency to examine proposals and actions first in the light of what are its effects on the goals, operation, and future of the agency and then only secondly in the light of its effects on the transportation system. Independent agencies are in the position of having to explain their worth to the public and legislature (appropriations) first and

must place interagency matters second. The DOT on the other hand is a single agency with a single budget, not a Balkan alliance of independently funded and potentially feuding agencies.

A second problem is efficiency. The DOT is not merely a group of agencies distinct and complete in themselves reporting to a high command. It is one agency whose parts (divisions) serve each other. The data processing unit serves all divisions. The accounting unit serves all divisions. This is possible because there is only one data processing unit and only one accounting unit in only one agency, the DOT. There is also only one "boss" of these two and all other units. Not so with a TCC. The data processing unit belongs to one agency. If the TCC orders it to help another agency, it might do so. Yet, consider the excess effort required to petition the TCC for help, to order the help to be given, to decide if the help should be given or opposed, to do the work probably after the needs of the unit's own agency are satisfied, and finally to execute the bookkeeping necessary to insure costs are charged to the proper agency's account along with the invoicing and voucher processing attendant to paying the charges.

Another problem of the TCC is its range of involvement. Its purpose is to coordinate transportation. However, it is limited to coordinating only two modes, since only two modes are currently addressed by the state. Where does it get staff and expertise to work in transit, rails, and water? It can't call upon existing staff because there is none. Will the TCC then hire staff to do this work? It could hardly do that because then the TCC will be vunerable to the same increased salary cost and increased bureaucracy charges proponents level at the DOT. Yet if the TCC is to serve as well as the DOT, it can't simply ignore this area of work either. Apparently

one of the claims for the TCC is false. It either will cost as much as the DOT or else it won't provide the complete range of services of a DOT.

Perhaps the TCC concept isn't the complete answer, but the DOT isn't either, if we are to judge from the results at the federal level and in other states which have DOT's. The false assumption in this statement is that we are to judge Iowa's DOT on the basis of other DOT's. If the Iowa DOT were exactly the same as some other one, such judgment is rational. However, in developing the Iowa DOT proposal, other DOTs were examined and care was taken to avoid the problems found in the other DOTs.

The federal DOT and several state DOTs suffer from varying degrees of coordinating committeeism. That is, they perch on superstructure of officials on top of a group of agencies which still remain independent and autonomous. This kind of organization may be labeled DOT but it is nothing more than a variation of a TCC. It is for this very reason that the Iowa proposal eliminates modal commissions in favor of a single transportation commission, that it creates single functional divisions for administration, multimodal planning and legal counsel instead of retaining these in modal divisions, and it creates divisions of equal organizational rank in modes not now addressed. It is necessary to study existing DOTs to benefit from their experience, but it is improper to assume faults found in them are automatically to be found in the Iowa proposal.

A most short-sighed suggestion is that the TCC should be tried first as a lead into and a test of the DOT concept. The TCC is seen as a small intermediary step between the status quo and the DOT. This suggestion has an appealing ring about since the DOT is complex and a significant departure from the present, and picturing the TCC as a look-before-you-leap concept

seems reasonable and certainly safer. Again, if the TCC were indeed a DOT in miniature, the logic would support the concept. However, as discussed earlier, the TCC is not a miniature DOT. There is a term in statistics called validity. If one selects measurements and tests that do not measure and test what is supposed to be measured and tested, the measurements and tests are not valid and subsequently any conclusions based upon them are likewise not valid. The differences between the TCC and the DOT are numerous and important enough that the TCC cannot logically be promoted as a valid test of DOT concept. Specific differences are discussed earlier herein.

It is skillfull sophistry to promote the TCC as a test or trial of the DOT concept. The TCC would only serve to further delay a definitive decision on the DOT and create the impression that the failure of the TCC is predictive of the inevitable failure of the DOT. Furthermore, the current bill for a TCC in effect guarantees such failure by providing the TCC with no authority and no funds.

The Transportation Coordinating Committee concept, upon first hearing, appears to be a very satisfactory solution to modernizing Iowa's approach to transportation. However, the TCC is afflicted with so many conceptual and operational problems that its only significant output is the preservation of the status quo. It is an invalid test of the DOT concept, it cannot achieve the service level of a DOT without falling victim to similar criticism as that made of the DOT. The TCC suggested for Iowa is further afflicted by the absence of authority and funding.

ISSUE PAPER 2.1

The Transportation Commission

The specifics surrounding the Transportation Commission can be found upon examination of H.F. 230. The issue connected with the Commission is whether or not there should even be one. The rationale behind the no-commission concept includes the following points.

The Governor is the chief executive of the state. It is his responsibility to see to it that the administrative agencies operate well. He must, also, set state goals and lead the state to achieve those goals. Because transportation is one tool available to assist in reaching goals, the transportation agency should work at the direction of the Governor. If public reaction to the action of the transportation agency are negative, the public holds the Governor responsible. If the Governor is to be held responsible, he should have the power to influence the agency.

This power is said to be absent if there is a Commission. The Commission insulates the people's elected representative (Governor) from the agency. It takes a very long time to reshape an agency through the power of appointment. Thus, the Governor receives the blame for agency action but has little power to change that action.

Furthermore, it is, also, claimed that the Governor can excuse some inaction of his own by claiming the problems are the responsibility of the Commission thereby indicating that he can do little to influence the actions of the agency.

The rationale behind the concept of having a Commission stresses the fact that a Commission provides stability to the agency by removing it from the vagaries of political change. Under the two-year gubernatorial term system, it was possible to have a new governor every two years with corresponding changes in goals and policies which could bring confusion to an

agency which works on projects taking as long as seven years from start to finish. The commission is, also, viewed as the public's watchdog over the agency, a counterbalance to the technician as well as to the political influence.

There are several points which may be debated in such rationale. The change to a four-year gubernatorial term would reduce the potential for frequent policy changes. The demonstrated trend in Iowa to name qualified projessionals as agency directors instead of viewing these jobs as patronage positions further reduces potential whimisicality. One may question whether an appointed Commission is a better representative of the public than an elected Governor.

From a theoretical viewpoint, the no-commission concept is better. It makes the Governor accountable for the agency's actions and, also, gives him the authority needed to carry out his responsibilities. It makes him clearly accountable to the public for the agency without the confusion of an intermediary Commission. From a practical viewpoint in Iowa, the Commission concept is better. It is less of a change from the existing way of doing things. It lessens the concern of the legislative branch over the potential increase in power of the executive branch. It is not a significant obstacle to attaining the goals set for a DOT.

The bill requires that the first Transportation Commission contain two highway commissioners and one aeronautics commissioner. This provision is beneficial for the smooth transition from modal agencies to a DOT. The remaining commissioners or future commissioners should not be required to be selected as a representative of a particular mode or interest for the simple reason that if all transportation interests are to be represented on the Commission and perhaps even in proportion to some measure of relative importance, the Commission would be so large it would be ludicrous. Therefore, other

than the political affiliation requirement in the bill, there should be no special representative conditions specified for commissioners.

The function of the Commission is to include that performed by existing commissions plus duties specified in the bill plus new duties demanded by the increased scope of responsibility of the DOT. Initially the Commission will be a part-time position. This matter will be reviewed once the DOT gains some operational experience and the Commission workload can be more accurately determined. The final decision on part-time or full-time commissioners remains with the Legislature through its salary setting authority.

ISSUE PAPER 2.2

The Highway, Aeronautics, and Administration Divisions

These three divisions are for the most part the same under the DOT as they are now under the current independent agency arrangement. The functions of highway and airport planning are still performed under the DOT. However, they will in part be performed by a planning division rather than the highway or aviation divisions. The administration of highway and aviation affairs will be performed by the administration division under the DOT rather than by the highway and aviation division.

Not that planning and administration functions are transferred to separate divisions only in part. There is obviously a point in the planning process and in administration when it no longer is efficient or perhaps even logical to have work done in a division other than the division having operational responsibility. For example, the DOT planning divisions function is to perform multimodal planning. Once the decision is made that a certain service need is best met by a highway and a general corridor is selected, there is little "multimodalness" left to consider. The remaining planning, and there is much, is better performed by the highway division, the experts in technical highway planning.

The decision on what is the point at which a given function is retained in a given division belongs to the Commission and the new director. The matter is discussed in Paper 2.8.

The highway commission is the largest employer of any agency involved in the establishment of the DOT. It is understandable that many employees of this or any other affected agency may be apprehensive about the effect the DOT will have on their employment or their duties. For 90% or more of the existing employees, there will be little or no noticable change brought about by the establishment of the DOT. The 10% that my experience a change are those in the upper level echelon of an agency.

No one can seriously believe that the DOT will so curtail highway work that significant numbers of highway commission employees will be layed off. In any case, H.F. 230 has job protection provisions in it.

The DOT will bring about change, change for the better not chaotic change.

ISSUE PAPER 2.3

The Regulation Board

This board created by H. F. 230 has not been widely discussed. Its role is to perform the duties in the field of transportation regulation currently being performed by the three Iowa Commerce Commissioners. The DOT absorbs the transportation regulation work of the Commerce Commission which then, also, includes its work as a quasi-judicial panel on rate cases, permits, and other similar matters.

The issue involved with this board is whether it should exist or not. It is thought by some that the transportation commission could perform the function thereby eliminating the need for this additional board. However, there are two arguments advanced against this arrangement. The first is a practical argument which states that the transportation commission would not have enough time to perform this duty along with its other duties.

The second is theoretical but more pursuasive. The object of this type of board is to render an impartial decision regarding a given case before it on the merits of that case. Regulatory bodies are loathe to deny a petition on the basis of the effects it might have on parties not directly connected with the case. Given the necessity for rendering a decision on the basis of the merits of the case, it is possible that the transportation commission would be a biased panel.

The reasoning follows this way. The commission is responsible for promoting and developing the state's transportation system. It has created and is following a state transportation plan. Its capital investment plans are coordinated with the state plan. And in all, everything is harmonized and moving smoothly after much hard work to make it so. Now the Hoot, Toot, and Whistle Railroad petitions for abandonment. Such an abandonment would cause

problems to the state transportation plan, the capital investment plan would have to be changed, schedules would need modification, and soon. The commission couldn't help but be biased aginst the HT&W. If the Commission decided the case on its effect upon the transportation system, is it fair to the HT & W? Has the HT & W been deprived of certain rights?

Because these questions could be raised against every single regulartory decision made by the commission and would thereby waste more money in appeals and court cases through the Board costs, H.F. 230 creates a separate Board outside the control of the commission directly appointed by the Governor.

The staff work, be it legal or other, would be performed by DOT personnel just as the staff work needed by the Commerce commission is done by Commission personnel presently. Thus the autonomy of the Board is preserved but the arguments against the HT & W petition are assured of being presented and the mundane matters of supervision etc. of staff are accomplished by the DOT.

ISSUE PAPER 2.4

The Planning Division of the Iowa DOT

The foremost responsibility of a DOT is to provide the function of multimodal transportation system planning. Multimodal planning may be conceptualized as a set of management tools and procedures to assist in determining transportation service requirements, alternative responses to those requirements, programs that meet a set of objectives and constraints and preparation of documented results and recommendations necessary for decision making.

The following statements are the objectives for the planning division and the DOT as a whole. They, also, provide a description of the scope of the planning division.

1. To develop an integrated coordinated statewide transportation system providing service which is consistent with and proactive with existing and future socio-economic development goals and environmental goals.
2. To promote the efficient reoreintation of diverse private modal service systems into an integrated system of transportation service for both passengers and freight/commodities distribution.
3. To provide an imaginative forum for analysis, evaluation, and potential adoption of technological, operational, and regulatory advances and "breakthroughs" within the system and the industry.
4. To promote the development of responsible administrative and functional personnel in state government necessary to evaluate the spectrum of resources required for total transportation system development.

5. To develop and implement the resource allocation tools necessary to conduct total system trade-off analysis and resource requirements evaluation.
6. To develop the analytic capability necessary for development of an integrated financial program to meet development program objectives.
7. To develop an agency responsive to, and proactively sensitive to, the potential social costs associated with transportation facility acquisition and operation.
8. To develop the capability necessary to react creatively to the federal legislation and policy statements, and the activities of contiguous states, or other states with common economic structures, with respect to future transportation policies and programs.

The potential value in multimodal planning is not seriously contested. The issue regarding the DOT planning division hinges on more operational questions.

First of all, the planning division is neither a duplication nor a replacement of all planning now done in modal agencies. The planning division will transfer some of the current highway planners to itself. The same for aeronautic planners. The division will add planning staff in other modal fields and other disciplines as needed, either through new employment or by transfer from other divisions of existing agencies.

Secondly, every employee now performing a planning function will not be transferred to the planning division. Many such persons are performing

functions necessary only to planning within a given mode and only after a more generalized type of planning is completed. For example, the location and design planners in the highway commission do most of their work after the system planners have planned the corridor. Paper 2.2 also addresses this matter.

The essential point to remember is that the decision of exactly which functions and which personnel are transferred and which are not is the job of the new director in consultation with the current agency heads during the pre-operational phase (described later).

The planning division concerns itself with policy implications and alternatives selection (both of which require necessary data collection) while the division planners plan facilities or action programs. A precise definition is impossible until the pre-operational phase is completed. A precise definition is, also, undesirable until the director is available. This transfer question is an administrative question and a locked-in position should not be taken now.

The critical role of this division is to insure that modal planning and development is consistent with the total transportation system. In order to fulfill this role, the division and the whole department will have to expend arduous effort in facets of transportation the state has not previously been officially concerned with. It will, also, have to include other disciplines such as goal setting, economics, and land-use in its work on a much broader scale than ever required by any single mode agency. It will be one locus for the generation of transportation policy recommendations to be forwarded to the commission, the governor, and the legislature for their consideration and action.

ISSUE PAPER 2.5

The General Counsel Division

Of the five agencies or divisions of agencies working in transportation which will be transferred into the DOT, two have full time legal counsel available. The Highway Commission has staff from the Attorney General's office assigned full time to the Commission. The Commerce Commission has its independent Commerce Counsel. The remaining agencies call upon the Attorney General's office for legal assistance as the need for it arises.

The DOT Bill combines the Commerce Counsel and the legal staff assigned to the Highway Commission into one general counsel division responsible to the Director and Commission of the DOT. This general counsel division then provides all legal services to the DOT and any of its divisions as needed. The issue related to this division is whether the legal staff should be employed by DOT as the Commerce Counsel is by the Commerce Commission or should it be employed by the Attorney General and assigned to DOT as the legal staff of the Highway Commission is?

H.F. 230 establishes a legal staff for the DOT separate from the Attorney General's office. The separate arrangement has been in effect for many years for the Commerce Counsel. It is said that the arrangement has worked well and is entirely satisfactory. Good working relationship has been established and maintained.

The Highway Commission would prefer the separate arrangement over its current attachment to the Attorney General's office. The rationale for the separate arrangement proposed in H.F. 230 includes the following:

1. The attached arrangement is unsatisfactory because in both agencies the legal work is of a specialized nature. New employees require a significant

amount of time on the job to become expert at the work. However, lacking controlling authority over the legal staff, the agency is subject to personnel shifts in its legal department at the discretion of the Attorney General. These shifts may occur as a result of personnel requirements in the Attorney General's office or as a result of the election of a different Attorney General. The lack of continuity in legal staff has resulted in the loss of law suits by the Highway Commission. The continuity of personnel is cited by the Commerce Counsel as a distinct advantage available to them.

2. The political nature of the Attorney General's office introduces a degree of uncertainty to a position in that office. This uncertainty increases the difficulty of recruiting replacement staff. This problem should be lessened with the recent change from a two to a four year term. Yet, due to the years of specialization required of a new recruit, the four year term may have only minimal effect.

It is the considered judgment of the agencies involved that the separate arrangement is superior and that judgment is reflected in H.F. 230.

ISSUE PAPER 2.6

The Urban Rural and Regional Transportation Development Division

This Division may be one of the more difficult to describe because it has no counterpart in existence at this time in Iowa. In the discussion of the transportation system concept and several times in other papers, the DOT is said to provide new and additional services in transportation to Iowa. The most obvious of these additional services will be provided through this Division.

The functions of the Division are listed in H.F. 230. Note that many of these are aimed at research efforts. None of the duty statements say operate this system or run that service. The reason for this is simply that the state's role in the transit mode, barges, trucking and the like has not been fully defined. This Division will determine when and where the state "fits" in affairs of these modes.

The Division can be expected to expend much of its early efforts collecting necessary information. Accurate and comprehensive data on these modes lags far, far behind the quality attained through the years by the Highway Commission.

Upon completion of the necessary research, the Division can be expected to implement and operate programs which result from the research. This initial research and then operation of what will inescapably be new programs is the reason for the word development in the Division title.

The need for this type of a division in a DOT for Iowa is widely accepted. Therefore, there is no particular issue associated with it. One amendment to H.F. 230 was offered which would strike the entire Division. For what purpose is unknown, unless it is part of the erroneous fear that a Division dealing with transit will somehow be able to siphon highway trust fund money to transit and away from highway construction.

ISSUE PAPER 2.7

The Regulation and Safety Division

As noted in H.F. 230, the duties of this Division consist largely of of the duties currently performed by a part of the Department of Public Safety. This Division will, also, include staff people from the Reciprocity Board. There is no issue regarding this Division which has come to our attention.

The Highway Patrol has been deliberately excluded from this Division and the entire DOT. The Patrol on occasion becomes involved in activities which are not strictly traffic enforcement related. Maintaining the Patrol in the Department of Public Safety gives it a greater law enforcement lattitude. The Patrol will, however, certainly continue its role in traffic and other transportation enforcement functions.

It is this author's opinion that H.F. 230 inappropriately assigns the staff of the Commerce Commission (not the Commerce Counsel) and the Traffic Weight Officers to the Urban, Rural, and Regional Transportation Development Division. The regulatory duties of this staff would appear more logically placed in this Division. However, this is not a serious shortcoming of H.F. 230 in that provision is provided for the DOT Director and Commission to shift personnel if they deem it appropriate to do so.

ISSUE PAPER 2.8

The Pre-operational Phase

The DOT bill provides for a period of time, termed the pre-operational phase, betwen the passage of the DOT bill and the time the DOT takes over operational responsibility from existing agencies. Both the reorganization aspect and the new responsibilities aspect of the DOT require this "get ready" period.

It is during this time that the Governor selects his Commission appointees. These appointees must then be approved by the Senate. The Commission must then go through the process of selecting a director and other top staff. At this point, the director, top staff, existing agency heads, and the Commission must determine the details of organization within divisions, transfer of personnel, operating procedures, and preparation of the transportation plan called for in the bill. These activities are a must before the DOT actually begins operation as the transportation agency for the State.

This pre-operational phase is highly recommended by other states which established DOTs whether they themselves used it or not. Their recommendations, also, indicated that a one-year period was not any too long.

The pre-operational phase is detailed in Division II of H.F. 230. Of course, the dates shown in H.F. 230 no longer apply since it was drafted with the expected passage in the 1973 session in mind. Essentially all dates should be changed to 1974 or a similar one year revision.

Another point to note is that the Highway Commission is to provide office space for DOT during the pre-operational phase. The actual physical location of the various divisions of the operational DOT is to be worked

out during the pre-operational phase. Obviously the vast complex at Ames will not be uprooted and moved to Des Moines. It is to be expected that the entire DOT will not be housed in one building. It is likely that the DOT will have divisions in several locations tied together by a communications network for the forseeable future.

The pre-operational phase may appear to some as a needless delay. Admittedly, Iowans would like to see transportation problems considered as soon as possible. Yet, precipitous action in this case will likely cause more problems than a year earlier start would solve.

ISSUE PAPER 2.9

Division III of H.F. 230

This Division contains the necessary changes in Chapters of the Code which use the term Highway Commission, Commerce Commission and so forth. The Legislative Service Bureau used this opportunity to modernize Chapters of the Code which were being amended anyway. For example, H. F. 230 abolishes the Commerce Commission and then re-creates it without any transportation responsibility.

ISSUE PAPER 2.10

The Director of Transportation

The most obvious question regarding the Director is, who will it be? H. F. 230 specifies that he be appointed by the Commission. It, also, lists his duties and necessary qualifications. Speculation concerning some prominent individuals in the State has been indulged in almost from the beginning of DOT consideration. Such speculation, while interesting and perhaps a pleasant way to pass the time is still purely speculation. The selection of the Director is the Commission's responsibility and the Commission is expected to consider candidates from within and without Iowa at the appropriate time and on the basis of the candidate's qualifications.

The Director's duties and powers are provided in the Bill.

ISSUE PAPER 3.1

The Costs of a State DOT

In order to talk about DOT costs we should clarify some terms. Planners talk of costs in terms of money and in terms of social cost. A social cost can be comething like the esthetic loss of a scenic view or the loss of a historical structure or the loss of a neighborhood cohesiveness and the like. Costs can, also, be considered in terms how they are paid. Some costs are paid by government through tax revenue. Others are paid by the private sector out of personal or corporate income. One more cost concept involved in discussion of a DOT is that of incremental costs; costs which are in addition to those normally incurred.

First of all, let's consider the new costs of a DOT. Iowa government expends millions of dollars per year on transportation. These expenditures have been made for quite a few years. Therefore, in attempting to estimate the cost of a DOT we should only consider those costs which are in addition to what Iowa is already spending for transportation. In other words, the cost of the DOT are those which are incremental to current costs. Iowans expended in (or through) the public sector more than three hundred and ninety million in 1972. Add to this the amount expended by the private sector and one realizes that the incremental cost for a DOT are miniscule in comparison.

Next consider social costs. The DOT is expected to provide better coordination of transportation development, to achieve greater optimization of the transportation system. Social benefits, that is, reduction in social cost, are realized through efficient use of energy resources, less damage to the environment, improved climate for industry relocation in Iowa and so forth.

Unfortunately, the costs of a DOT, even just the incremental costs are considered only from the short sighted viewpoint of their effects upon the State treasury. Yes, indeed and without question, the DOT will cost the State treasury more than the status quo. The reason has been discussed in earlier papers describing the additional transportation functions performed by the DOT over the status quo. Ultimately the citizens of Iowa pay the cost either through taxes, which provide the State with a treasury in the first place, or out of their earnings through purchase of service. In the final analysis, it makes little difference if transportation costs are paid via personal check or via taxes, they have to be paid.

Why then bother with a DOT at all if all it does is change the method of payment, such as, taxes instead of personal check? There would be no reason whatsoever if it were not for the DOT's ability to produce better results. The concepts of multimodal planning and transportation system are only valid if they lead to an overall reduction in transportation cost. This reduction does not occur in state tax revenue expenditure. It occurs in private sector expenditure. If paying one dollar in tax avoids having to pay a dollar ten for a transportation service, ten cents has been saved. The private sector saves the ten cents.

The cost savings from a DOT are not found at the State level, but at the private level. Will the DOT then lower the cost of shipping a bushel of corn from 7¢ to 5¢? Perhaps, but it probably will result in keeping the cost down to 8¢ instead of letting it jump to 10. Inflation makes comparison of absolute amounts inappropriate. A more accurate measure would be the percent of total income expended for transportation. If a company spends a thousand dollars more for transportation but the percent of the

company's revenue expended for transportation drops from 10 to 9 percent the company saves on transportation.

A further expected savings through the DOT is in terms of social costs. A coordinated, multimodal transportation system will avoid many social costs which are inevitable under the status quo.

If one persists in the narrow minded view of considering only costs to the State treasury, the DOT is unjustified. If one considers the true costs of the DOT in relation to the full spectrum of benefits, the DOT is justified.

The source of increased costs are found in the increased workload. These are manifested most obviously in increased staff. This matter is discussed more fully in another paper.

ISSUE PAPER 3.2

Cost of Staffing the DOT

It has been charged that the DOT will mean a vast increase in the numbers of state employees and that these new employees will be hired at top level pay ranges. The implication in this charge is that such increases are unwarranted because the existing agencies can do the work without the DOT's increased staff.

The concept that existing arrangements could satisfy Iowa's transportation needs equally as well as a DOT has been discussed and presumably refuted in other issue papers. A more subtle implication is that the new staff members of the DOT will duplicate staff already employed in existing agencies. Duplicate staff is always a possibility but that possibility is recognized and procedures are suggested to prevent it.

First of all, the vast majority of the DOT staff is already employed by the State. The aviation division staff is currently employed by the Aeronautics Commission, the highway division staff is largely already employed by the Highway Commission. The legal counsel division staff is currently the lawyers employed by the Highway and Iowa Commerce Commission. Much of the safety division staff currently works in the motor vehicle registration division of the Department of Public Safety. Therefore, the new staff that must be employed is slated to work on the new types of service to be provided by the DOT.

The administration division will be at most a combination of current administrative staff given additional work pertaining to new divisions. The planning division will use existing planning staff from existing agencies as appropriate to the level of detail required by the role of the division. Additional staff will be required for planning expertise not now available from

existing agencies. These will be new people but they are only a part of the division's total staff. Note that when staff is available from existing agencies they are transferred to the new DOT division not left where they are and then duplicated in the new division.

Because the Urban Rural and Regional Division is brand new, all of the division staff will be new employees. Yet, also, because it is brand new, it will have only a small staff to begin with as a result of its having to break new ground in terms of state involvement. If the division requires expansion, it will at that time be subject to the top management of the DOT and the normal budgeting processing applied to any other state agency. Any growth of the division will have to be justified and the controls of management and the Legislature, through the budget, will be applicable.

The top management is not completely made up of new positions either. The seven person commission is still three less than the five highway plus the five aeronautics commissioners. The Director of Transportation is new and paid a comparatively high salary, but the director of the division of highways does not justify the current Highway Commission Director's salary due to reduced responsibility. There is some trade off in that case.

It is to be expected that the DOT will require new staff, but not duplicate staff. It is, also, to be expected that this new staff will be hired for relatively high ranking positions in the DOT and correspondingly higher comparative salaries. This is necessary since the new services that create these positions require talented and qualified personnel. Even so, the increased salary costs to the state for all the new employees is expected to be less than five percent of the salary total for current transportation agency employees. The new DOT employees cost the state an increase approximating the equivalent

the equivalent of a one-step raise on the Iowa merit scale for existing transportation agency employees.

The DOT will make every possible use of existing agency employees to avoid duplicate positions. The DOT requires talented people to staff its new services who must be paid commensurate with their duties. This pay scale must be competitive to other positions available to these people and will probably provide higher individual average salaries than current averages due to the higher than average responsibilities. Even so, total salary costs are expected to be less than a five percent increment over total transportation salaries now paid.

ISSUE PAPER 3.3

The State DOT and the Dedicated Highway Funds

Dedicated State Highway Funds

In 1904, Iowa instituted a registration fee on vehicles as the first source of revenue for the state road use fund. This fund was most significantly enlarged by the revenue derived from a gasoline tax instituted in 1925. In 1972, these taxes yielded revenue of over 210 million dollars. Funds raised through this road-use tax were dedicated to exclusive highway use through the 18th amendment to the Iowa Constitution (in 1942).

(18) Amendment of 1942

> That Article Seven (VII) of the Constitution of the State of Iowa be amended by adding thereto, as Section eight (8) thereof, the following:
>
> Motor Vehicle Fees and Taxes. All motor vehicle registration fees and all licenses and excise taxes on motor vehicle fuel, except cost of administration, shall be used exclusively for the construction, maintenance and supervision of the public highways and exclusively within the state or for the payment of bonds issued or to be issued for the construction of such public highways and the payment of interest on such bonds.

It is clear that the revenue generated by the road use tax must be used for highways. This dedication is guaranteed by the State Constitution not simply by a state statute. This dedicated source of revenue provides more than 90% of all state revenue expended for transportation as of 1972.

Dedicated Federal Highway Funds

In 1932, Congress instituted a federal tax on gasoline and in 1956 established a trust fund supported by this tax revenue deciated to the development of the nation's highway system. Over the years modifications to the original act have been made through passage of new highway acts. The most recent of these changes is the 1973 Highway Act.

Until the 1973 Act, the gasoline tax revenue has been used soley for highways or highway related projects. Depending upon the type of road constructed or the type of highway related use (such as administration, planning, research, etc.), the federal funds are to be matched with varying proportional amounts of state funds. Iowa has used part of its road-use tax funds to match the available federal funds.

The most significant change in the 1973 Act regarding the use of mondy from the federal trust fund is that such funds may now be used for transportation projects which were heretofore not considered as highway related projects. The most notable of these is the permissible use of trust fund money for public mass transit after July 1, 1974. Funding for these new uses of trust fund money still must be matched by some state funds.

The Fear of the Trust-Bust

Massive numbers of people and many companies both large and small are employed in one form or another in the construction or reconstruction of highways from the birth of an idea for a highway to the years of continued maintenance on that highway. These people and companies have a very legitimate economic interest in the future of highways in the state and nation. It is certainly understandable that anything which may appear as a threat to the single, most massive, source of funds for highways will be interpreted as a personal economic threat. Any "highway" funds siphoned off for non-highway uses is that much less available to pay for their type of service or product.

A second group that could be expected to fear the trust-bust is that group of enterprises which depend upon highways as a tool of their trade. The most obvious members of this group are the truckers and intercity bus operators. Any "highway" money diverted to other uses cannot be used to develop and main-

tain guideway which is easily available to these industries. Driver time and fuel are two major costs which a level non-stop highway helps keep at a minimum.

The Illogic of Labeling the State DOT as a Trust-Buster

Because the state DOT is promoted as a multimodal agency dealing with transportation needs not dealt with now and because it is expected to absorb the highway agency, it is feared by its opponents as a device to raid the highway trust fund for other purposes. The effect of the 1973 Highway Act upon the federal trust reinforces this concern.

First of all, the federal trust was established by statute, the Iowa trust is established by Constitutional amendment. In order for Iowa to follow the federal path, it would require not simply the passage of a law but an amendment to the state constitution.

A constitutional amendment is a much more lengthy process than passing a bill. If such an amendment were to be proposed, the opponents would have ample time to marshall their forces against it. It could not be an eleventh hour action in the Legislature. The establishment of a State DOT in no way changes this process and, therefore, it is illogical to claim that a DOT will easily break the trust.

The opening of the federal trust to other transportation uses does not force Iowa to use its share of that money for anything other than highways. The requirement that state money be used to match federal money, the fact that state match money is derived from the road use tax, and the fact that the road use tax revenue is dedicated to highways by the constitution means that DOT or no DOT, Iowa will have to use the federal funds for highways because our matching funds are dedicated to highways.

The creation of a State DOT is seen as the first, if not then the complete,

action to break the Iowa trust. This view ignores the existing pressures for such action. Many groups are already voicing the point that the Iowa trust should be opened. The '73 Highway Act adds impetus to this point. This increased pressure to open the Iowa trust will not vanish if the DOT is not established.

Iowa is and will by its geographical and economic nature continue to predominantly rely on highway forms of transportation. DOT opponents often picture the opening of the trust as if all the money were now going to be used for other modes and highway construction would cease. That condition or one even remotely similar is impossible for Iowa.

At this point, it is highways versus every other mode on competitive basis for funding. A DOT having the responsibility for the total system can sort out these separate claims on the treasury and, given the conditions in Iowa, may well seek an increase in highway work.

The claim that the creation of an Iowa DOT will precipitate a raid on the state road use tax revenue for other forms of transportation is unfounded. The state constitution, the dependence of Iowa upon roads, and the important but relatively small demands, in dollar terms, of other modes combine to show that the raid of the trust agreement is a phantom. Furthermore, any forces at work to alter the current funding structure are present now and therefore could not be said to be the effects of the DOT.

ISSUE PAPER 4.1

The DOT and the Environment

Environmental interests is a broad ranging term. Environmental interests can mean one or all of these: land-use, conservation, energy shortage, pollution prevention, junk cars, solid waste disposal, ad infinitum. A case can be made for the idea that transportation in some way affects all environmental interests.

The fact that environmentalists consider transportation as one of their vital concerns was demonstrated by their presence at the open hearing on H.F. 230 held by the House Transportation Committee. The primary point raised at that Hearing by the environmentalists was the fact that H.F. 230 does not clearly and specifically assign environmental concern to a DOT division nor does it clearly and specifically delineate the duties such a division would perform.

Perhaps the absence of such clarity and specificity is an advantage rather than a shortcoming. The concern for man's environment ought to be present in all phases of DOT work. Because environmental concerns can include such a broad spectrum of topics, the assigning, in essence, of those concerns to a particular division in the DOT may in fact limit consideration of concerns to that division. Thus, instead of several divisions giving thought to the environment, we have only one. Instead of environment being considered from project beginnings, we have a watchdog situation.

Yet, we've all heard that something which is everybody's business is nobody's business. H.F. 230 nowhere prohibits the use of environmentally trained staff within one or all of the DOT divisions. It simply does not mandate a separate division for environment. The suggestions that such a division be

included may stem from disappointment with current agencies. One important point to remember is that the DOT is the first Iowa agency to be equipped to plan for and implement for use alternative modes. Heretofore, our transportation agencies were hobbled by having only one mode, one tool, which they were permitted to use. They could only use pliers even if the job were better done with a wrench. Thus, the disappointment with their consideration of environmental concerns may have been somewhat unfounded and is certainly not automatically transferrable to the DOT.

Granted that H. F. 230 does specify other divisions and assigns them duties, such divisions and duties do not embody the bredth of scope that environmental considerations do. Only the planning division approaches this scope. It would certainly seem prudent to include an environmentalist capability in the planning division, but H. F. 230 does not go so far as to write job descriptions for division staff.

The DOT should not contain a specific division for environment. Such concerns are found in all divisions and all divisions should consider them. This wide spread consideration could be undermined by assigning such concerns to one division. Furthermore, previous disappointment over apparent lack of concern should not be automatically applied to the DOT, especially since the DOT has, for the first time, the capability to choose from several alternatives and actually implement the choice.

ISSUE PAPER 4.2

The DOT's Relationship to Non-Transportation Agencies

It has been noted many times throughout this handbook that the current Iowa agency structure for transportation is fragmented and incomplete. This condition results in difficulties for transportation system development but it also causes problems to other state and local agencies.

Many other state agencies must consider transportation matters as part of the mix of conditions necessary to complete their assigned responsibilities. For example, the Iowa Commission on Aging has a program for providing centralized meals. Part of this program requires transportation for the elderly to and from these centralized locations. Where does the commission go for assistance in this matter? Aeronautics certainly isn't involved. Is the Highway Commission? Probably not since the highways are already available.

The DOT is the agency that should be contacted, if it existed. The most important improvement of the interface of transportation with other agencies is obtained through the creation of a DOT. The DOT can speak for transportation, with one voice. It can save much time by assessing the application of all transportation "tools" to a given problem. It relieves the other agency from contacting several independent agencies and trying itself to meld several independent viewpoints into one it can use.

The DOT becomes a unified source of transportation information and expertise available to other agencies and decision makers. The potential for defensive responses to issues raised by other agencies is reduced because the DOT is not limited to, and therefore not forced to, defend only one mode as the solution to a problem. It can support the best solution chosen from several alternatives and isn't necessarily limited to defending at all costs its only permitted solution.

The DOT can provide the unified source of transportation related information and assistance to other agencies. In addition, the DOT has available an effective control over many more "tools" for adequately responding to a transportation problem faced by another agency.

ISSUE PAPER 4.3

The DOT and Reciprocity

The current reciprocity board is abolished and replaced by the transportation commission. The bill makes the regulation and safety division the new location of the current reciprocity board staff members.

The value of including reciprocity in the DOT is expected to be shown in more efficient operation of the system and better coordination on enforcement. Furthermore, the justifications for the three agency involvement in reciprocity have been transferred to the DOT.

There has been no particular issue raised regarding the DOT's role in reciprocity.

Issue Paper 4.4

Federal Influence on the DOT

The large amounts of money available to the states from the federal government for transportation work has a significant influence upon each state. The concept that Iowa should receive from the federal government approximately the same amount taken from the state through federal taxes is generally accepted. There is, therefore, a very real pressure on state officials to be sure that Iowa gets its share of federal money.

Federal money does not come free of any conditions. In fact the federal money is usually loaded with conditions. What naturally happens then is that in order to get our fair share of federal funds, Iowa must agree to the conditions placed on those funds by the federal government.

This arrangement means that when the federal government changes the conditions under which it provides grants, Iowa must be able to adapt to those changes or lose out on the federal money. The matter of a state law regarding roadside billboards of a few years ago is an example.

For the most part changes have been within one mode, such as the billboard matter. However, the federal government is moving toward the concept of multimodal transportation systems. Evidence of this can be seen through the institution of National Transportation Studies which are expected to be run out of governors officies or DOTs, and not modal agencies, the 73 Highway Act which includes provisions affecting public transit, and bicycles, the requirement for a highway action plan which calls for analysis of not only highway alternatives but modal alternatives to highways, and the concept of revenue sharing where states are given a sum of money and they are to determine which mode it is spent on.

All these changes lead to the conclusion that states must develop a capacity to deal with transportation on a multimodal system basis and can no longer rely on a structure of single autonomous modal agencies. Without a DOT, Iowa will have to resort to a set of make do arrangements which are just plain inefficient and inadequate when compared to what could be done through a DOT.

In addition to funding influences, the federal government can influence Iowa's transportation system in other ways, two examples are the 34 car rule dealing with railaord abandonmnents and AMTRAK. At this point, Iowa is unprepared to adequately deal with these two issues. We can complain but we are not capable of taking sound factually based action.

In general the trend of federal action is leading toward the multimodal concept. In order for Iowa to take full advantage of this trend and for Iowa to avoid being adversely affected by this trend, it should establish a DOT.

ISSUE PAPER 4.5

Chicken or Egg Questions Involved in the DOT Concept

The old conundrum, which comes first, the chicken or the egg, is a model for some questions concerning the DOT. Depending on which answer is chosen, one could be in favor of a DOT or have a rationale for opposing a DOT.

One such question involves a state transportation plan. First of all, the DOT is promoted as the only type of organization that could develop a truly comprehensive multimodal transportation system plan and be able to implement the actions required to accomplish what is planned. This duty assignment to the DOT raises the question, should a transportation plan be developed or should such a plan be delayed until a much broader state economic development plan is created? The proponents of waiting for the economic plan point out that transportation is just one tool for economic development. As such, it should be planned in support of the economic plan in conjunction with land-use planning, population distribution planning and so forth. The conclusion is that the DOT is premature if it develops a transportation plan before and without guidance from an economic plan.

Few would argue the desirability of the sequence, but the practical probability of it is very small. In essence, we are likely to face disastrous problems in transportation long before an economic plan is available, if a plan for transportation is not developed. The DOT then is a mechanism for completing a quality transportation plan to solve at least transportation problems rather than taking no action and uttering woeful statements about the lack of an economic development plan thereby solving no problems.

A second such question involves the degree of detail specified in H.F. 230. The bill specifies both the organizational divisions and the duties of the divisions. Another view point holds that the legislation should only specify the duties and let the professional administrators employed in the DOT assign duties to the divisions they deem necessary and appropriate. This

process precludes the danger of creating inappropriate divisions and particularly making inappropriate duty assignments to those divisions which are then locked in by the legislation. This duty's-only viewpoint is considered by some to be of such a crucial nature that they cannot fully support H.F. 230 unless it is changed to reflect that viewpoint.

The designers of H.F. 230 recognized the public administration theory merits of the duty's-only idea. However, it was concluded that because H.F. 230 is a complicated piece of legislation on a complicated subject, it would be better to include divisions for the sake of clarity. Including divisions insures various interest groups that the DOT will be cognizant of their interests. Transit interests are sure the DOT will work on transit issues because there is a division in the bill that has transit responsibilities assigned to it. An example of the importance of such assurance is found in the record of the open hearing held by the House Transportation Committee in the 1973 session. Many, many speakers criticized the DOT bill because it does not clearly provide for the environmental interests. The designers of H.F. 230 assumed practically every DOT division would be cognizant of environmental aspects of its work, but because the bill didn't specify identifiable organizational location for environmental matters, the environmental interests apparently were not in favor of the bill as it stands.

H.F. 230 and the DOT concept include some chicken or egg type questions. Even so, the need for a DOT over-rides any problems these questions might raise. None of these problems should be considered severe enough to justify rejection of the DOT bill. They are, however, serious questions that the DOT must address when established.

IOWA HIGHWAY STATISTICS - 1971

Population	2,860,000
Miles of roads and streets	113,000
Licensed drivers	1,689,000
Registered motor vehicles	
Automobiles	1,423,455
Buses	7,640
Trucks	410,585
Motorcycles	79,065
TOTAL	1,920,745
Highway fuel consumed (gal.)	1,534,368,000
Vehicle miles of travel	18,917,000,000
Accidents	
Fatalities	794
Injuries	27,121
Iowa's rank among all states	
Total highway expenditures	20 th
Highway expenditures per capita	12 th
Miles of road	9 th
Miles of road per capita	13 th

Sources: Federal Highway Administration, 1971 Highway Statistics
Iowa State Highway Commission
1974 National Transportation Study

FUNCTIONAL CLASSIFICATION OF IOWA'S HIGHWAYS - 1972
(Miles)

Location	Interstate	Other Prin. Arterials	Minor Arterials	Collectors	Local	Total
Above 50,000	105	503	643	544	2,879	4,692
25 - 50,000	16	173	305	196	938	1,628
5 - 25,000	1	264	282	225	1,387	2,159
Under 5,000	489	590	5,851	29,987	67,638	104,555
TOTAL	611	1,530	7,081	30,952	72,860	113,034

VEHICLE MILES OF TRAVEL - 1972
(Millions)

Location	Interstate	Other Prin. Arterials	Minor Arterials	Collectors	Local	Total
Above 50,000	642.6	2,345.1	1,159.2	346.7	621.4	5,115.0
25 - 50,000	86.8	485.2	383.0	102.1	219.7	1,276.8
5 - 25,000	0.1	468.5	239.5	72.9	260.2	1,041.0
Under 5,000	2,133.2	1,020.6	4,115.3	2,703.0	1,511.9	11,484.0
TOTAL	2,862.7	4,319.4	5,897.0	3,224.7	2,613.2	18,917.0

Ton Miles of Freight Carried by Truck - 1970

	Vehicle Miles (Thousands)	Ton Miles (Thousands)
Interstate System	779,616	7,241,449
Rural System		
Primary Roads	1,775,903	9,046,981
Secondard Roads	1,025,786	3,084,720
Municipal System		
Municipal Extensions	513,086	1,972,720
Other City	854,550	2,491,135
TOTAL ALL SYSTEMS	4,968,941	23,837,005

HIGHWAY MILEAGE IN IOWA

as of January 1, 1972

Classification

Primary	10,252
Farm to Market	33,258
Local Secondary	57,749
Municipal	11,483
Other	258
Total	113,000

Surface Type

Portland cement concrete paved	10,380
Asphalt concrete paved	16,278
Bituminous treated	6,129
Gravel or stone	73,120
Not surfaced	7,093
Total	113,000

Design Type

Freeways	623
Other 4 lane	932
2 lane non-local	38,619
2 lane local	72,826
Total	113,000

Source: Iowa State Highway Commission, Statictical and Financial Reference
1974 National Transportation Study

TOTAL RECEIPTS FOR HIGHWAYS IN IOWA - 1970

All Units of Government

		%
Federal	$ 65,973,000	16.7
State Road Use Tax	184,190,000	46.7
Bridge Tolls	1,902,000	0.5
General Funds	10,280,000	2.6
Property Taxes	68,945,000	17.5
Parking Meter Fees	41,000	0.0
Other	28,641,000	7.3
Miscellaneous	12,113,000	3.1
Bond Proceeds	21,990,000	5.6
TOTAL	394,075,000	100.0

TOTAL EXPENDITURES

Capital Outlay		
State	130,278,000	34.0
County	64,488,000	16.8
Municipal	34,033,000	8.9
Federal and Unclassified	1,817,000	0.5
Maintenance		
State	28,757,000	7.5
County	57,700,000	15.0
Municipal	24,905,000	6.5
Federal and Unclassified	11,000	0.0
Administration and Miscellaneous	18,239,000	4.8
Highway Police and Safety	10,415,000	2.7
Bond Interest	3,540,000	0.9
Bond Redemptions	9,246,000	2.4
TOTAL EXPENDITURES	383,429,000	100.0

Source: Federal Highway Administration - 1971 Highway Statistics

SCHEDULE II
STATEMENT SHOWING SOURCES AND DISTRIBUTION
OF ROAD USE TAX FUND RECEIPTS
July 1 to June 30

			Received July 1, 1971 to June 30, 1972	Received July 1, 1970 to June 30, 1971
Source				
Motor Vehicle Fuel Tax			100,873,238.05	97,939,428.26
Motor Vehicle Fees:				
County Treasurers			69,712,242.38	67,045,549.14
Public Safety Collections			9,763,644.49	12,595,757.38
Unexpended Balances				
Motor Vehicle Refund Accounts			1,615,272.52	1,672,350.50
Commerce Commission Refund			143,852.41	177,564.00
Public Safety			555,125.39	406,608.64
Use Tax-Motor Vehicles, Trailers, Accessories			25,287,207.73	17,815,322.62
			207,950,582.97	197,652,581.14
Transfer to Reciprocity Board for Refund of Registration Fees			(516,064.65)	(889,958.87)
			207,434,518.32	196,762,622.27
Total Receipts				
Distribution				
Allocations				
Commerce Commission:				
Highway Grade Crossing Safety			240,000.00	240,000.00
Primary Road Fund:				
State Institutional & Park Roads		1,000,000.00		1,215,390.92
Secondary & Urban Roads		500,000.00		500,000.00
Interstate & Nat. Defense Highways		2,500,000.00		2,500,000.00
			4,000,000.00	4,215,390.92
Distribution				
Primary Road Fund	47%		95,501,423.62	90,384,398.73
Farm to Market Road Fund	9%		18,287,506.66	17,307,650.83
Cities & Towns	15%		30,479,177.73	28,846,084.71
Secondary Road Constr.	29%		58,926,410.31	55,769,097.10
Total			203,194,518.32	192,307,231.35
Total Distribution			207,434,518.32	196,762,622.27
Gas Tax			7,895,644.47	7,420,453.08

COMPARISON OF MIDWESTERN STATE
HIGHWAY SYSTEMS AND STATE EXPENDITURES
FOR HIGHWAYS FOR 1969

	*Systems (miles)				**Total State Expenditures 1969 (millions of dollars)		
		National System of Interstate					
	Total	Total	Open to Traffic	Secondary	Highways	Total Budget	Highways Expenditures as % of Total Budget
Illinois	12,436	1,726	1,151	14,864	693.7	3,205.9	21%
Indiana	5,983	1,130	856	19,011	333.5	1,517.7	21%
Iowa	10,374	781	520	33,308	222.7	1,091.9	20%
Kansas	7,844	822	673	24,415	131.7	670.0	19%
Michigan	7,012	1,175	929	27,065	466.5	3,554.7	13%
Minnesota	8,354	914	454	30,910	278.4	1,452.9	19%
Missouri	8,913	1,147	839	23,230	253.2	1,298.3	19%
Nebraska	5,996	401	373	17,960	90.9	395.9	22%
North Dakota	4,713	571	416	13,574	52.5	260.1	20%
South Dakota	5,936	679	453	13,500	67.8	225.5	30%
Wisconsin	6,562	562	455	19,189	253.1	1,780.5	14%

*Source: Department of Transportation, Federal Highway Administration; annual report; Federal Aid and Allied Highway Program, 1970.

**Source: Tax Foundation, Inc. Facts and Figures on Government Finance, 1971.

HIGHWAY PERFORMANCE MEASURES

	1971	1989
Average trip length - miles	13.2	14.6
Average trip length - minutes	17.9	18.0
Average car occupancy	1.9	1.9
Vehicle miles/vehicle hours	36	40
Freeway capacity miles/capita	0.77	1.75
Accidents		
Fatalities	794	1025
Fatalities/100 million VMT	4.20	3.68
Injuries	27121	33298
Injuries/100 million VMT	143	120
Pollutants		
CO (millions of pounds)	2304	311
NO_x	386	170
HC	400	42
Total land in highways (square miles)	1726	1887
% of total state land area	3.07%	3.36%

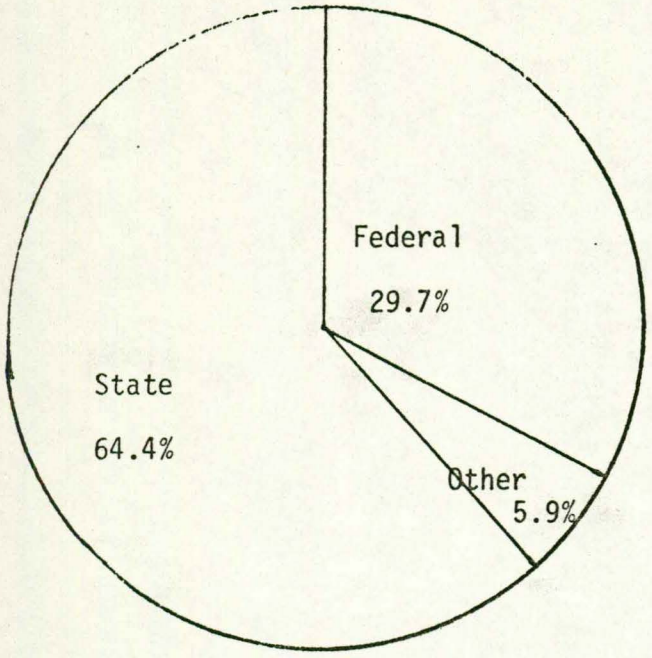
Source: 1974 National Transportation Study

HIGHWAYS
CHANGE FROM 1972 TO 1990

Location	Miles of Road	VMT	Capacity Miles	Capital Costs 72 - 90 (millions)
Cedar Rapids	32.9%	39.6%	77.9%	551
Council Bluffs	32.1	68.6	13.5	89
Davenport	21.9	41.2	60.1	379
Des Moines	19.8	47.5	51.7	812
Dubuque	19.4	31.0	52.4	181
Sioux City	12.6	37.2	19.8	167
Waterloo	15.5	41.9	49.4	393
25,000 - 50,000	28.9	48.6	34.8	617
5,000 - 25,000	13.5	18.6	15.8	438
Under 5,000	2.6	50.8	150.0	7,168
Functional Classification				
Interstate	28.0	98.6	30.2	641
Other principal arterials	126.7	84.7	403.1	3,997
Minor arterials	0.6	22.7	48.5	2,405
Collectors	0.1	15.6	----	1,752
Local	33.1	22.8	----	2,000
Total	3.9	47.1	115.2	$ 10,795

Source: 1974 National Transportation Study

PRIMARY ROAD FUND



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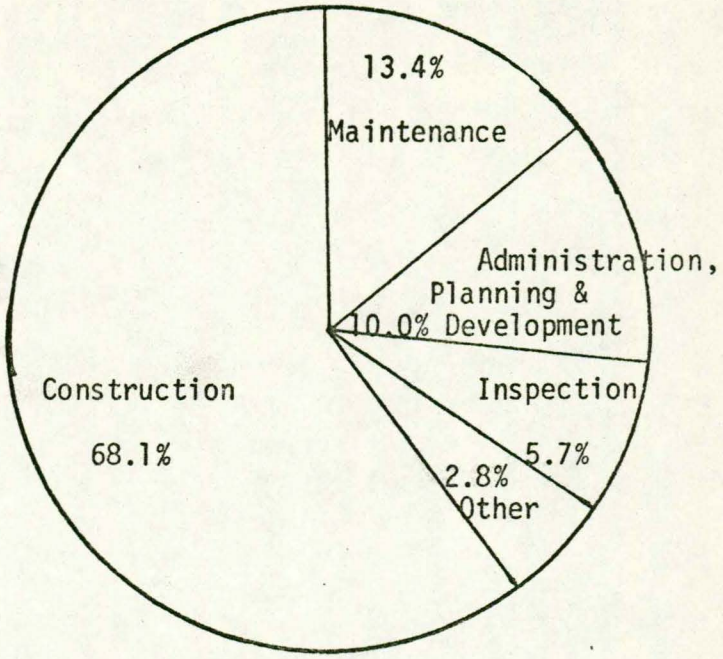
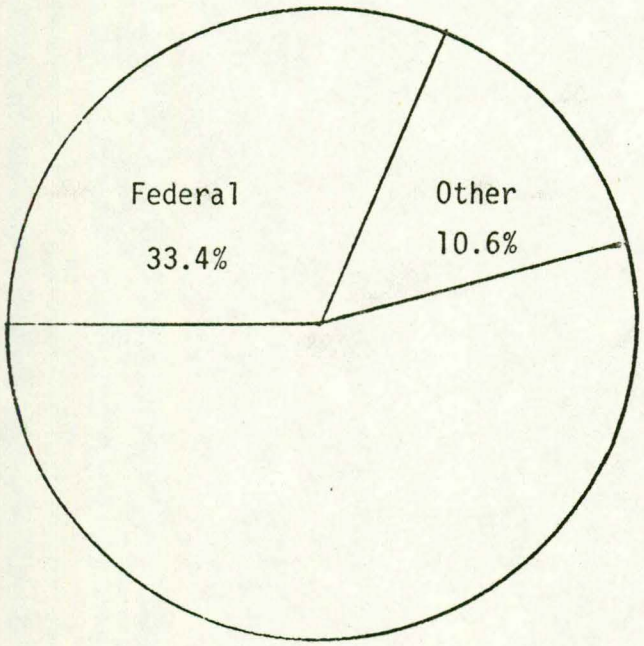
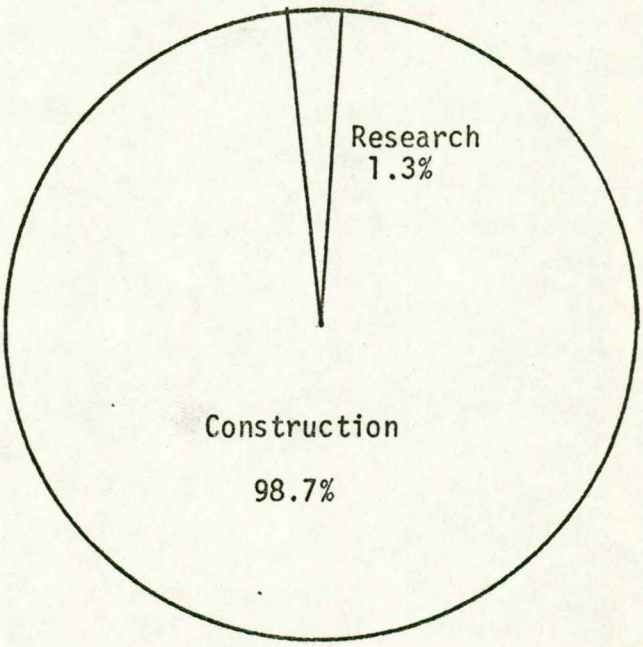


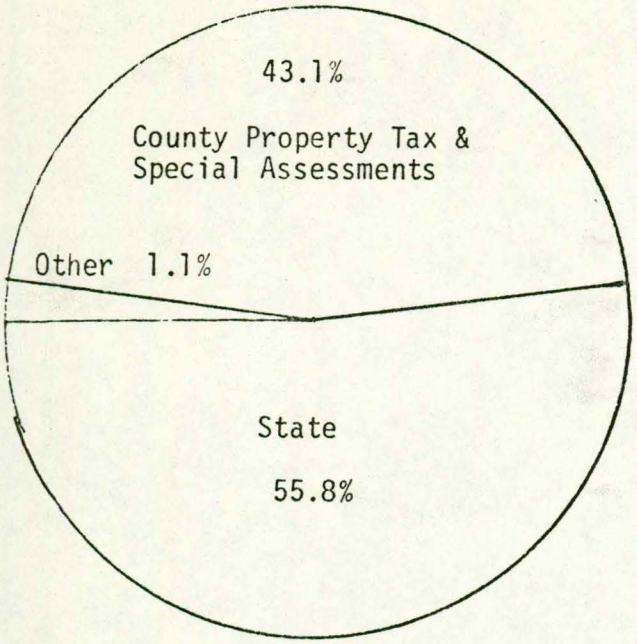
EXPENDITURES





FARM TO MARKET ROAD FUND

COUNTY SECONDARY ROAD FUND



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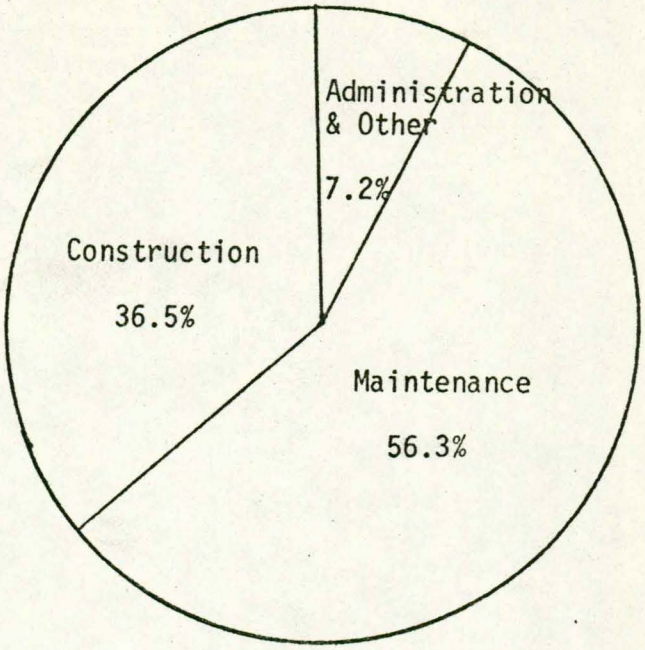
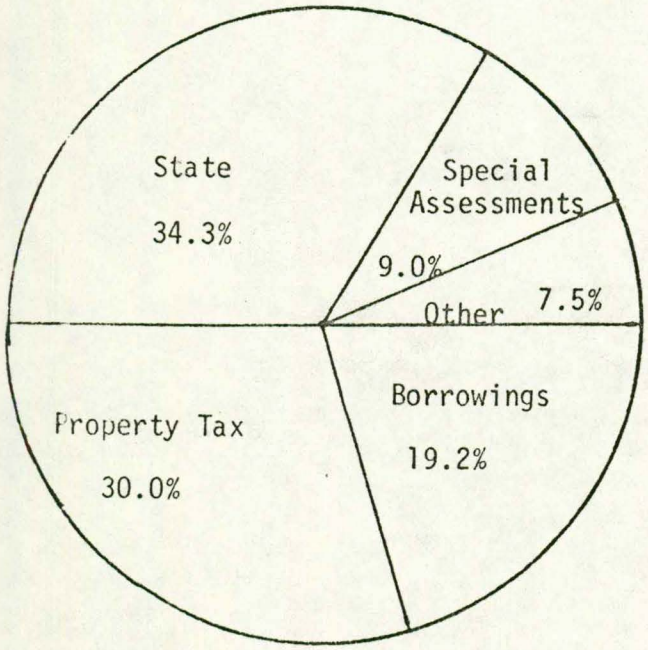
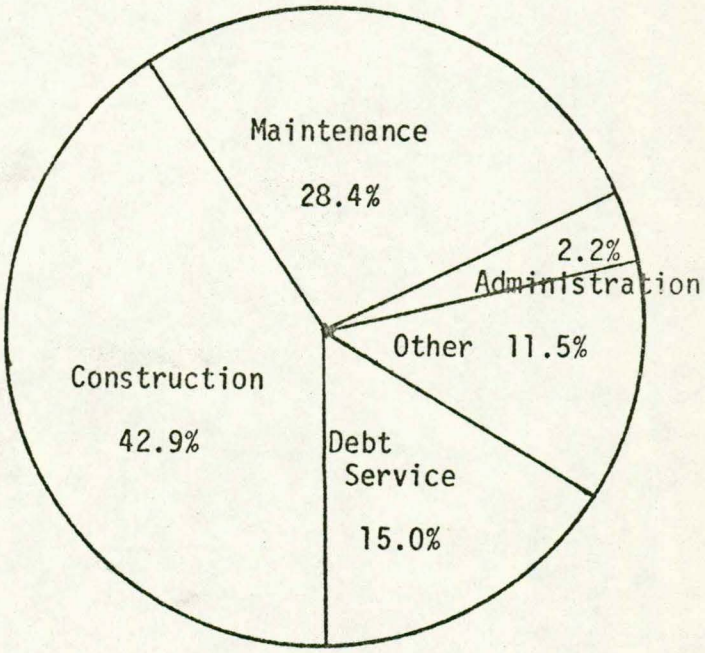


EXPENDITURES





MUNICIPAL STREET FUND

URBANIZED AREA BUS SYSTEMS

City	No. of Buses	Average Age	Average Capacity	Miles of Route	Average Weekday Trips (Thousands)	Annual Trips (Million)	Annual Revenue (Thousand)	Annual Expenses (Thousand)
Cedar Rapids	20	7	53	196	5	1	318	474
Council Bluffs	31	15	37	51	3	1	294	378
Davenport	28	15	34	74	3	1	284	423
Des Moines	99	15	49	211	18	5	1,747	1,856
Dubuque	36	11	40	88	7	2	356	539
Sioux City	26	7	35	72	3	1	276	417
Waterloo	30	6	35	80	2	1	275	360
TOTAL	270	12	42	772	41	12	3,550	4,447

SMALLER URBAN AREAS HAVING BUS SYSTEMS

Ames
Burlington
Clinton
Iowa City
Marshalltown
Mason City
Ottumwa

Source: 1974 National Transportation Study

URBANIZED AREA BUS SYSTEMS

PERFORMANCE MEASURES

Average for seven urbanized areas

	1972	1990
Average operating speed - mph		
peak hour	12.3	13.4
average weekday	13.8	14.3
Average headway - minutes		
peak hour	27.8	23.4
average weekday	36.9	30.3
Passenger trip length		
miles	3.2	3.7
minutes	15.8	14.7
Passenger miles/seat mile		
peak hour	0.28	0.32
average weekday	0.11	0.16
Average fare - cents	29.2	37.7

Source: 1974 National Transportation Study

URBANIZED AREA BUS SYSTEMS

Projected 1990 Systems

City	No. of Buses	Average Age	Average Capacity	Miles of Route	Average Weekday Trips (Thousands)	Annual Trips (Million)	Annual Revenue (Thousand)	Annual Expenses (Thousand)
Cedar Rapids	23	6	31	230	7	2	463	829
Council Bluffs	45	7	43	79	7	2	665	885
Davenport	45	7	27	102	5	2	381	761
Des Moines	130	11	44	376	25	7	2265	3418
Dubuque	45	5	40	266	10	4	907	1048
Sioux City	32	15	35	73	7	2	1150	632
Waterloo	35	5	32	100	4	1	300	400
TOTAL	355	9	38	1226	65	20	6131	7973

Source: 1974 National Transportation Study

IOWA AVIATION STATISTICS

Publicly owned airports	113
Registered pilots	7,848
Registered aircraft	2,600

Iowa ranks: 25th in population

21st in number of pilots

18th in number of aircraft

14th in number of airports

8th in number of paved and lighted airports

5th in number of lighted airports

10 Airports have air carrier service

Des Moines	Burlington
Cedar Rapids	Mason City
Waterloo	Ottumwa
Sioux City	Fort Dodge
Dubuque	Clinton

Number of Airports in Iowa:

113	publicly owned
120	privately owned, open for public use
45	privately owned, not open for public use
10	special purpose airports
67	other, incomplete information
355	total airports

The Iowa State Airport System Plan includes 117 airports.

91% of the population is within 30 minutes driving time of a SASP airport. 100% is within 60 minutes.

41% of the population is within 30 minutes driving time of an air carrier airport. 71% is within 60 minutes.

Accidents in 1971	122
Fatalities	14

Capital Expenditures

	10-Year Average	FY 72
Federal	$913,394	$3,480,823
State	166,443	246,877
Local	N.A.	3,360,823
TOTAL	N.A.	7,088,523

Annual operation and Maintenance Costs for SASP Airports

$ 2,388,000

Source: Iowa State Airport Systems Plan - 1974 National Transportation Study

AVIATION ACTIVITY

	1972 Enplaned Passengers Scheduled Air Carrier	1972 Enplaned Cargo (Tons)
Burlington	22,000	115
Cedar Rapids	170,000	2,332
Clinton	5,000	21
Des Moines	438,000	4,950
Dubuque	27,000	391
Ft. Dodge	6,000	103
Mason City	17,000	118
Ottumwa	9,000	150
Sioux City	78,000	484
Waterloo	94,000	1,249

IOWA'S RANK AMONG ADJACENT STATES

	Number of Active Pilots	Number of Registered Aircraft	Number of Airports	Annual State Aid Expenditures
Illinois	1	1	1	1
Iowa	5	4	6	6
Minnesota	2	2	4	2
Missouri	3	3	2	7
Nebraska	6	6	3	5
South Dakota	7	7	7	4
Wisconsin	4	5	5	3

Source: Iowa State Airport Systems Plan

MILES OF LINE OWNED BY CLASS I RAILROAD - 1971

Railroad	Main	Branch	Total
Atchison, Topeka and Santa Fe	20	----	20
Burlington Northern	449	426	875
Chicago and Northwestern	914	1,641	2,555
Chicago, Rock Island and Pacific	1,177	666	1,843
Chicago, Milwaukee, St. Paul and Pacific	504	1,145	1,649
Illinois Central	459	226	685
Norfolk and Western	----	----	----
Union Pacific	2	----	2
TOTAL	3,525	4,104	7,629

Miles of branch line with less than 34 cars/mile/year: 1,425

Activity - 1971

Tons of freight carried	91,080,709
Ton miles	16,627,828,000
Passengers	177,427

Source: Iowa Commerce Commission Annual Report

REVENUE FREIGHT ORIGINATING AND TERMINATING
ON EIGHT CLASS I RAILROADS IN IOWA IN 1971
(Includes both Interstate and Intrastate Freight)

Type of Freight	Originating		Originating	
	Carloads	Tons	Carloads	Tons
Farm Products	153,825	9,882,912	95,256	5,764,611
Forest Products	0	0	506	22,826
Fish and Marine Products	0	0	312	14,950
Metallic Ores	10	566	164	8,576
Coal	7,416	522,134	52,039	3,922,163
Crude Petroleum and Natural Gas	0	0	3	122
Nonmetallic Minerals	32,784	2,060,525	38,053	2,480,757
Ordance and Accessories	1,553	67,443	828	36,572
Food and Kindred Products	191,378	7,505,550	53,258	2,251,211
Tobacco Products	1	50	147	4,649
Basic Testiles	61	1,223	854	19,718
Finished Textile Products	2	124	36	792
Wood Products Except Furniture	4,493	126,285	16,424	632,189
Furniture and Fixtures	3,028	29,709	2,759	23,692
Paper and Allied Products	3,470	108,109	19,149	731,867
Printed Matter	999	35,500	183	5,827
Chemicals and Allied Products	31,885	1,935,744	45,889	3,151,338
Petroleum and Coal Products	2,564	133,536	8,534	379,132
Rubber and Plastic Products	7,326	107,031	5,125	63,397
Leather and Leather Products	3	126	7	94
Stone, Clay and Glass Products	27,126	1,785,544	13,199	742,124
Primary Metal Products	4,034	206,039	11,523	595,849
Fabricated Metal Products	3,467	80,986	5,813	130,792
Machinery	9,907	157,745	3,218	53,529

Type of Freight	Originating Carloads	Originating Tons	Originating Carloads	Originating Tons
Electrical Machinery	11,550	133,085	3,127	35,441
Transportation Equipment	3,259	54,389	11,881	259,031
Instruments, Clocks, Etc.	1	17	29	1,071
Miscellaneous Manufacturing	163	2,281	138	2,228
Waste and Scrap	8,374	415,939	6,733	353,505
Miscellaneous Freight	366	5,131	632	6,545
Empty Containers	2,424	27,459	630	6,417
Freight Forwarder Traffic	57	1,170	686	13,166
Shipper Association Traffic	291	4,654	161	2,755
Miscellaneous	2,102	41,188	3,431	56,180
TOTAL CARLOAD TRAFFIC	513,919	25,432,194	400,727	21,773,116

Average tons/carload originating - 49.5

terminating - 54.3

Source: Iowa Commerce Commission, Annual Report

IOWA WATER TRANSPORTATION STATISTICS

Miles of navigatible waterways in Iowa

Mississippi	310
Missouri	178

Number of barge terminals

Mississippi	62
Missouri	8

Annual tons shipped and received (Estimated)

8,000,000

Number of barges loaded or unloaded	5,600
Average tons per barge	1,425

Distribution of commodities shipped:

Grain	25%
Petroleum Products	20%
Coal	18%
Other (Fertilizer, cement, chemicals, rock, misc.)	37%

Total Annual Traffic - Upper Mississippi River

(From Minneapolis to St. Louis)

Year	Net Tons	Ton Miles
1967	44,268,161	7,992,331,570
1968	45,846,463	7,633,761,744
1969	49,424,746	8,766,811,590
1970	53,770,490	10,427,616,808
1971	52,479,538	10,203,254,162

Annual rate of growth in tonnage - 4.9%

TRANSPORTATION EMPLOYEES AT THE STATE LEVEL

June 30, 1972

	Employees
Aeronautics Commission	11
Commerce Commission	
Motor Transportation Division	46
Railroad Safety and Service	2
Total	48

Highway Commission	Temporary	Permanent	Total
Administration	3	63	66
Finance	3	58	61
Planning	231	146	377
Development	55	487	542
Support Services	40	212	252
Operations (includes maintenance)	526	3194	3720
Total	858	4160	5018

Department of Public Safety	
Driver licensing	268
Dealer licensing	8
Motor vehicle inspection	6
Motor vehicle registration	87
Total	369
Reciprocity Board	17

11
48
5018
369
17
5463

Techniques of Argumentation

Any endeavor as major as the creation of a DOT will have people who support the idea and people who oppose it. Both sides of the issue will attempt to persuade each other and the population at large to accept their viewpoint through speeches and writtings. As persons in favor of the DOT concept it is prudent that we be aware of some of the techniques which may be employed by those opposed to the DOT so that we may recognize them for what they are and take appropriate countermeasures.

The first technique is Name Calling. This technique attempts to give the DOT a bad name simply by appling a prejudicial label it it and by so doing, prevent any further thinking about the DOT. This technique is used when the DOT is called a super bureauracy or another layer of government or a super highway commission.

A second technique is the Glittering Generality. This technique associates the idea with a virtue word or shows that the idea is just the opposite of a virtue word, thereby, having us accept or reject the idea without further consideration. Small government agencies easily controlled is such a Glittering Generality. Thus, because the DOT is a large agency and presumed to be less controllable, it is automatically a bad idea. This prevents any consideration of the particular facts of the issue at hand.

A third technique is the Transfer. The transfer takes some unpopular item and compares it to the idea at issue thereby transferring the unpopular image to the idea at issue. This technique is extensively used against the DOT. Opponents lambast the federal DOT and inefficient state DOTs and simply close with a statement on the order of, do you want the same thing in Iowa? Note that there is no analysis of the particulars of

The Iowa DOT. Just because other DOT's have faults the opponents would have us believe that the Iowa DOT will automatically have those faults, also.

A classic example of this technique is found in the November 1971 issue of the trade magazine Central Constructor on page 14 as follows:

> "Secretary of Transportation Volpe recently announced that DOT had hung 700 million federal-aid apples on the highway construction tree -- up for grabs, all states eligible -- first come-first served. At the same time, it was announced that the $1.145 billion obligation authority for 2nd quarter 1972 could be "claimed" by the states on a first come-first served basis. In announcing this turn about from past practice, Mr. Volpe said, "...we can quickly put people to work all across the nation in new jobs that provide new salaries, and we can do it immediately." This very simply assumes that State highway departments merely have to dust off some plans from a "reserve" of federal-aid projects which have been fully developed in the state and which have cleared all the 23 federal-aid red-tape requirements and presto--the road-user will get a bunch of new roads.
>
> Well, the fact is that the states, Iowa included, just don't have developed projects lying around ready to qualify for such largesse. After years of annually holding back from the states approximately 20% of the federal aid trust funds and causing the states to gear their plans and operations accordingly the federal DOT agency, overnight and with absolutely no advance notice, has set out a gift wrapped package on which few, if any, can break the seal. A few states are remored to have embarked on crash programs requiring high overtime and other costs in efforts to qualify for part of the grand prize. We have faith that Iowa's Highway Commission will take a hard, analytical look at this boondoggle and will go babbing for the apply ONLY if there is some real long-range benefit to be realized.
>
> A BIG DEAL! Well, hardly -- unless you like the dealer to play with a stacked deck. Is it really possible that our DOT authorities actually believe highway funding can be turned on and off like a water faucet? It seems inconceivable that they could be unaware of the 5 to 10 year time lag from start to finish of a federal-aid roads project, especially when most of the lag is red-tape procedures they, themselves, have built into the system.
>
> This is a shining example of what can happen, and has been happening, when they created a Department of Transportation. It is, also, what's

> going to happen in the State of Iowa under Governor Ray's re-organization plan when he tries to convince the State Legislature that we need a Department of Transportation in this State. We hope that the legislators will be a little smarter and stay one step ahead of the governor on this proposition."

Note how the Iowa DOT provisions are not even mentioned. All the alleged evils of the U.S. DOT are simply transferred to the Iowa proposal because they are both called DOT.

Another technique is the Testimonial. This technique is often seen in TV commercials. The concept is simple, just get some pretegious individual to endorse or condem something in the hope that others will believe him rather than analyze the issue themselves. On a technical issue like the DOT, its even better if the testimonial is given by someone that can be touted as an expert. The DOT bill is a piece of legislation. Who is more expert on legislation than a legislator? If then, a legislator condems the bill it must be bad. Shouldn't a man in the trucking business know about transportation. If he condems the DOT concept, shouldn't he be believed over a government bureaucrat?

A Plain Folks technique is one more. This technique plays on the target individual's ego. You and I are just common everyday people doing the best we can. All that fancy ivory tower junk about systems and multimodal planning and cost benefit spewed out by those egg head so-called experts is nonsense. We live in the real world where things are tough and we get along on common sense. Take my advise, old buddy, because I'm just Plain Folks like you. Don't bother listening to all that fancy stuff from the DOT proponents.

Perhaps the most difficult technique to execute well and, therefore, perhaps the most effective when done well is Card Stacking. This technique employs selected data or illustrations which give the appearance of detached unbiased critical analysis. This is the old four out of every five doctors say approach used on TV. This technique is in full flower on the Iowa DOT issue in the proposal of a coordinating committee as a test of the DOT concept. A very logical and scientific aura is projected by this proposal even though it is totally illogical upon closer examination.

The final technique is the Band Wagon. Everybody believes this or is doing that. If you don't you must be a nut, or stupid, or etc.

In most discussions several of these techniques are used in combination or consecutively. At times it may be almost impossible to determine which one is being tried since they are skillfully interwoven. All of them have the same goal. They are used in an attempt to have a person reach a desired conclusion without allowing that person to analyze the facts and delve into details of the issue on his own. It is important to recognize these techniques and expose their use so that the technique can be separated from the DOT concept and the concept can be evaluated on its own merits.