



DEPARTMENT OF TRANSPORTATION

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REMARKS BY JOHN E. HIRTEN, ASSISTANT TO THE SECRETARY,
DEPARTMENT OF TRANSPORTATION, BEFORE THE FIRST FEDERAL
DESIGN ASSEMBLY, WASHINGTON, D.C., APRIL 3, 1973

I have been asked to speak today on highways and the design process. It is not my intention to discuss the broad question of whether highways in general should or should not be built. It is clear that more highways will -- and should -- be built in the future, and that a number of already-constructed highway projects are sophisticated examples of design excellence at work.

Indeed, the very decision to build or not build highways is the first step in a comprehensive planning and design process. Strangely enough the refinement of this process is being brought to a head not by transportation or design legislation but by the environmental review process being required of all Federal projects. A small section of the Department of Transportation Act of 1967 known as section 4f laid the groundwork by requiring the Secretary of Transportation to refuse approval of highways or transportation facilities through parks, recreational areas, wildlife and water fowl refuges of national, state or local significance unless there is no prudent and feasible alternative and unless the maximum planning has been done to minimize harm.

This was followed by the National Environmental Policy Act of 1969 which in section 102c requires an environmental impact statement to be prepared on all significant public projects requiring federal financial

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assistance. These two major sections, while originally treated as conservation oriented legislation, instead represent a clear statement of the planning and design process which should be done, not after-the-fact to justify a project, but in determining at the outset whether it is needed at all, where it should go and how it should fit into the environment. Since highways are the most controversial transportation facility of the moment, let me focus on highways as a designed product illustrative of the process itself. Also, let me make it clear that while I am discussing highways, the issue is basic to any transportation facility, and for that matter to any major construction project. For we are seeing increased difficulty in relating transit and other transportation structures to our environment. Likewise, we have had problems and successes with modes other than highways. I am pleased to see that our Morgantown PRT project and Dulles Airport are both covered in the Design Necessity Casebook you have been given.

Highways are perhaps the most massive, all pervasive means to an end ever created by the Federal government. The Interstate system, for example, is more than 42,000 miles long, weighs millions of tons, and serves no other function save providing a hard surface on which vehicles travel. Nevertheless, it became apparent to the Federal Highway Administration and the Department of Transportation that highways are not merely engineering problems. They couldn't just be built, they had to be designed, and in the process of evolving a design philosophy towards highway construction we arrived at some rules which seem basic to the construction of all major Federal projects. In the few minutes that I have available, let me set forth these rules in capsule form.

1. No project is an island unto itself. Each project carries with it a number of external ramifications which impinge upon the environment it is located in or passes through. If we were to build an eight lane highway through your backyard, it would clearly affect your life style. If we were to build it through your neighborhood, it would still affect your life style, although to a lesser degree. Even if we were to build it on your waterfront, as San Franciscans found with the Embarcadero, it would still affect your life style. Thus, the first step in the design process is to consider not only the location but the physical dimensions of the project and its sphere of influence.

For example, given the fact that a highway has to cut a designated swath through a community, what can be done through the design process to minimize the land lost to the community, the impacts of noise, air pollution, and the physical presence of the structure. One thing that can be done is to raise the highway or lower it below ground level or even tunnel it completely. If it's too wide, you can split it in two and landscape the median strip or you can put one set of lanes above the

other so that there will be a relatively unobstructed view. You can put housing or other facilities above it or parking and buildings below it. In fact, you can deck it so people hardly know its there as we found out early in the game. Indeed, there is a whole panoply of things that can be done which minimizes the negative effect of the highway on its environs or even improves the environs. What it takes is a design consciousness and a full, analytical examination of the spin-off effects of the project.

This is true for non-highway projects as well. A Federal building can fit in with its environs or stick out like a sore thumb. A Federal vehicle can add to a city's congestion and pollution problem or aid the environment it moves about in. A Federal dam can create a recreational area or wash one out. The point is that the magnitude of most Federal projects -- whether it is a giant hydro-electric dam or umpteen-million copies of standard form 171 -- give the government an opportunity -- indeed a responsibility -- to carry out the project in the most efficient way possible. That means the designed way.

2. Good design doesn't have to cost more and sometimes it costs less. Further, a well-designed project will perform better, thereby making it a better value for the money. For example, we are building some bridges now out of ASTM-588 steel. This steel oxidizes to a reddish-brown color and is really quite attractive. More importantly, it needs no maintenance. Likewise, these graceful sloping highway lights not only provide 500 percent more illumination, but if impacted by an automobile, break off at the base. These overpasses and bridges were not intrinsically more expensive than these, yet they are considerably more attractive from an aesthetic point of view.

The same is true of other Federal projects. The HUD building itself is handsome. Yet, while the HUD building is attractive and was relatively inexpensive, let me also say that it is not a total success.

The building exterior was designed well, aesthetically, but its integration into the surrounding community was poorly executed. As you can see, its entrance is sterile and forbidding. It's relationship to the building across the street, which happens to be the Department of Transportation headquarters where I work, is non-existent. The problem with the HUD building is not that it isn't designed, but rather that it was not designed to fit into the Southwest Federal Employment area which itself was not designed, in total, at a pedestrian scale. Furthermore, some complain that it was designed on the outside, but not inside, which has a difficult working environment.

3. If you don't tell people where they are and which way they are headed, they probably won't get where they want to go. In other words, people need visual cues to orient them. On our highway projects, these can be of two types -- intrinsic and extrinsic. Intrinsic visual cues can be signs

which actually impart in a visual fashion what's up in the immediately approaching environment. They can be pictures warning of a steep hill, bicycles, children, or other dangers. They can be words combined with a logo giving information on each of the alternatives available to the traveler, they can be colors, or they can be markings on the highway itself indicating where the vehicle can or cannot go. In most cases, the information has to be absorbed by the traveler at sixty-plus miles per hour.

Since Mr. Warner raised the point last night let me say we have had a continuing effort at the Federal Highway Administration to improve the graphic integrity of our highway signing. As I am sure Mobil discovered, there is an unfortunately long interim period between a design decision and full design implementation. Let me also take the opportunity, however, to pay sincere tribute to Mobil's management and their decision to support a flexible Highway Trust Fund. This kind of flexible use of our highway money makes more alternatives and innovation possible. In a way, I believe this decision grew out of their commitment to the design process and its application in planning a balanced, efficient transportation system.

As I said, visual cues can also be of an extrinsic nature, giving the driver an actual view of the urban area he is traversing or orienting him to a particular landmark.

The common theme throughout our graphics effort is that the design process must consider the needs of the user or client, and again it is a theme that has great applicability throughout the government.

4. We discovered that the design process is usually not successful without user input. Now, when we design our highways, we need citizen opinion and input which we get through a series of public hearings and meetings. Is the facility needed? Which route do the citizens in a community want a road to take? If there is to be joint development of the corridor, what community facilities do they want? In short, what kind of total design package can we come up with to bring us the best product? These are the kinds of questions which must be answered by the affected group, not the Federal bureaucrat.

As a city planner, I am impressed that the public not only appreciates good design, but knows it when it sees it. There is a sense of harmony that comes from good design which most citizens, irrespective of their background or educational level, can appreciate.

In summary, then, good design is the careful study of the alternative forms by which particular needs can be met, and the selection of those which technically and operationally best meet the user's functional requirements while at the same time providing an aesthetically pleasing experience. Good design doesn't cost more, if it accomplishes more and if it is judged in long range and broader cost benefit terms.

In closing, let me say that we have not always been so sophisticated and the good examples I showed can be matched by other clumsy, massive, insensitive intrusions on our rural and urban environments. The environmental concern sweeping the country today is not simply a matter of aesthetics, of saving trees and open space, of good guys and bad guys. It is, in fact, a basic issue of planning and design in the broadest sense. It requires that before building any Federal projects we ask the fundamental questions of purpose.

These are:

- Do we need it?
- What are the alternatives?
- What are the impacts -- physical, social, economic and aesthetic?
- How do we minimize the negative impacts and optimize the positive impacts?
- How do we design the project to make it serve its function most effectively?

Answers to these questions will carry us through the design process and on to what we hope will be the best solution to the problem at hand, and hopefully the maximum amount of public support.

I would now like to present a brief film -- another product of Charles Eammes -- which was prepared more than 15 years ago, to explain the original and exciting Dulles Airport concept. The film shows how the planners and designer started from the basic questions of purpose. From the answers to the questions came the exciting form, not only of the terminal but the entire concept. Incidentally the film itself is a marvelous example of a well designed product. It tells its story in a most efficient and effective way.

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DEPARTMENT OF TRANSPORTATION

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REMARKS BY JOHN E. HIRTEN, ASSISTANT TO THE SECRETARY,
DEPARTMENT OF TRANSPORTATION, BEFORE THE ALABAMA
GROWTH CONFERENCE, AUBURN UNIVERSITY, AUBURN, ALABAMA,
APRIL 18, 1973

I am pleased to be here this morning to take part in the 1973 Alabama Growth Conference. I am particularly impressed with the objectives of this conference. As a practicing city planner for over 15 years, I realize fully the importance of sound planning to regional growth. Indeed, as you so well put it in your prospectus, balanced growth and development is dependent upon the proper identification of problems, the proper analysis of these problems, and the formulation of appropriate solutions. And, as you are well aware, the key to this is what I like to call the three insightful c's, cooperation, coordination and communication. If there is one lesson I have learned from my years of experience as a planner, it is that while coordinated and planned growth is absolutely essential if an area is to realize its full potential, it is impossible to achieve without communities and cooperation, both of which grow out of meetings such as this. Proper planning means that what on the face appears to be a number of unrelated

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activities are in fact planned for in a coordinated fashion so that they may interact in a synergistic fashion.

The results of proper planning can be seen clearly in the field of transportation. I would like, therefore, to focus on transportation as a case study of why proper planning is essential and how proper planning can lead to success.

For too long, we have considered each mode separately and independently. For too long, we have treated highways, buses, rapid rail and waterways as separate activities, but never as a system. The error of a uni-modal view is becoming more and more obvious. For example, at one time water transportation was so important to the State of Alabama that your waterways were even put on the Alabama State Seal. Today, that mode of transportation gets considerably less attention. Likewise, we have found throughout the country that strong support of one mode to the exclusion of others has led to a dangerous imbalance in people's ability to move around almost irrespective of what that mode is.

As a city planner, I believe that achieving a total transportation system is a major challenge facing our states and Federal government over the next ten years. This is particularly true in urban areas. I am aware that Alabama is not one of our more urbanized states. Nonetheless, even excluding Birmingham, Mobile, and Montgomery, Alabama is becoming -- as is the rest of the nation -- more and more urbanized. In 1920 you were only 21.7% urban. In 1970 you were 58.4% urban, almost 3 times as urbanized. It is quite clear that this urbanizing trend will not reverse itself.

In a way, Alabama is in a highly advantageous position because your growth is recent and still lies ahead. For this reason, you will be able to learn from the mistakes of other urban areas and thereby shape your future to preserve for Alabama the quality of life for which you are justly known. Indeed, in this day of dwindling resources, it is your responsibility to do so.

I truly believe that if Alabama, and particularly its urban areas, is to succeed as a place to work and to live, all the modes must be integrated to the fullest extent possible into a single system. We must seek a finely honed network where each mode is used in the most rational and efficient manner possible. As I have said, we must seek a synergistic system where each mode is stronger -- that is, used to its peak efficiency -- because of the existence of the other modes. The challenge we face in the transportation business is to mesh each mode into a flexible transportation system which meets the intricate criteria of delivering a total system with the greatest capacity, comfort and safety for the most economical amount and the least environmental damage.

The achievement of a balanced transportation system was the major rationale for the formation of the Federal Department of Transportation. Congress instructed us "to facilitate the development and improvement of coordinated transportation service." Congress realized there were a number of independent modes that had to be brought under one umbrella organization if all were to work together successfully. Based on this mandate, the Department set forth on two priority programs. The first was to achieve a valid and viable funding base for all modes. In 1970, DOT worked to enact the Urban Mass Transportation and Airport Development Aid Legislation. Secondly, we worked to chart a course for future multi-modal action based on a valid data base. In 1971 we issued a National Transportation Policy Statement and in 1972 the National Transportation Report. These documents, along with our new programs, form the background of our current transportation policy and set the tone for our future policy decisions. In essence, these documents are the outgrowth of a hard look at how the modes interrelate. Frankly, the same kind of analytical approach will be necessary if Alabama's transportation sector is to grow in an orderly, well-planned way, and provide the proper service to the State and the nation. Frankly it is not enough to continue to simply pursue more highways without knowing the full range of impacts and implications.

As we carefully examined the state and local transportation data amassed for the National Transportation Report, one basic conclusion was inescapable. The amount of funding and the means by which those funds were distributed were the predominant factors in establishing the modal balance. Within this context, certain policy guideposts became obvious. Future transportation decisions made by the Department will be based on them.

The first guidepost is that a transportation official, if he is to make a rational choice in spending money for transportation, must have unencumbered funds to implement his choice, whatever that choice might be. At first glance it might seem possible to accomplish this by equal funding for all modes. There are, however, two fatal flaws in this argument. First, there are priorities and a limited amount of funds for any field of endeavor. This is true in transportation as well as in other matters. As you well know, we in Washington are now engaged in limiting substantially our total expenditures to avoid a hike in taxes. But while the President is doing this, he feels strongly that once that major determination is made, then the funds should flow to states and local communities to be used as they determine their priorities. This, of course, is the basis for the President's revenue sharing proposal.

The second flaw in the argument that equal funding for each mode is enough lies in the psychology of government funding. I am sure that those of you who deal with Federal funds know that the first rule of Federal grantsmanship is "if it's a matter of using it or losing it, use it." Clearly, what is needed for real flexibility is a kind of multi-purpose transportation dollar which can be used interchangeably for at least all forms of surface transportation and perhaps more.

The second guidepost on which we will base our future policy is that you on the local level know more about your local problems than we do on the national level. While this may seem obvious, we have to account to Congress for the funds they give DOT and consequently you have to account to us. Nonetheless, you on the local level have local priorities, sensitivities and even political problems which may differ from those we have in Washington or from other localities. Thus, you may be sure that any new thrust of the Department will incorporate a great deal of local control over problems which are inherently local. As President Nixon said in his State of the Union Message:

"The role of the Federal government ... should not be to dominate any facet of American life, but rather to aid and encourage people, communities and institutions to deal with as many of the difficulties and challenges facing them as possible. The taxpayers money ... must be spent in a way which guarantees his money's worth and yields the fullest possible benefit to the people being helped. The answer to many of the domestic problems we face is not higher taxes and more spending. It is less waste, more results ... and for states, and localities to address their own needs in their own ways, in the light of their own priorities."

This is a pledge the President has made to the American people, and one we at the Department of Transportation intend to carry out. In the transportation area, to accomplish this independence, the Administration intends to encourage a more aggressive role for States in land use and transportation system planning. We at the Federal Department of Transportation are urging the formation of state Departments of Transportation. Already, 19 states have Departments of Transportation, Alabama should certainly join the club. In my view, it will be essential for states such as Alabama to form these umbrella organizations if they truly want a coordinated transportation system along with the ability to utilize the multi-modal funding we will soon be making available.

I also see our sensitivities to environmental and social problems forming a matrix in which transportation decisions are made. We must realize that transportation is not an end in itself. Social values and environmental concerns must be part of the intricate planning process for all transportation projects. Therefore, I think we shall find that those transportation projects which show the least environmental degradation will receive the most public favor. With these thoughts in mind, let me give you a long-range preview of where I think Department of Transportation policy is heading.

First, it is clear to me that revenue sharing and the freedom of choice it engenders will be a long term goal of this Administration. As I said, we believe the localities must have true flexibility in making their transportation decisions. Let me say, however, that this new freedom carries with it a new responsibility. No longer will your transportation problems be shunted to Washington. While we will be glad to share our expertise, you are going to have to face the hard issues and arrive at the best solutions. That means establishing on the State level the same kind of expertise we have on the Federal level. One good way of doing this is support for your universities and their city and regional and transportation planning programs. This is particularly true since the expertise needed to achieve a successful transportation project must be interdisciplinary. In DOT, we have had to call upon such diverse discipline as sociology, engineering, psychology, economics, education, architecture and others, in order to overcome the variety of constraint we must deal with today.

In addition, energy and pollution constraints will begin to restrict the use of motor vehicles, particularly in urban areas. Further, their size, power and means of propulsion will eventually have to be regulated in relation to the job that they are to do. One of the most colossal wastes in this country is the 200-plus horsepower, 15 foot, two ton automobile moving through cities at average speeds of between 7 and 12 miles per hour. Different areas and densities will require different vehicles and modes. In fact, the new slogan of the Department might very well be "we have the mode to meet your needs." This is equally true in rural areas as well as urban areas. In fact, the highway legislation which this Administration proposed would establish a demonstration program by which rural areas can investigate the use of bus and quasi-bus systems for non-urban public transportation. With the ending of some railroad passenger service and the channeling of the buses onto the Interstate system, a great many rural areas are beginning to feel a real transportation pinch.

Third, transportation must be recognized as a way of shaping land use. We have had a tendency for too long in this country to think of highways and other transportation corridors as merely serving to move vehicles from one point to another. In my view, transportation corridors shape land patterns as much as they serve them. We already know about the development that follows our Interstate highways. Now is the time to consider that development before we build highways rather than after, and to take advantage of the anticipated growth. We don't automatically owe a road to a new development that is not consistent with our basic land use goals. Unless Alabama wants the same kind of urban sprawl and problems which we find in the Northeast and California, you must very carefully consider land use policy in relation to transportation corridors. Broad community goals must be defined as a first step. These should relate to the desirability of further growth, future land use patterns and density, environmental objectives, desired life styles, open space and recreational goals, and desired methods of accommodating future growth.

Next, I think our Departmental policy will give priority to solutions geared to the movement of people rather than vehicles. We will strive towards flexibility on the modal as well as institutional levels. In this regard, mobility or the lack of it is a public responsibility and transportation decisions must be based on broad economic, social, and environmental considerations. Public transit should not be judged by its success or failure at the fare box. We don't expect our schools to be paid for only by the school children or their parents. We expect them to improve the educational opportunities for all our youth and that this in turn will produce a better community. Likewise, transportation should improve the quality of life -- indeed, the ability to live and be mobile -- for all our citizens regardless of their ability to pay.

Finally, we will encourage corridors and rights-of-way which are planned to accommodate, and even anticipate, multi-modal use and non-transportation forms of urban utilities.

On the administrative front, the Department has taken several major initiatives to promote unification of metropolitan transportation planning activities, thus achieving a more rational, integrated transportation planning process in urbanized areas. The aim has been to have highway, mass transit and airport plans considered jointly so that interrelationships can be recognized and trade-offs can be effected. Reorganization efforts have been made to bring together decision makers and planners from each mode so that the end product can be a transportation plan rather than separate highway, transit and airport plans. This should correct the inadequacies of separate plans which may not have meshed well together or may even have conflicted. Combination of planning activities at the metropolitan level also promotes the efficient use of funds as overlap or inconsistencies among the modes can be minimized. Most importantly, it has required a good hard look at all the transportation trade-offs and spin-offs.

I believe that the emphasis we have seen during the last four years on planning and funding transportation improvements from an intermodal basis; on increased attention to mass transit programs; on increased consideration of traffic operations improvements and other low-capital intensive efforts, is just the beginning of an entire redirection of our transportation programs. And, I predict that intermodal planning and financing will intensify dramatically over the next several years.

Planning, therefore, is really the preservation and proper utilization of our resources. In a very basic way, planning leads to economy -- economy in construction and economy in use. Indeed, this is the keystone of this Administration's current efforts to totally review our budget and to eliminate those programs which are ineffective, inefficient, or a plain waste of the taxpayers dollars. Let me assure you that President Nixon realizes that taxpayer dollars are not a never-ending national resource -- now it is up to the Congress to reach that very basic and very true conclusion. You can be sure that the President is prepared to veto legislation which over-funds

a program, which benefits special interests at the expense of all taxpayers, or which tries to perpetuate a program whose usefulness is at an end.

Let me give you an example of the problems we face in paring excessive Federal spending. During the past several years, there has been an alarming increase in the hijacking of aircraft. We've all become familiar with the terror and drama of gunmen hijacking an aircraft in flight. Too often these attempts result in tragedy. Such acts of terrorism and murder clearly can not be allowed to continue in a civilized world. Further, the President is fully aware of the effects of hijackings on world peace and he has fully determined to stop any new outbreak of terrorism in the skies.

This is what the President has done to prevent any future hijacking attempts: First, he has by negotiation eliminated Cuba as a hijacker's haven. Second, under the Department of Transportation's Federal Aviation Administration, he has established rules and regulations for airport security. In essence, these rules and regulations require the operators of the 531 commercial airports in the nation to station law enforcement officers to check passengers and luggage, thus stopping hijackings before they start. Third, the President is supporting legislation before Congress which implements the Hague Convention on the unlawful seizure of aircraft and proposes boycotts against nations which are a base or sanctuary for hijackers. Finally, he is providing Federal funds for the acquisition of detection devices at domestic airports.

But, as is all too often the case, the Senate has sought to totally pre-empt for the Federal government an area which should be shared with local airport authorities.

In approving anti-hijacking legislation, the Senate has seen fit to create a national police force of Federal law enforcement officers known as the Air Transportation Security Force. This force would be trained by the Federal government and placed at each airport in the country at a cost of \$35 million a year.

The President believes that this is an unnecessary and dangerous intrusion into an area that should be the province of local authorities. There are no Federal policemen patrolling highways, bus stations, railroad depots or boat docks. Basic security in those places is handled by local police or by the carriers themselves. And it works very well.

Of even more importance to you, there is a serious question of who should pay the bill for protecting our air travel. The Senate's measure would force the bill onto the taxpayer even if he never flies. Rather, the Administration believes that the company in the air travel business should pay as a legitimate cost of doing business.

As you can see, we have a hard job ahead of us in convincing the Congress that the American people want economy, even though during the campaign President Nixon pledged to the American people that he would put a ceiling on taxes and pare excessive and inefficient government spending and his overwhelming victory last November made it clear that this was what the American people wanted.

If our Federal programs are going to be successful, they must be carefully tailored to meet the specific need which gives rise to them. Airport security is not -- nor should it be -- a subsidy or give-away to the airlines. It is a cost that should be borne by them as a part of doing business just as they must for any other safety provisions.

Certainly, efficient and effective use of Federal funds is the keystone to this Administration's domestic policy. As taxpayers we deserve no less.

As citizens we must begin to demand the efficient use of our irreplaceable resources. Oil and land -- strangely the two major elements in past transportation and land development practices both fall in this scarce and precious category. Proper planning is the only way I know of to have our cake and eat it too.

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DEPARTMENT OF TRANSPORTATION

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REMARKS BY JOHN E. HIRTEN, ASSISTANT TO THE SECRETARY OF
TRANSPORTATION BEFORE THE NORTHEASTERN CHAMBER OF
ASSOCIATED HIGHWAY OFFICIALS, HARTFORD, CONNECTICUT,
WEDNESDAY, MAY 2, 1973

May I say at the outset how very pleased I am to be with you today.
During my tenure as Assistant Secretary of Transportation for Environment
and Urban Systems, and even now as the Assistant to the Secretary, I spend
a good deal of my time on highway problems and highway design. I am fully
aware of the complexity of the process by which a highway is planned and
constructed. I am also aware of the constraints on the program and on
certain projects.

Let me say that if anybody expects that what I am about to say will
be an anti-automobile speech, they are going to be sorely disappointed. As
you know, and as I think the American public knows, highways have crested
mobility for people and goods in America in a way undreamed of fifty years
ago. And the same is happening in Europe and Japan and other parts of the
world.

And as I said at the AASHO Conference in Phoenix last year, one of
the major roles of the Department of Transportation is to provide the system
for facilitating mobility for the citizens of our Nation. It is also clear that
one of the predominant methods of providing this mobility is through highways
and the automobile. For this reason, I don't believe that highways and

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urban areas have to be incompatible. However, like the sorcerer apprentice, it seems we have unleashed a demon which, if not controlled, could consume us. It is this point I want to address.

I have been a professional planner for over 15 years. Planners and engineers have one thing in common: we realize that the more complex a design problem, the more sophisticated the solution must be. For this reason, Bruce Campbell came up with a particularly perceptive subject when he asked me to speak to you this afternoon on "Public Relations in Changing Times". Public relations, in my view, does not mean a snow job. It means dealing with the public, indeed, serving the public; perceiving the issues and the problems as they perceive them; and being sensitive to the effects our projects have on them. This is the job of the planner and it must be the job of the engineer as well.

Further, these are indeed "changing times". They are changing, not only for the country, but also for you in your role as engineers and civil servants. I started off my professional life in urban renewal and the first lesson I learned was that the only authority that really mattered in the long run was the authority of merit; the merit of an idea -- a program -- a project. If you think you have been attacked in the highway program, you should try to mount a major urban renewal program where, instead of displacement of people and businesses in a highway right-of-way, you face displacement of a whole community.

As the title of the talk Bruce asked me to give indicates, you are already fully aware that there is a new day dawning in transportation. Therefore, let me be very frank. I believe it is essential that we face the problem of designing the necessary comprehensive highway projects in a larger, community-wide perspective and decide to work out programs to do the job. As engineers, you are particularly fortunate in this regard. Engineers have been trained as problem solvers. In fact, engineers have a degree in problem solving. Quite frankly, if engineers aren't able to solve highway design problems, who can?

What is needed, in my view, is that we attack the problem from a broader perspective. In civil engineering terms, when you build a building excavating the foundation is a lot less delicate than constructing the superstructure although, in fact, it sets the stage for the whole project. I think we are in that same position with our highway program. We have excavated the foundation and built about 80 percent of our Interstate system and a substantial part of our secondary and primary systems. Now, we are faced with the need to finish in a delicate and sophisticated fashion that part of the job which is especially exposed to the public and make the whole system work. Those of you who have been in the business for 20 years or so remember the hard decision that had to be made back in the 1950's about whether the Interstate system should go around or through our urban centers. I would hate to reopen the debate on that question now because a decision has been long made. However, it was clear even then that the hardest part of building the Interstate would be in the parts within our urban centers. Now the question is how do we carry out these projects in the most sophisticated way.

You are all aware, I'm sure of the constraints which are now involved in building highways, particularly in our urban areas. There are the environmental constraints as legislated by the DOT Act (Section 4(f)), Federal Highway legislation, and the National Environmental Policy Act. There are air pollution problems, congestion problems, relocation housing problems, noise problems and aesthetic problems, all of which are inherent in building highways in our urban centers. And, there are the citizen awareness and citizen activist groups that won't let us forget these problems and there are courts to back them up.

Indeed, there is a whole panoply of constraints which did not exist 20 or even 10 years ago. Nonetheless, it is my belief, and that of the Department, that these can be considered short-term problems and frankly gentlemen, even opportunities.

As a planner, I believe in the planning process. As engineers, I am sure you believe in the engineering process. In essence, they are really the same. They involve a full analysis of the objectives of any project in terms of the constraints placed on achieving those objectives. After analysis, the objectives are maximized and the constraints minimized in the final design. Most importantly, both the planning and engineering methods involve a full analysis at the beginning of the problem, not half-way down the line. The issue is basically one of broadening the objectives of a project. The difference between the community planner and the highway engineer lies in the breadth of their objectives.

Returning to my urban renewal experience, let me share with you a case study. I was Executive Director of the Stockton, California Redevelopment Agency in 1958. When I arrived to start the program for that city, two areas were already designated by the City Council for renewal. Both areas had a map line running through them, called I-50, and one project had an interchange between two Interstate routes. This project covered a total of 180 acres and was in the poor section of town with a railroad spur on the north line of the project area. The area was scheduled for total clearance and was to be rebuilt as moderate-cost housing with a light industrial park along the rail spur line. The problem was that the interchange and right-of-way, as originally designed, took 80 acres right in the heart of the project. I began negotiating with the district engineer and at first was told that all possible designs had been considered and this was it. Fifteen schemes and 10 meetings later we had it down to 30 acres and an alignment much closer to the spur track leaving me sufficient space for housing south of the freeway.

Next they told me they were not prepared to proceed with acquisition for 5 to 10 years leaving a prospect that half of a community would be moved and another half still in place with dirt floor shacks as neighbor to the new houses that I wanted to build and sell to the old and new residents. To conclude what was a long drawn out affair, we agreed to buy all the land, handle all the rehousing, and sell the right-of-way intact to the Director of Highways at an approved price.

However, this had never been done before and caused all kinds of bureaucratic concern. Finally, I had to go to the Governor's office to get an okay. When we finally had the whole program worked out, the highway engineers felt a sense of partnership with the Redevelopment Agency planners for the future of this area, rather than that of an intruder.

This, in essence, is my message. The highway program is in trouble today, not because of new legislation posing new restrictions on what you do, but rather because you were caught with a number of projects which were too single purpose to meet the new constraints.

This, of course, is not entirely your fault. I am certain that highway designers consider very carefully the constraints that they have had placed on them. But the constraints are now broader. As engineers and civil servants, it is our role to accommodate our planning to incorporate those constraints as manifested by the public and the Congress.

For this reason, I believe it is necessary to consider yourself multi-modal transportation specialists rather than highway builders. This may well be the hardest task you face. You may even find yourself recommending an alternative to building a highway -- even a mass transit alternative. Nonetheless, to maintain your credibility with the public, you must get over a single-minded advocacy of just one mode.

The "no-build" option will be rarely used, however. Rather, in a great many cases, certain design criteria will have to be given less emphasis in order to achieve overall design excellence. Let me give you an example. One of the primary characteristics we associate with modern highway design is speed. We have designed our Interstate highways to meet a certain standard of speed with safety. Nonetheless, in some instances a parkway or boulevard, even with its slower speed limits, might better serve the needs of the traveling public and the community it transverses.

The parkway or boulevard -- though less than perfect as a single purpose facility for moving vehicles -- does pick up credits for doing something for the surrounding community. Take your choice -- in urban areas it is either that or bury them or some combination of each.

Likewise, I think it is clear that we will be unable to build sufficient highway facilities to meet peak hour capacity, and, even if we were, it would be a highly inefficient system for non-peak hours. We must continue to think in terms of transportation corridors, not just highway corridors, and to move people and goods, not just vehicles.

This need for efficiency in Federal projects extends beyond highways. Indeed, the Nixon Administration has been striving throughout the government to achieve efficiency in all its programs. We have a hard task ahead of us, however.

The highway program is the largest public works project in the history of the world. It is also, I believe, one of the best engineered. While I know there are some dissenting voices, most would agree that the Federal/State partnership in the Interstate program has been exceptionally fruitful. It has fostered a continuous system which to an extraordinary degree meets the defense and mobility needs of the Nation. It has also remained fairly free of politics. As the Chairmen of both Congressional Public Works committees have often stated, there are no such things as a Republican highway or a Democrat highway, there are just good and safe highways.

Unfortunately, this has not been true for all public works projects. Let me tell you about one which fails to meet these criteria. The Senate has passed Flood Control legislation which authorizes \$593 million for 34 flood control dams. The bill is now in the House where it certainly won't die from loving care.

The problem with this bill is not that it authorizes flood control measures. This is an important governmental responsibility and, in fact, President Nixon has already sought a flood control program funded at \$400 million for 10 projects. The problem with the Senate bill is that it consists of projects whose only criteria for acceptability is that they are in a particularly favored Senator's state. More importantly, and damaging, it authorizes nine water projects in Appalachia which would not have any Federal review and would not even pass Federal standards. It also provides open ended authorization for nationwide stream bank and shoreline erosion controls which could ultimately cost billions. Finally, it duplicates water planning assistance to States and bars the President from upgrading the standards on these projects for one full year.

In terms of the Interstate, this would be the equivalent of the House Public Works Committee arbitrarily designating 34 Interstate highway projects, even though they bear no relationship to the Interstate system and do not meet the safety or design standards of the rest of the Interstate system. Yet, these projects would be funded out of the Interstate apportionment.

This is the kind of waste which President Nixon does not intend to allow in our budget. As Americans and as engineers, you can appreciate his desire for fiscal integrity and efficiency in all our projects. Let me assure you that his pledge to the American people during the campaign that he will not raise taxes will lead to a veto of this and any other bill which is fiscally irresponsible.

In conclusion, I believe we have got to find a way to bring the enormous expertise of our State Highway Departments to bear, first on the total transportation problem and, second on the issue of better management of our existing facilities in the urbanized areas.'

To paraphrase Frank Turner, our streets and highways represent the basic corridors for door to door service of all kinds. We must take a long look at the system to see how to make it work better. Like the realization of the sorcerer's apprentice, we should begin to recognize that "more is not necessarily better".

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DEPARTMENT OF TRANSPORTATION

NEWS

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WASHINGTON, D.C. 20590

23-DOT-73

REMARKS BY JOHN E. HIRTEN, ASSISTANT TO THE SECRETARY OF
TRANSPORTATION BEFORE THE BICYCLES U.S.A. SYMPOSIUM,
TRANSPORTATION SYSTEMS CENTER, CAMBRIDGE, MASSACHUSETTS,
MONDAY, MAY 7, 1973

I am pleased to be here today to welcome you on behalf of Secretary of Transportation Claude Brinegar. The Secretary would have liked to be with you but he is testifying before the Senate this morning on highway and motor vehicle safety, a subject which is as important to you -- and your security -- as the sessions we are holding today. It is also a particular pleasure for me to be here because when serving as Assistant Secretary of Transportation for Environment and Urban Systems, the Department's bicycle program was directed by my office. Indeed, ever since I came to Washington, I have been representing the Department at bike-ins.

I am not going to take very much of your time to talk about bicycle history, but I think there are a few events I would like to mention. As many of you learned in the excellent article in Scientific American on bicycling by S. S. Wilson, Queen Victoria established the respectability of cycling in the late 19th century when she ordered two Royal Salvo tricycles and presented the

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designer, James Starley, with an inscribed watch. We at the Department of Transportation like to think that the equivalent of that event, and the one which marked a new age of governmental interest in bicycles, occurred on May 16, 1971, when Secretary Volpe, on the first day of National Transportation Week, participated in a bike-in Washington. Secretary Volpe didn't present the organizers with a watch, but he did give the Departmental liaison a hard time when the organizers tried to cancel it because it had been raining all morning. Said Volpe: "I intend to ride whether anybody else shows up or not." "Besides," he continued, "it never rains on me." And, you know, it didn't.

The second little insight into history I wish to divulge today is that the first bicycle was designed by the Baron von Drais de Sauerbrun of Baden-Wurttemberg between 1816 and 1818. I mention this not so much for its historical importance, but rather because I am leading the United States Delegation to a Seminar on Urban Transportation in Munich next week and I want to practice up on my German.

Seriously, though, we know of the new interest in the bicycle as an urban vehicle and its enormous growth in popularity over the past several years. Indeed, in 1972 U.S. manufacturers sold 13 million bicycles, far more than automobiles, and it is estimated that there are 83 million bicycle riders, 42% of which are adults. There are many reasons for this increasing popularity, and I feel reasonably certain that by the end of this session you will not only have heard them all, but probably come up with several new ones.

However, since I am one of the strongest proponents of bicycles within the Department, I think it safe for me to play the role of a devil's advocate because I believe it will be a useful way to open up your discussion for today and tomorrow. It is incumbent upon us, in our discussions, to get past the stage of talking about the revival of the bike as if we were trying to prove something, as if we were trying to convince ourselves that there really is renewed interest in bicycling and that it really is a viable mode of transportation. Rather, I think it's time to concentrate on the disadvantages of a bicycle and try to find ways of overcoming those disadvantages.

What are the roles of the bike? How safe is it in urban areas? Is it really a form of transportation? Is the 10 speed the ultimate or are we just tapping the bike's potential? These are some issues which should be discussed. Let's explore some.

What are the purposes that a bike serves? It is, I believe, a short range vehicle, at least as we in the Department of Transportation think of it. There are, of course, those who will ride greater distances. Nonetheless, I think we should not direct our attention toward these particularly strong and

brave individuals, but rather towards capturing middle America and sensitizing it to the viability of the bicycle as a way to get around with minimal exertion of energy and fuel. Indeed, any device that makes me more efficient than the bumble bee in terms of energy consumed in moving a certain distance is one honey of a machine. Since 40% of the urban work trips made by automobiles are four miles or less, we have a significant group to reach.

I would strongly recommend that we do not forget the youth market in general for a number of reasons. American youth under the age of 16 represent the largest group of what we call the transportation deprived. They are almost totally reliant on their parents or what little is available in the way of public transit for their transportation. One good indication of this is the fact that 42 percent of the children in this country ride their bikes or walk to school and many, many more who would do so were it not for poor urban planning and the lack of bike paths.

This is a market that must be served, and it is one where the modal alternatives are minimal. Further, this is where to get the bicyclists if you really want to keep them for life.

Another question which we will be examining in depth lies in what public facilities are needed to serve the bicycle. In a way, this is a two-part question. There are, of course, the obvious facilities such as restricted rights-of-way and bike racks. There is the deeper question, however, of how to interface bicycles with the multi-modal system. How can we use bus, train or airplanes and get our bikes easily on and off. This is where new breakthroughs will take place.

Let me ask another question which you can be assured will be asked by others who are not converted to bicycles. How can we justify facilities for a mode which is rarely used in the rain, snow or inclement weather? How can we justify something which is intrinsically a "nice day" kind of way to get around? A comprehensive answer to this question is needed. The bike is not the most efficient vehicle, but I think it is important to weigh its inefficiencies against the inefficiencies of other modes such as the automobile. Indeed, I think we have to address, as part of this conference, the question of what you do when it rains. What alternate transportation modes will be available, and what problems are created when everyone leaves the bike home and takes the car or bus that day.

Another question which I think we should address is how can we build bike-trails into existing systems like city streets with the least loss of space and the most political support? What route do we want to go, literally and figuratively? Do we want to try for an automobile lane, thereby alienating the motorists, or do we want to try to take part of the sidewalk away from the pedestrians. Indeed, can we justify -- or under what terms should you

justify -- a bike lane which will probably not carry the same number of people or vehicles that an automobile lane will carry?

Another important issue which you should be directing your attention towards is how to build bicycle thinking into the planning system. How to get our city and county officials to focus on and consider bicycles in the same way they consider automobiles. I hope Mayor Ackerman will have some answers for you later on. In this regard, how do we involve the individual bike-rider in the planning process?

In my view, bicycles can take advantage of what I call the "have your cake and eat it" syndrome. By this I mean that there are a great many people in this country who want to keep in shape, either for health or weight reasons.

They also have to get from here to there during the week. Why get up half an hour early each morning to jog around the block when you can kill two birds with one stone and ride a bicycle to work or shopping. This may mean some new thinking in terms of storage facilities at the office.

There is also one aspect of bicycling which should be strengthened and broadened to the extent found with all other modes. That is the used vehicle market. Now I know that there is some resale of bicycles, but why shouldn't I be able to go to a dealer, a bicycle store or a chain, and trade up from a 3-speed to a 10-speed or a 10-speed to a 15-speed with a double butted Reynolds 531 frame and Campagnolo derailleur.

I'm not suggesting planned obsolescence, but what I am saying is that there is a sizeable market for used quality bicycles in the thirty-dollar range.

I am sure that there are many people who either can't afford an expensive bicycle or who want a second bike for the office. Likewise, there are many who want to make sure they really are able to ride a bicycle and to enjoy it before they invest in a new 10-speed. Also, and I trust this won't be misunderstood, bicycling is pretty much a middle and upper income activity.

I think we should take a good hard look for ways to introduce the bicycle to those who just can't afford an automobile but need transportation. Let me remind you this group is the backbone of bicycling in Europe.

Let me assure you of continued Departmental support for the bicycle program. Indeed, this search for an efficient urban vehicle is echoed in other ways throughout the government. As you may know, the Administration has just finished a full review of all government programs to try to determine those which are most effective and efficient in delivering Federal services. I believe that it is this kind of hard and rigorous analysis of issues which President Nixon has demanded of us which has turned the Department towards bicycles as a viable mode of transportation.

What I am really saying is that as bicyclists and bicycle enthusiasts, we find ourselves in a very difficult situation. In a way, success may be going to our head. The danger, however, is that the bike may turn into the hula hoop of the 70's. I think the answer to this problem is that people's perceptions of bicycles must change. They must become serious about bikes as a transportation mode. True, bicycles are a recreational vehicle, yet they are much more than that. They can be an effective urban vehicle which offers, under proper circumstances, less pollution, less congestion, and a healthier populace. It is your job at this conference to decide how to create those proper circumstances so that the bicycle can take it's rightful place in the multi-modal-mix.

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DEPARTMENT OF TRANSPORTATION

NEWS

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WASHINGTON, D. C. 20590

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35-DOT-73

REMARKS BY JOHN E. HIRTEN, ASSISTANT TO THE SECRETARY OF TRANSPORTATION BEFORE THE ENVIRONMENTAL ASSESSMENTS AND IMPACT STATEMENTS CONFERENCE, DREXEL UNIVERSITY, PHILADELPHIA, PENNSYLVANIA, WEDNESDAY, JUNE 13, 1973

I appreciate the opportunity to keynote your conference on Environmental Impact Statements. Secretary Brinegar has asked that I bring you his best wishes for a successful conference. Environmental preservation is a particular concern of the Secretary, and it is through meetings such as this one that the general level of environmental sensitivity can be raised. Let me also commend, therefore, the initiative of Drexel University in sponsoring this conference.

When I was the Assistant Secretary of Transportation for Environment and Urban Systems, I had the specific responsibility of reviewing and acting on all Environmental Impact Statements which were submitted to the Department for approval. Now, as the Assistant to the Secretary, I still find myself involved in evaluating the environmental impacts of particularly controversial transportation projects. For this reason, it is a subject with which I am particularly familiar and about which I have rather definite views.

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Even before the National Environmental Policy Act was signed into law on January 1, 1970, by President Nixon, the Department of Transportation was sensitive to the issue of environmental and other impacts. Indeed, the very legislation which established the Department, the DOT Act of 1966, contained a Section 4(f) which forbids transportation facilities to take lands for public park and recreation areas, wildlife refuges, and historic sites of national, state or local significance unless there is no feasible or prudent alternative for the use of the land and all possible planning to minimize harm has taken place. Parallel provisions are also found in the legislation authorizing our different modal programs such as highways, mass transit and airports. These legislative mandates represent the Congressional realization -- and the realization of our citizens -- that transportation projects do have an environmental impact which must be considered in designing the project. Thus, when the National Environmental Policy Act was passed in 1969, the Department was ready to meet its requirements.

Last year we processed 659 environmental impact statements. We did so, I believe, effectively and efficiently. The reason for our success, is our positive attitude towards Environmental Impact Statements, I think that if you carry any message back from this conference, it should be as follows: Environmental Impact Statements are not an onerous burden or a retroactive analysis; they are, instead, an opportunity to make the project a better one. We in the Department sum it up this way: "Environmental quality is a goal, not a constraint."

I have been a professional planner for over 15 years. Planners and engineers have one thing in common: they realize that the more complex the design problem, the more sophisticated the solution must be. When we deal with public projects, we must perceive the issues and the problems surrounding that project as the public perceives them, and we must be sensitive to the effects our projects have on the public. This is a job for the planner and the engineer with the active support of the bureaucrat and the grant recipient. I believe it is essential that as we face the problem of designing major projects in our communities, we consider them on a larger, community-wide perspective. This is the basic purpose of the Environmental Impact Statement.

As a planner, naturally I believe in the planning process. Those of you who are engineers, I am sure, believe in the engineering process. Those of you who are responsible for carrying out projects need both our professions and both these processes. In essence, they are really the same. They involve a full analysis of the objectives of any project in terms of the constraints placed on achieving those objectives. After analysis the objectives are maximized and the constraints minimized in the final design.

The main difference is that planning considers the project role in the universe -- engineering primarily the physical constraints. Most importantly, both the planning and engineering methods involve a full analysis at the beginning of the project, not half-way down the line.

As I said, the issue is basically one of broadening the objectives of a project. The National Environmental Policy Act institutionalized questions to be considered before carrying out a project, but they were always there. In transportation, for example, there has always been the air pollution problems, the congestion problems, the relocation housing problems, the noise problems and the aesthetic problems. And, even before NEPA, as the National Environmental Policy Act is called by its friends and associates, there were citizen activists groups who would not let us forget these problems. And there are the courts to back them up. Indeed, there is a whole panoply of legal, legislative and physical constraints which did not exist in the planning process 20 or even 10 years ago. Nonetheless, the problems were still there, it was their ramifications which were ignored.

Clearly this issue is not a local one, nor is it purely a problem for the United States. For example, in Vienna a building project which was planned for a city park met with such opposition that it brought about the resignation of the mayor of Vienna, and has shaken the stability of Austria's ruling Socialist Party, according to the news reports.

To cite another example, on a recent trip I made to Bonn, Germany, a black flag with a skull and crossbones and the letters B-9 was noticed hanging out of several windows as we rode down the main street. On inquiring what the meaning was, we were told that B-9 was a proposed highway which would go through that area. The citizens who are violently opposed to this project are apparently being very effective in their campaign.

As you know, NEPA requires the filing of Environmental Impact Statements prior to major Federal actions. Quite frankly, I consider the EIS the first frontier of environmental protection. Let me tell you why. What this legislation requires is that we build into the planning and programming of any project a serious concern for the environmental degradation which it might cause. We must be always sensitive to environmental quality. We must always try to achieve it, rather than consider it an obstacle which must be pushed under the rug if you are to build a particular project. It is, therefore, necessary that we strive to undertake a comprehensive analysis of environmental problems at the earliest possible stage. For example, a good environmental analysis of a highway project must include studies of both the human and natural environment in the proposed area. It should consider those changes which a proposed project and its alternatives would create. It should consider environmental conditions in that area and

what changes in the physical, ecological and sociological climate of the area would result from the project. And it must consider all the alternative methods to accomplish the task.

These are the kinds of issues which should be examined from the outset, not when it would be too late to change the project plan. Of course, some projects will have considerably greater impact than others. Therefore, the study made of these projects will be more extensive. Nevertheless, these same kind of considerations should be considered for every significant project that enters the pipeline.

Once good environmental planning, analysis and coordination has taken place during the formulation of the project, the actual writing of the environmental impact statement should be relatively simple. Indeed, if you have done the preparatory work properly, it should be a mere documentation of the activities that have occurred. Just as form follows functions, operation design follows comprehensive analysis. I can assure you that an environmental impact statement which truly indicates good environmental planning is easy to spot, and we at the Department of Transportation are seeing many more of these. It is also, quite frankly, easier to approve.

What I urge you to avoid -- indeed, what we insist that you avoid -- is the justification for a decision which has already been made. Perhaps the best example of this self-fulfilling statement is found in the area of alternatives. NEPA requires that environmental statements discuss all -- and I mean all -- alternatives to the proposed action which were considered in the projects development and the different impacts of these alternatives. Using transportation as an example, this does not only mean such planning aspects of environmental degradation as air emission and noise. It also means the EIS should reflect consideration of other modes of transportation which would serve the mobility needs of the community such as mass transit and which would carry with them less environmental effect. What are their pros and cons -- how much would it cost, etc. It should even consider and delineate the "no build" alternative.

You must also realize that if these adverse impacts are not fully considered, you, and the Department you submit them to, will find yourselves in court. And the courts, as you well know, have not been casual.

It is apparent that section 4(f) and NEPA's immediate application has caught some projects in the pipeline. Nevertheless, with the passage of time -- almost four years now since NEPA was signed into law -- the

courts are getting less and less willing to make concessions to the pipeline -- retroactivity argument. This is an additional reason to do the most conscientious job possible in environmental planning and analysis.

It should be fairly simple, quite frankly, to incorporate good environmental planning into your design. Your engineers are not building your projects the way they were 20 or 30 years ago. Likewise, new technologies in the environmental area have come to the fore. What we have to be sensitive to is what are the impacts and the institutionalized means for considering them.

In closing, then, let me say that environmental impact statements should not be considered a burden. Rather, they are simply a documentation of the kind of planning that should go into each and every project that you design. The environmental concern sweeping the country today is not simply a matter of aesthetics, of saving the trees and open spaces, of good guys and bad guys. It is in fact a basic issue of planning and design in the broadest sense. It requires that before building any federally-assisted project, we ask the fundamental questions of purpose. These are:

- Do we need it?
- What happens if we don't build it?
- What are the alternatives?
- What are the impacts -- physical, social, economic and aesthetic?
- How do we minimize negative impacts and optimize the positive impacts?
- How do we design the project to make it serve its function most effectively and contribute to other community needs?

Answers to these questions will carry us through the design process and onto what we hope will be the best solution to the problem at hand. It will also allow us to create environmental impact statements based on firm foundation.

Let me, therefore, urge you to give Environmental Impact Statements the attention they deserve and to establish a planning attitude in your community and state which is an environmental concern in the largest sense.

You can be assured the Department of Transportation and other Federal agencies are ready and able to give you all possible support. Further, Environmental Impact Statements offer an opportunity for you to achieve a better designed project, once it is decided upon, which will be a welcome addition to the community in which it is constructed. As public servants and those who serve the public, we owe our citizens that much.

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DEPARTMENT OF TRANSPORTATION

NEWS

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WASHINGTON, D. C. 20590

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36-DOT-73

REMARKS BY JOHN E. HIRTEN, ASSISTANT TO THE SECRETARY
OF TRANSPORTATION BEFORE THE 1973 BUILDING A BETTER
ENVIRONMENT CONFERENCE, SAN DIEGO, CALIFORNIA,
FRIDAY, JUNE 15, 1973

Let me first express the regrets of Secretary Brinegar in not being able to be with you today. As a Californian and as a believer in the interdisciplinary approach to solving problems, he was very impressed with the scope and timeliness of your conference. Unfortunately, he cannot join you since he is in Europe attending a meeting of European Transportation Ministers.

I have been asked to speak for a few minutes on Federal assistance in solving transportation problems. Let me say at the outset that it is almost as difficult to delineate the full range of Federal assistance to transportation as it is to articulate the answer to the problem. The Department of Transportation alone has four separate agencies devoted to providing aid to transportation -- Federal Highway Administration, Federal Railroad Administration, Federal Aviation Administration, and Urban Mass Transportation Administration. Federal Railroad Administration and the Coast Guard are playing an increasing role but as yet sponsor no financial planning or aid programs. The Department's total expenditure for this fiscal year is a bit over eight billion dollars.

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In addition to this direct financial aid, there are the equally important forms of indirect aid such as policy direction, technical assistance, information on new approaches and technical research and development. And, to a lesser extent, other departments and agencies in Washington offer transportation aid and planning funds too.

Further, the Federal interest is extremely broad and ranges from the relatively narrow concern of getting people from here to there to the broad issue of how transportation decisions impact on the quality of life in our urban areas. To demonstrate the scope of the problem and our involvement, let me give you two examples of how transportation problems spill over into the general well-being of the nation as a whole.

Transportation utilizes energy, and the inter-relationship between the two is of strategic importance to the nation. In fact, transportation consumes about one quarter of our energy directly and it is estimated that it utilizes up to 40% if you include the indirect uses. Of course, you may well ask if there really is a long term energy crisis. In the Department's view, that will depend on whether we are able to utilize our transportation facilities effectively. Let's look at the data.

-- average passenger vehicle miles per driver is projected to increase from 3,000 miles in 1950 to 8,800 miles in 1990, almost three times as many. And in 1990 there will be 185 million drivers, up 40 million from 1970.

-- car efficiencies are declining in terms of fuel consumption, and even now 75% of the energy used in the transportation sector is related to highway usage. This declining efficiency is partially due to pollution control devices which lower efficiency by 7 - 10%. Remember, however, that air conditioning reduces gas mileage 9% on the average and 20% on a hot day in urban traffic, automatic transmission costs another 6% in fuel efficiency and power steering and power windows add a further drain on fuel consumption. But most important is car weight. A 4,000 pound car, for example, consumes twice the gasoline of a 2,000 pound car. All in all, motor gas demand is projected to increase from slightly over 4 million barrels/day in 1970 to between 6 and 8 million barrels/day in 1990.

-- today rails use less than 9% of the energy used for freight and handle almost 37% of the ton miles while, conversely, trucks utilize almost 60% of the energy used to carry freight and handle only 19% of the freight-ton-miles.

These spectacular increases in fuel consumption are clearly going to affect the form our transportation system takes in the 80's and 1990's, and particularly in the metropolitan areas where approximately 85% of our population will be living.

There are other ramifications of this problem, however, which extend into areas as diverse as foreign policy and nuclear safety. For example:

-- We presently have 30 nuclear plants in operation. Because of the fuel crisis and other factors, we are projecting 508 in operation by the end of the century. Can we make it?

-- We import a million barrels of oil a day from Canada and would increase this amount if we were not limited by the Canadian government. What are the constraints?

-- about half of the world's new oil is expected to be located in the Middle East and the USSR possesses about one-third of the world's oil and 70% of its gas. The foreign policy implications are obvious.

-- it is anticipated that by 1980 -- only seven years away -- our petroleum imports will increase from 20% to over 50%. Imagine what that will do to our gold flow and balance of payments problems.

For these reasons and others, we have determined that the way we allot Federal assistance to transportation projects has a real and measurable effect on issues not related solely to how we get from here to there. With the total energy consumption in the United States doubling every 20 - 25 years for the past 120 years, we just can't afford inefficient use of our resources. And this means inefficient forms of transportation no matter how emotional we may get over our personal auto/ego.

A second major issue which at first appears to be only slightly related to transportation is the matter of air pollution. The Clean Air Act of 1970 has probably had a greater impact on transportation thinking in metropolitan areas than many transportation policies themselves. No matter how willing a single individual may be to close himself in an air conditioned automobile on the Los Angeles freeway, the law has made it very clear that a larger concern for the community and its overall air quality must take precedence. To do this, the state, city and metropolitan area must join in establishing a transportation implementation plan to meet those air quality standards. In simple terms, L.A. is faced with

both an immediate and a long-range problem of coming up with solutions that will promote increased use of mass transit and impose some kinds of limitations on the automobile as we know it today.

With the problem so broad, therefore, let me in the short time I have available delineate some basic rules for dealing with and utilizing Federal assistance most effectively.

First: ORGANIZE AND INSTITUTIONALIZE YOURSELF TO MAKE THE MOST OF THE FEDERAL-AID AVAILABLE AND PROJECT THE FORM IT WILL TAKE IN THE FUTURE. It is fairly clear, I believe, that the two key words in transportation aid will soon be inter-modalism and revenue sharing. We at the Department of Transportation are convinced that the day of the lop-sided, uni-modal transportation system is rapidly drawing to an end. What is needed is not a single-minded dependence on one way of getting around, but rather a true and balanced system where each mode can do the job it is most efficient at doing. As a former San Diegan, I do not think it is unfair to characterize San Diego as suffering from an over-dependence on the automobile. The experience of our neighbor to the north has demonstrated the problems inherent in following this course. Further, we intend at DOT to do all in our power to hasten the arrival of truly balanced transportation. Our current effort to create a single urban fund from which all modes of urban surface transportation can be funded is perhaps the most obvious effort by the Administration in this regard. And, I might add, we haven't lost the fight yet. Let me assure you, however, that it is just the tip of the iceberg. Legislatively and administratively, we are doing all in our power to increase the flexibility that you on the local level must have in dealing with your local transportation problems.

Second: THE PLANNING WHICH PRECEDES THE UTILIZATION OF FEDERAL ASSISTANCE MUST BE MULTI-MODAL AND SENSITIVE TO COMMUNITY DEVELOPMENT OBJECTIVES. As to multi-modal planning, you must organize to consider all modes from the outset. This doesn't mean that you prepare, for example, a highway plan and then consider the alternatives when it comes time to write the environmental impact statement. Rather, you must create a comprehensive plan which considers all transportation needs first and only then develops the component parts.

This will call for a different prospective. No longer can you consider yourself highway men or mass transit men and spend your time debating over who gets to wear the white hat. Rather, you should all consider yourselves transportation specialists whose interest is seeing all modes used in the most efficient way possible. There is no place for modal aggrandizement in transportation planning.

We must also get over the attitude that when we call for a collective transit system, or express concern for our over-dependence on the individual vehicle, we are participating in a subversive plot to overthrow the automobile or a flight of nostalgia for old trains.

A few weeks ago, while traveling up the Rhein as a guest of the German government, I was impressed by the fact that I was on one of the most efficient transportation corridors in the world. Local recreational ships and commercial vessels and barges moved up and down the river, passenger and freight trains move along the banks as do trucks and cars on a properly scaled highway -- and all are in perfect harmony with the beautiful and delicate countryside. Even the bridges are carefully designed to not only carry the traffic but also add to the aesthetic beauty of the area.

Third: BE IMAGINATIVE WHEN YOU ASK FOR FEDERAL ASSISTANCE. Old answers to new problems don't always equal solutions. Old programs can be changed, and these changes usually come through careful consideration of local needs. You cannot continue to build only highways to solve your transportation problems, and the highways you build must be more successfully integrated into the communities they traverse. This will require new standards, new concepts and new leadership. Likewise, improved mass transportation does not consist only of buying new buses, it consists also of new and innovative marketing techniques, low-cost capital improvements such as exclusive bus lanes, a willingness to serve the public efficiently and effectively, as well as new hardware.

Frankly, I believe that with a 3 billion dollar highway program and a one billion dollar mass transit program, solutions to our transportation problems are not going to come from increased funding but rather an innovative recasting of the system itself. Indeed, the Department has prepared a series of reports on what we call low-capital improvements, that is, improvements which offer efficiency with economy. In seeking Federal assistance, you should be prepared to utilize as many of these low-capital alternatives as possible. You can be sure the Department will be particularly responsive to these requests.

Indeed, innovation is the key. Let me just list some of the new ideas the Department is supporting or considering.

-- Reserve bus lanes, particularly in reverse direction on one-way streets.

-- Mini-bus pick-up and distribution to feed main-line buses operating in reserve lanes.

-- Employer purchase of commuter bus tickets for distribution to employees using or willing to use transit, e.g., Bank of Denver, Southern California Association of Governments.

-- Annual transit or bus ticket at a bargain rate, e.g., Pittsburgh's \$100 annual permit.

-- Single ticket transit zone with free transfer within zones. Free interface with various modes, e.g., Hamburg's underground, bus, train, boat.

-- Honorary fare collection system to cut down on manpower and expedite operations.

-- Publicly designed and coordinated taxi system -- operated under contract and/or franchise by private firm or firms, e.g., uniform fare, color, equipment and two way radio system with central control.

-- Computer designed car pooling for large firms.

-- Public and private employer jitney and small bus for commuter pickup and distribution.

-- Pedestrian auto free zones, served by transit system, taxi and fringe parking.

-- Preferential treatment for small, urban, low-horsepower or low fuel consumption cars, e.g., cheaper parking rates, taxes, license fees or special taxes on larger vehicles.

The concept of revenue sharing is also clearly in its ascendancy. There may not be revenue sharing in its present form, but you will unquestionably see more and more Federal assistance in the form of non-categorical and bloc grants. This means you will have to be able to deal on an institutional level with these funds. One of the initial problems we in Washington are finding with revenue sharing is that the cities and states are not entirely sure of how to organize to handle their funds. More importantly, they are finding it difficult to make the kind of hard decisions that must be made between projects when non-categorical funds are available. While revenue sharing and kindred programs offer a new-found freedom, they also offer a new found responsibility. I urge you to face that responsibility squarely.

Fourth: DETERMINE THE PROPER RESPONSIBILITY AND RATIONALIZATION FOR FINANCING AND OPERATING LOCAL TRANSPORTATION AND TRANSIT PROGRAMS. There is a lot of pressure for Federal operating subsidies, but in my travels and studies, I have found no countries, including communistic and socialistic ones, that have national subsidies for local transit. They do, however, give substantial aid for bus, rail and underground capital improvement programs just as we do in the United States. The real issue in this country is equalizing federal-aid criteria and eliminating unbalanced funding so that state and local governments can make unbiased decisions.

Finally, let's be realists. There are facts about the transportation crunch that transcend our personal desire to drive a 3 or 4 thousand pound car from our garage to the office, to the front door of our stores and to within 50 feet of the ocean or ski lift. The overwhelming fact is that there just isn't room physically for everyone who now has a car or who will have a car to also have this mobility. In fact, we can't even do it for most without destroying the very quality of life we are seeking to preserve and we can't do it for many and still make our transportation system work. We need to bridge the gap by supplying different kinds of transportation for different purposes and for different areas. This will cost money and necessitate some hard choices, but it will have to be done by communities such as San Diego. In essence, we must begin to price all transportation at its true cost and justify it for its true value. If mobility is so essential to our life style, then people will support necessary new approaches. If not, we may take up walking again.

In conclusion, let me say that the key to future federal assistance to transportation is going to be innovative use of existing funding levels rather than ever increasing funding. We expect you to squeeze more out of your transportation dollar, and a balanced, multi-modal transportation system is the way to accomplish that end. I wish you success in this endeavor and congratulate you for your foresight in attending this conference.

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REMARKS BY ASSISTANT TO THE SECRETARY JOHN E. HIRTEN,
U.S. DEPARTMENT OF TRANSPORTATION, BEFORE THE AMERICAN
INSTITUTE OF PLANNERS CONFERENCE ON INTERNATIONAL
COOPERATION IN REGIONAL PLANNING, TIJUANA, BAJA, CALIFORNIA,
SATURDAY, JULY 21, 1973

The title of this Conference, "International Cooperation in Regional Planning," clearly supports the fact that growth and development problems do not begin or end at jurisdictional boundaries, whether they be of cities, counties, states or countries. Certainly, this international gathering is timely, and along with the American Institute of Planners, the participants are to be commended for organizing such a meeting.

Transportation is an excellent example of the need for international cooperation, and I am pleased to be included on the program. I learned from my two years as Executive Vice President of San Diegans, Inc., that when the citizens and public officials of an area agree on a problem, they move decisively to seek solutions. The recognition that the time has come to act jointly on various border problems concerning planning and development issues demonstrates this point.

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In this regard, I have been involved in negotiations with the Mexican government to seek a mechanism for cooperation on solving some of our basic transportation interface problems at our major border sister cities. About a year ago, I accompanied then Secretary of Transportation John Volpe to a meeting in Mexico with Senor Bracamontes, Secretary of Public Works of the Government of United Mexican States. This meeting was followed by another meeting in November of 1972 at Merida, Mexico, at which time a Memorandum of Understanding was signed by Secretary Volpe and Secretary Bracamontes. This Memorandum of Understanding outlined a program "to achieve mutually advantageous cooperation in transportation research and development" and to "promote cooperation between the transportation specialists of the two countries in finding solutions to problems of mutual concern."

Last week in Washington, D.C., we held our first follow-up meeting with the Mexican representatives, headed by Under Secretary of Public Works Engineer Rudolfo Felix-Valdez. At that session, I described to Senor Felix the transportation and community development problems which we see developing between the border cities. Following a two day meeting, and in accordance with the objectives of our original Memorandum of Understanding, it was agreed that the United States Department of Transportation and the Mexican Secretariat of Public Works would develop analytical studies of the transportation infrastructure problems in various border city pairs, which might be alleviated through cooperative planning. It was further agreed that the program coordinators designated pursuant to the Memorandum of Agreement -- myself in the case of the border city pairs project -- would designate staff officials to develop draft guidelines and institutional arrangements for application to the entire border area. For the short term, it was agreed that coordinated planning in connection with transportation problems in the border city area should be encouraged and that cooperative efforts in the Brownsville/Matamoros area should serve as a pilot project to develop principles and organizational forms suitable for border city pairs generally. This is a major step forward, and represents the sort of bi-lateral cooperative planning which is essential if the border city pairs are to grow in a rational fashion.

Transportation is more than just a matter of people and vehicles. It is important because it is a primary means of communication and it is vital to the economic well-being of both countries. Transportation at the

border of two countries also involves larger questions of physical, cultural and diplomatic impact. For example, immigration and customs are primarily questions of the efficient and controlled movement of people and goods.

Location of border crossings, highways and airports also have major implications on environmental impact. Transportation at the border also has a significant urban development impact because where and how people cross relate to urban development decisions on both sides. In Brownsville/Matamoros, for example, the railroads from both countries meet in the center of the city pair creating a negative environmental condition. A major railroad relocation program would be desirable. However, it must be tied into plans for the development of the port, and this, in turn, requires careful coordination and cooperation between the two countries using the rail and port facilities. Thus problems which are frequently viewed initially as single purpose matters are recognized after an in-depth analysis as quite complex and requiring sophisticated, or at least coordinated, solutions. In this context, therefore, let us discuss for a moment some transportation issues regarding the San Diego/Tijuana area.

Decisions regarding border crossings, for example, are not simply a matter of how many booths do we have on the highway to control a given number of people. A crossing decision is not solely a customs or an immigration decision by itself. Rather, it is a transportation decision where immigration matters and customs matters become part of the total problem to be addressed and resolved accordingly. Then there is the question of air pollution created by the idling vehicles at the inspection gates. Do we move the gates, eliminate the gates, control the exhaust or seek alternative control methods? What about the access roads on both sides of the border? Are they adequate and what size and character should they have? If additional crossings are needed, where should they be? What are the impacts of alternative projects? These are the sort of issues which must be discussed in the decision making process.

These questions lead us to larger ones. Should transportation between the two cities be totally dependent on the private vehicle, or should we link parts of San Diego with parts of Tijuana through some kind of collective or mass transit program? What about the entire western corridor? Is Tijuana a logical origin and destination point? Should there be a larger corridor between Tijuana and San Diego or Tijuana and Los Angeles or Tijuana and Vancouver? But even locally, should San Diego's plans for a transit system include Tijuana or not? These questions are going to call for international cooperation in a way which has not been considered before. I like to call it micro-diplomacy, the art of making international decisions on a local scale.

Let me raise some other questions which we, as planners, should be addressing. With respect to airport planning and development, is there any logic to a single international bilaterally-operated airport? What are the constraints, both physically and diplomatically? What is the market and service area? If such a location as Brownsville were the best for the entire region, are there international constraints which are so great that they could not be overcome? What if the alternative was creating two duplicate facilities at great expense and real air traffic management problems? And, what is the impact on the development plans for both cities of an airport location?

Therefore, while transportation is not the only factor in planning for the future of the sister cities, it is a major factor and can have a substantial influence on the shape of both cities, independently and as a unified urban area.

Such cooperation seems to be taking shape. For example, the Brownsville Navigation District has submitted a proposal to the U.S. Department of Transportation for a bi-national transportation program to be developed in cooperation with the city of Matamoros and the Government of Mexico. While carried out primarily by the port district and its staff, the proposal calls for the creation of a bi-national executive committee and a bi-national planning committee responsible for conducting a study and making recommendations to the respective governments on projects to be implemented. In addition, they would form a project advisory committee made up of various public and private agencies who have a deep interest in the results.

The final objective would be to define the current transportation needs of that international community and to describe present and future transportation problems facing the Brownsville/Matamoros region. The committee would describe and document existing transportation planning for the region, identify gaps and conflicts in current planning processes, identify alternative plans for resolving the regions transportation problems, and publish a report in both english and spanish, describing these activities. The overall objective is to come up with recommendations to rationalize the transportation infrastructure of highways, ports, rail and air in order to relieve congestion, pollution, accidents and inefficiency, and to consolidate, as much as possible, the routing of rail, truck and other freight handlers in the vicinity of the docks and the port of Brownsville. This, of course, is the specific situation and objective for that city and study. The problems, while similar, will require different solutions in each city.

Nonetheless, while the specific elements of study and the problems which call for a solution may be different, the concept remains the same. It is that the border cities must now engage in the micro-diplomacy I spoke of earlier, to devise solutions for problems of mutual concern to their future and to seek the support and cooperation of their Federal governments in implementation. As our urban areas develop, and as the need for regional cooperation increases within each country, so does it also at the regional centers that straddle the border of our two great nations.

Planning problems rarely stop at geographical and political boundaries. As professional planners, we must now join with our colleagues in Mexico to find the solution to these problems. I am sure that what we have begun here today will be the cornerstone of effective cooperation for mutual benefit in the future.

Thank you.

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REMARKS BY JOHN E. HIRTEN, ASSISTANT TO THE SECRETARY OF TRANSPORTATION BEFORE THE ENGINEERING FOUNDATION CONFERENCE ON "PREPARING ENVIRONMENTAL STATEMENTS", NEW ENGLAND COLLEGE, HENNIKER, NEW HAMPSHIRE, MONDAY, JULY 30, 1973

I appreciate the opportunity to participate in this Conference on the preparation of environmental impact statements.

When I was the Assistant Secretary of Transportation for Environment and Urban Systems, I had the specific responsibility of reviewing and acting on all environmental impact statements which were submitted to the Department for approval. Now, as the Assistant to the Secretary, I still find myself involved in evaluating the environmental impacts of particularly controversial transportation projects and advising the Secretary accordingly. For this reason, it is a subject with which I am particularly familiar and about which I have rather definite views.

One thing should be made clear at the outset: the role of the Department of Transportation is to provide increased mobility for the citizens of our Nation. Nonetheless, transportation must not only increase our mobility, but also protect, to the fullest extent possible, our natural resources.

Even before the National Environmental Policy Act was signed into law on January 1, 1970, by President Nixon, the Department of Transportation was sensitive to the issue of environmental and other

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impacts. Indeed, the very legislation which established the Department, the DOT Act of 1966, contained a Section 4(f) which forbids transportation facilities to take lands for public park and recreation areas, wildlife refuges, and historic sites of national, state or local significance unless there is no feasible or prudent alternative for the use of the land and all possible planning to minimize harm has taken place. Parallel provisions are also found in the legislation authorizing our different model programs such as highways, mass transit and airports. These legislative mandates represent the Congressional realization -- and the realization of our citizens -- that transportation projects do have an environmental impact which must be considered in designing the project. Thus, when the National Environmental Policy Act was passed in 1969, the Department was ready to meet its requirements.

Last year we processed 659 environmental impact statements. We did so, I believe, effectively and efficiently. The reason for our success, is our positive attitude towards Environmental Impact Statements. I think that if you carry any message back from this conference, it should be as follows: Environmental Impact Statements are not an onerous burden or a retroactive analysis; they are, instead, an opportunity to make the project a better one. We in the Department sum it up this way: "Environmental quality is a goal, not a constraint."

I have been a professional planner for over 15 years. Planners and engineers have one thing in common: they realize that the more complex the design problem, the more sophisticated the solution must be. When we deal with public projects, we must perceive the issues and the problems surrounding that project as the public perceives them, and we must be sensitive to the effects our projects have on the public. This is a job for the planner and the engineer with the active support of the bureaucrat and the implementing agency. I believe it is essential that as we face the problem of designing major projects in our communities, we consider them on a larger, community-wide perspective, for this is the basic purpose of the Environmental Impact Statement.

The issue is basically one of broadening the objectives of a project. The National Environmental Policy Act institutionalized questions to be considered before carrying out a project, but they were always there. In transportation, for example, there has always been the air pollution problems, the congestion problems, the relocation housing problems, the noise problems and the aesthetic problems. And, even before NEPA, as the National Environmental Policy Act is called by its friends and associates, there were citizen activists groups who would not let us forget these problems. And there are the courts to back them up. Indeed, there is a whole panoply of legal, legislative and physical constraints which did not exist in the planning process 20 or even 10

years ago. Nonetheless, the problems were still there; it was their ramifications which were ignored.

Clearly this issue is not a local one, nor is it purely a problem for the United States. For example, in Vienna a public building which was planned for a city park site met with such opposition that it brought about the resignation of the Mayor of Vienna, and has shaken the stability of Austria's ruling Socialist Party, according to the news reports.

To cite another example, on a recent trip I made to Bonn, Germany, a black flag with a skull and crossbones and the letters B-9 was noticed hanging out of several windows as we rode down the main street. On inquiring what the meaning was, we were told that B-9 was a proposed highway which would go through that area. The citizens who are violently opposed to this project are apparently being very effective in their campaign.

As you know, NEPA requires the filing of Environmental Impact Statements prior to major Federal actions. Quite frankly, I consider the EIS the first frontier of environmental protection. Let me tell you why. What this legislation requires is that we build into the planning and programming of any project a serious concern for the environmental degradation which it might cause. We must be always sensitive to environmental quality. We must always try to achieve it, rather than consider it an obstacle which must be pushed under the rug if you are to build a particular project. It is, therefore, necessary that we strive to undertake a comprehensive analysis of environmental problems at the earliest possible stage. For example, a good environmental analysis of a highway project must include studies of both the human and natural environment in the proposed area. It should consider those changes which a proposed project and its alternatives would create. It should consider environmental conditions in that area and what changes in the physical, ecological and sociological climate of the area would result from the project. And it must consider all the alternative methods to accomplish the task.

These are the kinds of issues which should be examined from the outset, not when it would be too late to change the project plan. Of course, some projects will have considerably greater impact than others. Therefore, the study made of these projects will be more extensive. Nevertheless, these same kind of considerations should be considered for every significant project that enters the pipeline.

Once good environmental planning, analysis and coordination has taken place during the formulation of the project, the actual writing of the environmental impact statement should be relatively simple. Indeed, if you have done the preparatory work properly, it should be a mere documentation of the activities that have occurred. Just as form follows functions, proper design follows comprehensive analysis. I can assure you that an environmental impact statement which truly indicates good environmental planning is easy to spot, and we at the Department of Transportation are seeing many more of these. It is also, quite frankly, easier to approve.

What I urge you to avoid is the justification for a decision which has already been made. Perhaps the best example of this self-fulfilling statement is found in the area of alternatives. NEPA requires that environmental statements discuss all -- and I mean all -- alternatives to the proposed action which were considered in the projects development and the different impacts of these alternatives. Using transportation as an example, this does not only mean such planning aspects of environmental degradation as air emission and noise. It also means the EIS should reflect consideration of other modes of transportation which would serve the mobility needs of the community such as mass transit, and which would carry with them less environmental effect. What are their pros and cons, how much would it cost, etc. It should even consider and delineate the "no build" alternative.

You must also realize that if these adverse impacts are not fully considered, you, and the Department you submit them to, will find yourselves in court. And the courts, as you well know, have not been generous.

It is apparent that section 4(f) and NEPA's immediate application has caught some projects in the pipeline. Nevertheless, with the passage of time -- almost four years now since NEPA was signed into law -- the courts are getting less and less willing to make concessions to the pipeline -- retroactivity argument. This is an additional reason to do the most conscientious job possible in environmental planning and analysis.

It should be fairly simple, quite frankly, to incorporate good environmental planning into your design. Your engineers are not building your projects the way they were 20 or 30 years ago. Likewise, new technologies in the environmental area have come to the fore. What we have to be sensitive to is what are the impacts and the institutionalized means for considering them.

Part of my assignment today is to discuss what is upcoming in terms of transportation and the EIS process. For those of you who are overwhelmed by what appears to be mandatory consideration of an almost infinite variety of environmental impacts, let me announce that help is on the way. The Department is about to contract for a substantial research project to develop guidelines for considering the social and environmental impacts of transportation alternatives. The final results, which will be out in a bit over a year, will consist of a series of handbooks. These handbooks will, to the best of our ability, identify, classify, and define the social and environmental effects which may be associated with a transportation project and identify the specific data and information which needs to be incorporated into the EIS. Further, it will describe the kind of analysis appropriate to the various impacts and identify and discuss methods and techniques for determining transportation alternatives and measures to reduce adverse impact and to enhance beneficial impacts. We will also be evaluating the different methods of considering alternatives. All in all, we will be producing a how-to-do-it handbook on preparing environmental impact statements which we hope will be useful for transportation projects and others as well.

In closing, then, let me say that environmental impact statements should not be considered a burden. Rather, they are simply a documentation of the kind of planning that should go into each and every project that you design. The environmental concern sweeping the country today is not simply a matter of aesthetics, of saving the trees and open spaces, of good guys and bad guys. It is in fact a basic issue of planning and design in the broadest sense. It requires that before building any federally-assisted project, we ask the fundamental questions of purpose. These are:

- Do we need it?
- What happens if we don't build it?
- What are the alternatives?
- What are the impacts -- physical, social, economic and aesthetic?
- How do we minimize negative impacts and optimize the positive impacts?

-- How do we design the project to make it serve its function most effectively and contribute to other community needs?

Answers to these questions will carry us through the design process and onto what we hope will be the best solution to the problem at hand. It will also allow us to create environmental impact statements based on a firm foundation.

Let me, therefore, urge you to give Environmental Impact Statements the attention they deserve and to establish a planning attitude in your community and state which is an environmental concern in the largest sense.

You can be assured the Department of Transportation and other Federal agencies are ready and able to give you all possible support. Further, Environmental Impact Statements offer an opportunity for you to achieve a better designed project, once it is decided upon, which will be a welcome addition to the community in which it is constructed. As public servants and those who serve the public, we owe our citizens that much.

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