The Decision-Making Forum

Improving the Decision-Making Process

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•THERE IS a trend in the evaluation of transportation facilities that is quite apparent from the papers presented in this RECORD. That trend is ever-increasing scope and comprehensiveness.

Analyses have advanced from routes treated individually to systems. Forecasting demand has advanced from an extrapolation of past use of a route to the simulation of traffic on systems based on the land development patterns and travel behavior of people in urban areas. But the concern here is not with either of these aspects. It is with the evaluation of whether, when, and how to build future facilities—individual routes or systems—regardless of how the demand is determined.

NEXT STEPS IN TRANSPORTATION SYSTEM EVALUATION

It is helpful to divide the trend in evaluation into four phases. In the first phase the critical factor—and sometimes the only one—used in reaching a decision was construction cost. Few are using this method today. In the second phase, the predominant evaluative technique in use today, construction costs are still employed but decisions are based primarily on user benefit-cost analyses. The papers of George and Campbell are examples. The third phase, just emerging, encompasses the other two and adds evaluation of the impact of the highway on the community, or non-highway user benefit-cost analyses. The papers of Schlager and Schimpeler are examples. Although the third phase is only beginning, and although it has been hailed as a great step forward, the fourth phase is already overdue and we must get to it. This is the one we are attempting to pursue in the Twin Cities. This phase views a transportation facility as an investment of scarce resources in competition with other needs. This gets to the question not only of where the route should be built, but whether it should be built at all. It asks whether the money would return a greater benefit to society if spent on something else.

Fully perfected techniques for this type of analysis do not exist today, although the basic concept of economic utility is employed. We are pushing ahead as rapidly as time and funds permit to develop workable measures. These evaluative techniques are needed. They are needed far more than techniques to improve our ability to forecast traffic or development. We already have better forecast data than our current metropolitan decision-making apparatus can use.

We need not wait until the techniques are developed, however. We can ask questions of those who make development decisions today so they may assess how valid their decisions are. For example, in the Twin Cities Metropolitan Area one of the counties levied $6.5 million in real and personal property taxes in 1967 for its road and bridge fund. Many of these dollars were spent on a highway that goes through a metropolitan park site. This park could not be acquired by the park reserve district in that county because it ran out of funds. The park district is also supported by a real and personal property tax levy. The total purchase price of the park was $2 million. To add further to the discussion, the highway is being built as a freeway when, according to metropolitan

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spacing criteria, it should be developed as a lower level facility. The park is being threatened by development and is one of the highest priority sites for acquisition. The question is whether some of the funds should have been spent acquiring the park, a one-time acquisition, or whether they were really best spent on the highway. We do not have the answer, but we certainly consider it worthwhile to put the question to those who make the decisions.

As this trend in evaluative techniques indicates, great advances are being made. But do the techniques meet our needs? Most are geared toward evaluating complete plans—and the plans leave much to be desired—rather than day-to-day planning. They are geared toward evaluating the assumed results of a comprehensive set of unstated future decisions, rather than assessing the worth of current, individual decisions in a comprehensive context. Most are not sufficiently decision-oriented.

WHY SUCH PALLID PLANS?

Many metropolitan plans today look like present trends extrapolated or mildly organized sprawl. Why is this so? One eminent transportation planner has pegged it as "the decline of the world-changers."

One reason for this is increased understanding of how urban areas function, a situation made possible by the computer, large amounts of research money, and the contributions of the social scientists among others. The result has been a restraining influence on the designer. The result is good.

Another reason is that it is common practice in planning and transportation studies to accept the present method of making decisions as given. We cannot accept this. We cannot even accept the trend to an increasingly more organized means for making decisions on the metropolitan level. We must, as concerned professionals, actively work in our research and planning programs to propose and to implement proposals to create an improved capability for making metropolitan-level development decisions.

We must not give up the idea of shaping our destiny rather than extrapolating the future from the past. The current rate of change in large metropolitan areas cannot be accommodated by the historic process where each decision is made in response to the immediately preceding one. The old process is incapable of producing a pattern of development that will allow a style of life anywhere near what the people in the Twin Cities, at least, have said they would like to have. Therefore, those who are making plans for metropolitan areas, whether functional plans or total comprehensive plans, have as much responsibility to study and to propose changes in the capabilities of those who must make development decisions as they have for the content of the decisions themselves.

An example of this from the Twin Cities experience is the spacing of interchanges on freeways. Present interchanges are spaced much more closely than proposed, professionally responsible standards recommend. The reason is simple. A local municipality must give its consent to any highway construction within its boundaries. Access to the freeway and the possibility of commercial or industrial development in the municipality are paid for by property taxes. Add these up and the community wants more interchanges.

To prepare a plan using the desired interchange spacing standards requires a concomitant action to diminish the "veto" power of the municipality and to diminish the inter-municipal rivalry for tax base by new tax legislation or metropolitan development controls. Without these accompanying actions, the plan will be just so much paper. If, instead, the plan is drawn to fit the present decision-making mechanism, desirable development will not occur.

THE JOINT PROGRAM RESPONSE

The Joint Program is a continuing planning program for the Twin Cities Metropolitan Area undertaken collaboratively by 13 existing public agencies. Work was begun in the spring of 1962. The objective of the Program is to encourage development decisions that will enhance both the livability and efficiency of the metropolitan environment.

As do most new ventures, the program to this point has fallen short of aspirations. But the material produced under this approach has proved sufficiently effective in handling referrals and other current development decisions that it is being sharpened and expanded.

Purpose of Planning to Guide Development Decisions

The statute that created the Twin Cities Metropolitan Planning Commission in 1957 stated that "The Commission shall make plans for the physical, social, and economic development of its metropolitan area with the general purpose of guiding and accomplishing a coordinated and harmonious development of the area." Too frequently the purpose of planning is viewed as making the plans rather than guiding development. Plans should be viewed as one of a number of tools to guide development decisions and to make rational decisions about how to use scarce resources—dollars, man-hours of skilled people, land, and others.

The Metropolitan Plan

If a metropolitan plan is to be a tool in guiding development decisions, it must contain agreed-upon rules for day-to-day decisions. The new "policies plans" do this. But if the plan is to be accepted, it must project some image of where the community will be in the future if it follows the rules. The map-oriented master plans or "blueprint plans" do this. There is a third approach, "incrementalism," where components are added to urban systems to meet daily needs with no long-range view in mind.

Map-oriented plans gather dust and die. They do not show how to reach the desired future state, so public officials ignore them. And they show so precisely how pieces of land will be affected that citizen opposition occurs. The incrementalists do not step on individual toes because no long-range proposals are made. But they do solve current pressing problems so they are relied upon by public officials.

We need a better approach, a blending of the policies, blueprint, and incremental approaches. The Joint Program plan, to avoid confusion with standard master plans and to emphasize its purpose, is titled the Metropolitan Development Guide. Its focus is on major metropolitan development—large centers of commerce, industry, and government; large open spaces; and the systems of transportation and utilities that shape and serve those developments. The guide envisions making the major decisions at the metropolitan or state level while leaving the remaining decisions to the local level. The guide contains maps but does not show how each parcel of land should be used.

Goals—Policies—Programs

The Metropolitan Development Guide contains three main elements: goals, policies, and programs. Goals are seen as the ends toward which we strive. Policies are the settled courses of action toward the goals or the decision rules that will be applied in moving toward the goals. Programs are the allocation of resources by type, time, amount, and location in line with established policies to achieve the goals.

The goals-policies-programs approach arrives at decisions by going from the general to the specific and getting agreement at each stage. When we agree to goals or ends, we are dealing with statements in which the values of the individuals of the community generally will be consistent and agreement will be fairly easy to achieve.

When we go to the next step, policies, we find differing values. Differences arise in political philosophy and the extent to which decisions should be made in the interest of total society rather than the individual. Differences between the values of producer and consumer are revealed. These must be reckoned with, argued out, and resolved at this point.

When we get to programs, we are for the first time talking of specific pieces of land and specific dollars of investment. We have, by this time, achieved substantial agreement on the objectives of investments and the rules for making investments. We now have a firm enough base of agreement to take this last difficult step, the step at which the blueprint approach to planning has failed in the past. In the blueprint approach,

there was no opportunity to discuss overall goals or objectives or the rules by which those who make decisions should be bound. Each individual could look at a map and see exactly how his individual interests were going to be affected. He reacted to those individual interests first and to overall considerations second.

The Joint Program approach may sound like the planning-programming-budgeting system (PPBS) advocated by the federal government. The purposes are identical—to insure the most effective use of scarce resources in meeting stated goals or objectives. The methods have similarities except for one important element. The PPBS technique starts from stated goals or objectives. We had to go back one step and formulate goals or objectives—a difficult task.

Goals and policies will be revised at least once every five years. Programs will be revised annually. To have some measure of progress toward goals, one- and five-year objectives will be set each year and annual programs designed to achieve these objectives.

Our use of goals is different from some other studies around the country. Some say that goals conflict. We do not hold this view. We believe that goals are sufficiently general by nature that they should not conflict, but that conflict arises when one begins to allocate resources to achieve the goals. In other words, people agree that they want ease of movement throughout the metropolitan area. But the disagreement occurs when they allocate dollars for highways as opposed to transit or for transportation as opposed to parks or schools. This is not a conflict in goals, it is a conflict in how much weight a given goal should receive or how each goal should be pursued. It is this conflict in weighing the goals that must be settled by a community, not a professional, decision.

Some believe goals should be used as tools for a community debate. Others believe they should be prepared by the professionals to guide their own later actions. We believe that goals can only be adequately understood and integrated when they are extended in terms of policies and programs. When the pursuit of a goal is expressed in terms of dollars from the pocket or property rights or some other item close to the individual, he can adequately assess how strongly he feels about the goal. Therefore, the final goals of the Joint Program and of metropolitan planning in the Twin Cities area will not be established until we have gone all the way through the process to adopted programs.

The Joint Program's use of alternatives was quite different from the standard use of alternatives by professional engineers to arrive at a "best" solution. The engineer lays out several precise alternative schemes and then bases his evaluation of them on specific accepted criteria, such as cost-benefit analyses. The work is all done within his offices by the engineer.

Our purpose was to discover what individuals in the community value. We did this by obtaining responses to (a) the total pattern of development and (b) specific development policies. Four schemes were prepared that seemed to bracket the range of choice. In each of these we asked the community to say which "direction" it preferred rather than which specific pattern. For example, would they prefer to move strongly or slowly toward dispersion, as shown in the Spread City scheme, depending on the acceptability of the related development controls, tax policies, and transportation policies? The Radial Corridors scheme, building large concentrations in the downtowns, could have been even stronger through tighter controls of the use and development of land. Therefore, in our meetings with the public, we asked not only which scheme they preferred but whether the scheme went far enough, too far, or not far enough in the general direction it represented.

Specific development policies were constructed to bracket the possibilities. In the four schemes, if we were to look at the size of centers of retailing and office employment, we find the smallest ones in Spread City, next larger in Present Trends, next larger in Radial Corridors, and the largest suburban or outlying centers in the Multiple Centers scheme. We noted that as one moved toward a large number of small centers, convenience increased and the choice decreased at any given center. Conversely, as one moved toward a limited number of large centers, choice increased and convenience decreased. This was described as a "value couplet" in which each individual had to balance choice and convenience.

Obviously, no one was willing to choose either extreme convenience with no choice or a single center that would be very inconvenient but in which total choice would be

available to the region. In fact, we found that neither the Spread City nor the Multiple Centers commercial pattern was acceptable. But we did find that choice was more important than convenience, suggesting that the centers should be relatively large. The upper limit on size was set by two factors: development controls and taxes. If the development controls had to be stringent to obtain large-size centers, they would be unacceptable. Also, if taxes are not redistributed to provide some benefits to the communities that otherwise might have had commercial development, the larger centers would not be acceptable. If these two points are taken into account, however, the public prefers choice to convenience and large centers to small ones.

The important point is that the planners and engineers must discover what the community values and not substitute their own personal preferences. To make a choice, individuals must be informed of the consequences of their choices. This was our prime purpose in development of alternatives. We also received a liberal education in understanding some of the forces at work in the region.

Guiding or Managing Change

Which comes first, the land-use "chicken" or the transportation "egg?" The cliche is apt because, like chickens and eggs, the ways we use parcels of land and the transportation systems we build to connect them are each products of the other (1). And we can't plan adequately for one without considering the other.

In its simplest form, this relationship is shown in the cycle diagram of Figure 1 (we could use the same basic diagram for other capital expenditures such as sewers). Being a continuous cycle, we can enter it at any point, but let us start at 1, land use. Whether the land is used for shopping, manufacturing, residences, or parks, the activities on the site generate trips (2). These trips are depicted on planning maps by straight lines called "desire lines" that connect point of origin and point of destination. Desire lines are the basis for identifying highway needs (3). Construction of a highway or other transportation facility (4) to meet these needs creates accessibility (5). No site in any area is going to develop if people can't get to it, so through the provision of access you help create land value (6).

Land value, in turn, completes the cycle by helping to determine land use (1). For example, it is an exceptional person who can afford to build his home on the highest value land in the city. Nor is this the likely spot for a marginal operation like a junkyard that cannot afford a big capital investment. It is usually the site of the city's largest department store or a wealthy prestige office building. The name that planners and land economists use for it is the "100 percent corner," the theoretical point of greatest activity. Thus, more trips are generated, the desire lines are drawn heavier, more highways are built to provide more accessibility, and so on, perhaps until the cycle spirals out of balance.

If we accept this as an abstraction of how urban areas work, we can also see from a diagram how we can apply controls to make certain that the cycle does not spiral out of balance and to make certain that it does meet the needs of the region. To keep the cycle in balance, we have traditionally used controls to manage the changes. Returning to the cycle diagram, we see that government regulates land use

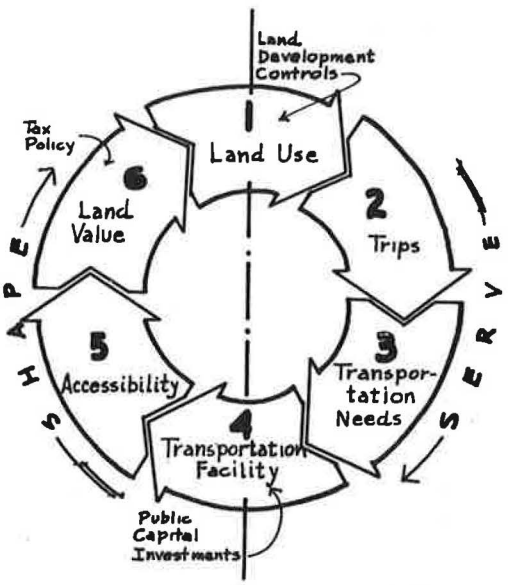

Figure 1. Land use-transportion cycle (Source: Ref. 2).

(1) by various means such as zoning and subdivision regulations. Highways are built with public funds. Thus, they are part of the public capital investment (4), which can be altered as needed. Land value (6), although affected by accessibility, is also affected by tax policies, which can be altered as needed.

So policies affecting the land, expenditure of public funds, and the handling of taxes offer three ways of managing development or change. This gets us back to the planning process and shows us why it is important to agree on goals or objectives, that is, where we want to go, and then to agree on policies concerning how we wish to get there.

Shape or Serve?

There is one other aspect of the diagram that we must cover, and that is the extent to which we will guide development, i.e., the extent to which we will use the controls noted in the foregoing. Traditionally, highways have been built to respond to forecast needs derived from land use of the future. That is, the highway engineer has traditionally used only the right-hand side of the diagram. But if the construction of transportation facilities does affect land use, which is what the left side of the diagram says, can we afford to ignore this fact?

The Joint Program adopted the position that, because of the rate of growth and change in the Twin Cities metropolitan region, we had to use all possible methods of control compatible with the communities' values. The Coordinating Committee of the Joint Program recommended that public capital investments be used to shape land use as well as to serve it. Community leaders accepted this after considerable discussion.

It should be pointed out that there are many planners and engineers in the country today who contend that transportation facilities should not be used for such purposes, while others indicate flaws in the old approach. It is our view that this is not a professional decision to make, but rather a decision for the community, because it involves the balancing of individual values against the values of the group and the benefits to be gained by the one at the cost or expense of the other. It is the role of the professional to show what can be done and to leave it to the community to decide which approach it favors.

We feel fortunate that our community has decided to use public capital investments to shape as well as to serve development. If we are to shape development, it is then mandatory that we agree on objectives for the development of the region before we make any of the public capital investments. It is no longer possible to merely build highways, transit, or parks on an incremental basis. They must be designed to meet goals.

IMPROVING METROPOLITAN DECISION-MAKING

During the last two years, we have been working on the Metropolitan Development Guide and its implementation at the same time. Contrary to the information published in behalf of the growing array of metropolitan councils of governments, the critical metropolitan decisions cannot be made by a voluntary association of local governments. Most require action of the state legislature. Earlier it was noted that our concern was with the major metropolitan systems. What is metropolitan and what is local?

Metropolitan vs Local Interests

The two are generally thought of as being in conflict. And they are if we define "metropolitan" as the total community and "local" as the individual community as in the example of freeways. From the metropolitan viewpoint, freeways must be designed to serve metropolitan high-speed, long-trip movement and major concentrations of activity. But the individual community sees access to the freeway as an enticement to tax-producing development. If extensive local access is provided, the metropolitan purpose is thwarted.

From the vantage point of the individual resident who benefits from both ease of travel on high-speed metropolitan facilities and from easy access to the freeway, it is not metropolitan vs local. It is not a question of either-or. It is a question of how much of each. As this fact is better understood by the average citizen, better develop-

ment decisions are being made. This leads to the Joint Program view that metropolitan facilities are those that local governments cannot provide but which metropolitan citizens desire and need.

Who Makes the Decisions?

All too frequently, the planners and engineers working for agencies that design highways, transit systems, parks, and other public improvements think of their task as a technical one. But it is not. When a specific speed is assigned to a highway or transit link, public policy is involved. A decision to provide for higher speeds means more opportunities to the citizen within a given amount of time, but at a higher cost in tax dollars. Thus, the highway planners, the citizen, and the elected official all have an interest in such a decision.

It is easy to say that there is a relationship among the planner, the elected official, and the citizen. It is difficult to formally organize the relationship. The planners and engineers find it difficult to program breaks in their work when elected officials are reviewing and reacting to proposals. There are no metropolitan elected officials, and only recently have we had metropolitan organizations of local officials. There are few metropolitan organizations of citizens, and those that do exist are recent additions to the urban scene.

The Twin Cities area's Joint Program made a start by putting together professionals from a variety of agencies on its Coordinating Committee and Technical Advisory Committee. The chief elected officials of each unit of government in the metropolitan area (about 300) were brought together in an Elected Officials Review Committee. Business, labor, and other community interests were brought together in a Citizens Advisory Committee. Metropolitan area legislators were briefed as a group. While much was done, much more must be done in the future. The area needs a stronger metropolitan council to make major public development decisions. It needs effective citizen participation in metropolitan affairs. And last, but certainly not least, it needs more professionals who see their role as advising on and carrying out development decisions—not making them.

The 1967 Legislature: Activities and Results

By the summer of 1966, the meetings with the local groups and legislators to obtain a sense of direction were over. One point seemed clear. The concept of guiding metropolitan development by means of coordinated control of selected major elements was accepted. We began simultaneously drafting the plan policies and position papers on legislation.

These position papers included three on government—local consent, the Minnesota Municipal Commission, and metropolitan government. We obviously cannot claim to be solely responsible for what passed the legislature, but we do feel our assistance had some effect.

The local consent provision in the state constitution had to be removed (which the legislature could effectively do) in order that any metropolitan bill could be passed as a special law without needing the consent of up to 200 local governmental units. It passed.

The Minnesota Municipal Commission rules on all political boundary changes in the state. A major feature of the bill would have allowed the MMC to initiate action rather than respond to petitions of local governments. The bill failed. The staff of the Metropolitan Planning Commission, now the Metropolitan Council, serves in an advisory capacity to the MMC.

The position on metropolitan government sought the creation of an organization with regulatory or operating powers in highways; transit; sanitary sewage; open space; airport land; land, water, and air development control; and comprehensive planning and programming. This would have effectively controlled the major element specified in the Metropolitan Development Guide.

The staff also prepared a "back-off" position in which control was achieved not through operation but through veto of plans and programs. The Metropolitan Planning Commission, as a matter of political strategy, decided to publish the strong position only

together with a resolution that the MPC be abolished if a metropolitan council were created. The strong bill failed by four votes in the House and one vote in the Senate. The bill that passed was similar to the "back-off" position.

In addition to the position papers, statements were prepared on sewage collection and treatment, metropolitan parks, mass transit, and the highway local consent problem mentioned earlier. No material was prepared on the control and development of major centers because adequate research had not been completed. Of these, the only one to pass was transit. The transit bill was drafted to precisely carry out the policies identified in the draft of the Metropolitan Development Guide. Although the other bills did not pass, the Metropolitan Council achieved a degree of control over each one except highways and over major centers through its own legislation.

Because legislators in Minnesota do not have paid staffs, the MPC offered its staff services on metropolitan legislation. The work involved drafting anonymous single-copy detailed critiques of various bills on short notice and in some instances drafting selected portions of key bills. We feel this is a necessary and proper part of planning and plan implementation.

SUMMARY

If we are to succeed in meeting the ever-increasing problems of metropolitan growth and rebuilding, we, as professionals, must adapt our techniques for and must participate in the decision-making process. Where adequate capability does not exist to make the decisions needed, we must concentrate as heavily on creating that capacity as on the content of the needed development actions. In all this we must remember that in the realm of public policy, professionals advise and elected representatives decide.

REFERENCES

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